2020 URBAN WATER MANAGEMENT PLAN

APPENDIX A

DWR STANDARDIZED TABLES

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA1910092	City of Monterey Park	13,631	7,448
	TOTAL	13,631	7,448
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Source for "Number of Municipal Connections 2020": https://sdwis.waterboards.ca.gov/PDWW/			

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 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
San Gabriel Valley Municipal Water District (San Gabriel District)
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	59,473	60,138	60,811	61,492	62,180	62,876
NOTES: The DWR Population Tool was used to estimate the 2020 population (See Section 5.4.1). Growth rates obtained from SCAG data were applied to the 2020 population and projected through 2045 (See Section 3.4.1).						

Submittal Table 4-1 Retail: 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 WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family	Drinking Water	Drinking Water	2,613
Multi-Family	Drinking Water	Drinking Water	2,151
Commercial	Drinking Water	Drinking Water	1,567
Industrial	Drinking Water	Drinking Water	23
Institutional/Governmental	Drinking Water	Drinking Water	145
Landscape	Drinking Water	Drinking Water	175
Losses	Drinking Water	Drinking Water	774
		TOTAL	7,448

[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 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		2,954	2,987	3,021	3,054	3,089
Multi-Family		2,432	2,459	2,487	2,514	2,543
Commercial		1,772	1,791	1,811	1,832	1,852
Industrial		26	26	27	27	27
Institutional/Governmental		164	166	168	169	171
Landscape		198	200	202	205	207
Losses		875	885	895	905	915
	TOTAL	8,421	8,514	8,611	8,706	8,804

[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 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	7,448	8,421	8,514	8,611	8,706	8,804
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	7,448	8,421	8,514	8,611	8,706	8,804

[1] Recycled water demand fields will be blank until Table 6-4 is complete *[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
07/2015	251
07/2016	368
07/2017	641
07/2018	711
07/2019	774

[1] Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

*[2] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: The "Volume of Water Loss" quantities for FY 2016-17 through FY 2018-19 were obtained from the annual AWWA Water Loss Audits (and based on the combination of apparent losses and real losses). Because the AWWA water loss audits were reported on a calendar year basis, half of the water loss during each calendar year was applied to the water losses for the corresponding fiscal year (to estimate the water losses for the entire fiscal year), pursuant to direction from DWR staff. The AWWA Water Loss Audit for calendar year 2020 will be prepared by October 2021. The "Volume of Water Loss" quantities for FY 2015-16 and for FY 2019-20 were estimated based on metered water production less metered water deliveries to customers

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.2.6 and Chapter 8
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*165*	*142*
5 Year	*2004*	*2008*	*162*	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
112	*0*	*112*	*142*	*Y*

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 6-1 Retail: 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 ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Main Basin	7,408	7,534	7,443	7,331	7,434
	TOTAL	7,408	7,534	7,443	7,331	7,434
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2020 service area covered by wastewater collection system *(optional)*
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
LACSD	Estimated	4,600	LACSD	WNWRP and JWPCP	No	No
Total Wastewater Collected from Service Area in 2020:		4,600				

**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**

NOTES: Years provided are on a fiscal year basis (e.g. "2020" is equivalent to fiscal year 2019-20)

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☑ **No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [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
						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 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑ Recycled water is not used and is not planned for use within the service area of the supplier.
The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	0	0	0	0	0
				2020 Internal Reuse						

[1] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 [1]	2020 Actual Use[1]
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE:

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☐	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.2.5.4	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
Recycled Water Porgram	The City is reviewing the potential for deliveries of recycled water to the City's service area.	Future	1,150 AFY
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 6-7 Retail: 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.					
Sectiom 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* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Recycled Water	Yes	San Gabriel Valley Municipal Water District		Ongoing	All Year Types	1,150 AFY
Construct New Groundwater Wells	*No*		Install new and/or replacement wells in the Main Basin as necessary	Ongoing	Average Year	2,000 AFY per well
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-8 Retail: 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)	Main Basin	7,434	Drinking Water	
Purchased or Imported Water	San Gabriel Valley Water Company	14	Drinking Water	
	Total	7,448		0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Submittal Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
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		**2025**		**2030**		**2035**		**2040**		**2045** (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)	Main Basin	8,306		8,399		8,496		8,591		8,689	
Purchased or Imported Water	San Gabriel Valley Water Company	115		115		115		115		115	
	Total	8,421	0	8,514	0	8,611	0	8,706	0	8,804	0

***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES

Submittal Table 7-1 Retail: 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 2019-2020, use 2020	**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	7,557	100%
Single-Dry Year	2018	7,782	103.0%
Consecutive Dry Years 1st Year	2012	8,791	116.3%
Consecutive Dry Years 2nd Year	2013	8,965	118.6%
Consecutive Dry Years 3rd Year	2014	9,094	120.3%
Consecutive Dry Years 4th Year	2015	8,391	111.0%
Consecutive Dry Years 5th Year	2016	7,409	98.0%

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.

***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals (*autofill from Table 6-9)*	8,421	8,514	8,611	8,706	8,804
Demand totals *(autofill from Table 4-3)*	8,421	8,514	8,611	8,706	8,804
Difference	0	0	0	0	0
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	8,671	8,768	8,866	8,965	9,066
Demand totals*	8,671	8,768	8,866	8,965	9,066
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 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	9,796	9,905	10,016	10,128	10,242
	Demand totals	9,796	9,905	10,016	10,128	10,242
	Difference	0	0	0	0	0
Second year	Supply totals	9,989	10,101	10,214	10,328	10,444
	Demand totals	9,989	10,101	10,214	10,328	10,444
	Difference	0	0	0	0	0
Third year	Supply totals	10,133	10,246	10,361	10,477	10,594
	Demand totals	10,133	10,246	10,361	10,477	10,594
	Difference	0	0	0	0	0
Fourth year	Supply totals	9,350	9,454	9,560	9,667	9,775
	Demand totals	9,350	9,454	9,560	9,667	9,775
	Difference	0	0	0	0	0
Fifth year	Supply totals	8,256	8,348	8,441	8,536	8,631
	Demand totals	8,256	8,348	8,441	8,536	8,631
	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	8,891
Total Supplies	8,791
Surplus/Shortfall w/o WSCP Action	(100)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	100
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	1%

2022	Total
Total Water Use	9,297
Total Supplies	8,965
Surplus/Shortfall w/o WSCP Action	(332)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	332
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	4%

2023	Total
Total Water Use	9,665
Total Supplies	9,094
Surplus/Shortfall w/o WSCP Action	(571)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	571
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	6%

2024	Total
Total Water Use	9,134
Total Supplies	8,391
Surplus/Shortfall w/o WSCP Action	(743)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	743
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	8%

2025	Total
Total Water Use	8,256
Total Supplies	7,409
Surplus/Shortfall w/o WSCP Action	(847)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	847
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Declaring a Stage 1 Water Shortage demonstrates the need to reduce the City's water demand by a maximum of 10%. In addition to the general prohibitions, the following water use restrictions are to be implemented during a Shortage Level 1: 1.Limit landscape irrigation to Monday, Wednesday, and Friday
2	Up to 20%	Declaring a Stage 2 Water Shortage demonstrates the need to reduce the City's water demand between 11 percent and 20 percent. In addition to the prohibitions in Shortage Level 1, the following prohibitions are to be implemented during a Shortage Level 2: 1.Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system is limited to two (2) times per week. Residents may water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday and Thursday. 2.Installing non drip irrigation or micro-spray systems used in watering outdoors for purposes of irrigating landscape, lawns, vegetated areas, and plant material in new commercial and residential developments requesting new water utility service is unlawful. 3.It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.
3	Up to 30%	Declaring a Stage 3 Water Shortage demonstrates the need to reduce the City's water demand between 21 percent and 30 percent. In addition to the prohibitions in Shortage Level 2, the following prohibitions are to be implemented during a Shortage Level 3: 1.Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system is limited to one (1) time per week. Residents are permitted to water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday. 2.Filling swimming pools, spas, hot tubs, Jacuzzis, or children's wading pools is limited to not more than one (1) time per week on Mondays. 3.It is unlawful to wash any motorized vehicle or non-motorized equipment including, without limitation, automobiles, trucks, vans, buses, motorcycles, boats, or other motorized and non-motorized equipment unless performed at commercial car wash facilities. 4.Using potable water from fire hydrants is limited to firefighting and emergency related activities and/or other activities necessary to maintain public health, safety, and welfare including, without limitation, flushing utility distribution pipelines; constructing water distribution and production facilities; and maintaining street sweeping services. If there is a need for acquiring fire hydrant and flow testing services, the applicant is required to have the test completed by the water superintendent through the water system computer model in-lieu of having an actual real-time field test completed. The expense incurred by the City for completion of a fire hydrant and flow test using the City water system computer model will be paid by the applicant.
4	Up to 40%	Declaring a Stage 4 Water Shortage demonstrates the need to reduce the City's water demand between 31 percent and 40 percent. In addition to the prohibitions in Shortage Level 3, the following prohibitions are to be implemented during a Shortage Level 4: 1.All watering without a drip irrigation or micro-spray system is prohibited. 2.It is unlawful to fill swimming pools, spas, hot tubs, and/or jacuzzis of any kind whether in-ground or above-ground structures, including children's wading pools.
5	Up to 50%	The following water use restrictions shall be in effect and will be enforced on all customers: The restrictions in Water Shortage Level 5 shall be that of Water Shortage Level 4, with the exception that no customer shall cause, use or permit the use of water for any purpose in an amount in excess of 50% of said customer's base period allocation.
6	>50%	The following water use restrictions shall be in effect and will be enforced on all customers: The restrictions in Water Shortage Level 6 shall be that of Water Shortage Level 5, with the exception that no customer shall cause, use or permit the use of water for any purpose in an amount more than 50% of said customer's base period allocation.

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				
General	Other - Prohibit use of potable water for washing hard surfaces			Yes
General	Landscape - Limit landscape irrigation to specific times			Yes
General	Landscape - Limit landscape irrigation to specific days			Yes
General	Landscape - Other landscape restriction or prohibition		Prohibit landscape irrigation within 48 hours after measurable precipitation	Yes
General	Landscape - Restrict or prohibit runoff from landscape irrigation			Yes
General	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner			Yes
General	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water			Yes
General	Other - Require automatic shut of hoses			Yes
General	CII - Restaurants may only serve water upon request			Yes
General	CII - Lodging establishment must offer opt out of linen service			Yes
General	Water Features - Restrict water use for decorative water features, such as fountains			Yes
General	CII - Other CII restriction or prohibition			Yes
General	CII - Other CII restriction or prohibition			Yes
General	Other		A written warning must be provided to persons upon the first violation of this section.	Yes
1	Other	Collective reduction from all Shortage Level 1 actions is up to 624 AFY	All actions under General	Yes
1	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 1 actions is up to 624 AFY	Limit Landscape irrigation to Monday, Wednesday, and Friday	
2	Other	Collective reduction from Shortage Level 1 plus all Shortage Level 2 actions is up to 1,248 AFY	All actions under Shortage Level 1	Yes
2	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 2 actions is up to 1,248 AFY		Yes
2	Landscape - Prohibit certain types of landscape irrigation	Collective reduction from all Shortage Level 2 actions is up to 1,248 AFY		Yes
2	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 2 actions is up to 1,248 AFY	Drip irrigation required for new construction	Yes
3	Other	Collective reduction from Shortage Level 2 plus all Shortage Level 3 actions is up to 1,872 AFY	All actions under Shortage Level 2	Yes
3	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 3 actions is up to 1,872 AFY		Yes
3	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 3 actions is up to 1,872 AFY	Limit filling or refilling of swimming pools to Mondays	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Collective reduction from all Shortage Level 3 actions is up to 1,872 AFY		Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 1,872 AFY	Using potable water from fire hydrants is limited to firefighting and emergency related activities and/or other activities necessary to maintain public health, safety, and welfare	Yes
4	Other	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,496 AFY	All actions under Shortage Level 3	Yes
4	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 4 actions is up to 2,496 AFY		Yes
4	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 4 actions is up to 2,496 AFY		Yes
5	Other	Collective reduction from Shortage Level 4 plus all Shortage Level 5 actions is up to 3,120 AFY	All actions under Shortage Level 4	Yes
6	Other	Collective reduction from Shortage Level 5 plus all Shortage Level 6 actions is greater than 3,120 AFY	All actions under Shortage Level 5	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 City will consider increased production from the Main Basin using existing facilities to address increased demands. As noted on Table 8-2, the City 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 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Alhambra	Yes	Yes
Monterey Park	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 2014-15 THROUGH FY 2044-45) CITY OF MONTEREY PARK

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).*

Reduced Reliance Calculation Tables

Pursuant to DWR guidance, Tables C-1 through C-4 were prepared to show the potential reduction of reliance on Delta Watershed supply for the City. 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 City's water demand without water use efficiency in effect.

A method of showing a reduction of reliance on the Delta Watershed 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) 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 City's total supply. A negative percent change of imported water supplies indicates the City has reduced regional reliance on imported water supplies.

Since the Baseline year, the City has decreased its reliance on imported water supplies in 2015, 2020, and anticipates doing so through 2045.

The City has reduced its reliance on Delta water supplies, as follows:

- The demand in GPCD for a "Baseline year" was compared to the GPCDs in subsequent years (from 2015 through 2045, in five-year increments). The reduced GPCD multiplied by the population in these subsequent years is indicative of the

potential reduced regional reliance on Delta water supplies and is included in Table C-1.

- To the extent the Main Basin Watermaster has, or plans to, use recycled water to replenish the Main Basin, the City's proportional share (up to the total replenishment water obligation) will be included on Table C-1.

These categories of reduced regional reliance on imported water supplies are discussed below. The sum of the increased regional self-reliance and 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 City's overall reduced reliance.

Reduced GPCD

Section 6.2.2 of the City's 2020 UWMP describes the management of the Main Basin. The City relies on groundwater produced from the Main Basin, which is adjudicated and managed by the Main Basin Watermaster. To the extent the City historically (baseline during Fiscal Year (FY) 2010-11 has produced groundwater in excess of its water rights, it has paid assessments to the Main Basin Watermaster which are then used to purchase untreated imported water from the San Gabriel Valley Municipal Water District (San Gabriel District). The untreated imported water subsequently is delivered to replenish the Main Basin and to supplement local storm water replenishment. The untreated imported water may include Delta water delivered as part of the State Water Project.

Chapter 9 of the 2020 UWMP describes the Demand Management Measures which the City has implemented to reduce the amount water used by its customers. In addition, Chapter 6 of the 2020 UWMP describes the groundwater basin management measures implemented by the Main Basin Watermaster. Collectively these actions translate to a reduction in the GPCD usage rate which is described further in Chapter 5 of the 2020 UWMP. These actions directly impact total water demands, and consequently, the quantity of water which may be required from imported water supplies. Absent the

proactive measures taken by the City, it is anticipated there may have been a greater demand on Delta water supplies

Pursuant to DWR guidance, reduced regional reliance on can be demonstrated by first selecting a “Baseline” water demand, represented by total potable water demands during FY 2010-11. Table C-1 summarizes the “Baseline” water usage by the City in FY 2010-11 (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. Furthermore, it is assumed that as of FY 2010-11 the City was already exceeding its water rights and was required to fund the purchase of untreated imported water from the Delta. Table C-1 demonstrates that if water conservation measures had not been implemented by the City, there may have been a greater reliance on untreated imported water supplies from the Delta during subsequent years as compared to the Baseline year. However, as discussed below and shown in Table C-1, the reduced water demands have resulted in reduced Delta reliance as compared to the Baseline year.

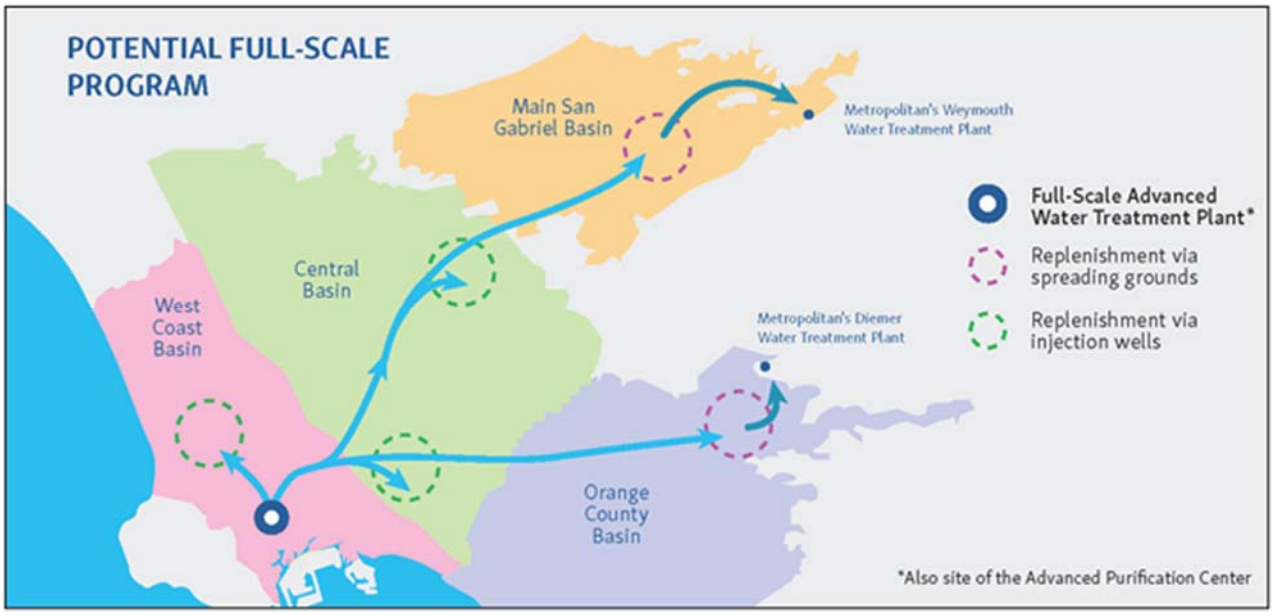
The City’s potable water demand of 8,497 AF during FY 2010-11 , along with the corresponding service area population of approximately 56,646, were used to determine the Baseline GPCD. Subsequently, the actual demands for FY 2015-16 and FY 2019-20 were compared to the calculated population to obtain the recent GPCD which includes the water conservations measures which have been implemented (those demand management measures are described in Chapter 9 of the 2020 UWMP). The “Water Supplies Contributing to Regional Self-Reliance" are also provided in Table C-1. The differences between the Baseline GPCD and the 2015 and 2020 GPCDs are effectively considered a demonstration of the reduced Delta reliance with the understanding that any potential increased demand by the City resulting from increased population could have been required from the Delta, absent the City’s new water supplies which contribute to self-reliance. A similar methodology is used for the projected potable water demands (2020 UWMP Table 4-3) and populations (2020 UWMP Table 3-1).

The decrease in GPCD compared to the Baseline year has resulted in an overall decrease in reliance on imported water supplies. As shown in Table C-4, the percentage of Delta water supplies relative to the City's total supply has decreased, and is projected to decrease, from the percentage in the Baseline year.

Recycled Water for Groundwater Replenishment

In addition to the historical actions the City has taken in conjunction with groundwater management agencies, the City may be 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 of the 2020 UWMP) 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 thus far entered into a letter of intent with Upper

San Gabriel Valley Municipal Water District for at least 35,000 AFY and with Three Valleys 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 of its 2020 Regional Urban Water Management Plan. That discussion is included by reference and also included in Attachment 1 of this Plan.

Reduced Reliance Calculation - City of Monterey Park

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 (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	8,421	8,514	8,611	8,706	8,804
Non-Potable Water Demands								
Potable Service Area Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	8,421	8,514	8,611	8,706	8,804

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Population	56,646	56,063	59,473	60,138	60,811	61,492	62,180	62,876

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)	134	118	112	125	125	125	125	125
Change in Per Capita Water Use from Baseline (GPCD)		(16)	(22)	(9)	(9)	(9)	(9)	(9)
Estimated Water Use Efficiency Since Baseline		1,001	1,473	600	608	613	621	628

Table C-2: Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	8,421	8,514	8,611	8,706	8,804
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline	-	1,001	1,473	600	608	613	621	628
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	9,021	9,122	9,224	9,327	9,431

Table C-3: Calculation of Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Use Efficiency	-	1,001	1,473	600	608	613	621	628
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	-	1,001	1,473	600	608	613	621	628

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	9,021	9,122	9,224	9,327	9,431

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	-	1,001	1,473	600	608	613	621	628
Change in Water Supplies Contributing to Regional Self-Reliance		1,001	1,473	600	608	613	621	628

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	0.0%	11.9%	16.5%	6.7%	6.7%	6.6%	6.7%	6.7%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		11.9%	16.5%	6.7%	6.7%	6.6%	6.7%	6.7%

Table C-4: Calculation of 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 (Optional)
CVP/SWP Contract Supplies								
Delta/Delta Tributary Diversions								
Transfers and Exchanges								
Other Water Supplies from the Delta Watershed (Untreated)[1]	3,409	2,321	2,360	3,217	3,311	3,407	3,503	3,600
Total Water Supplies from the Delta Watershed	3,409	2,321	2,360	3,217	3,311	3,407	3,503	3,600

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	9,021	9,122	9,224	9,327	9,431

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	3,409	2,321	2,360	3,217	3,311	3,407	3,503	3,600
Change in Water Supplies from the Delta Watershed		(1,088)	(1,049)	(192)	(97)	(2)	94	192

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 (Optional)
Percent of Water Supplies from the Delta Watershed	40.1%	27.6%	26.4%	35.7%	36.3%	36.9%	37.6%	38.2%
Change in Percent of Water Supplies from the Delta Watershed		-12.5%	-13.7%	-4.5%	-3.8%	-3.2%	-2.6%	-1.9%

Baseline Year is FY 2010-11

[1] Represents imported untreated water to satisify replenishment obligations due to Main Basin overproduction. Based on the City's production less the City's share (3.3922%) of the Operating Safe Yield (150,000 AFY).

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

June 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 9279, 9280, and 9281, 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 9279, 9280, and 9281 are included in the 2020 UWMP Section 5, and Resolution 9281 for the WSCP is attached to the WSCP as Attachment C.

Appendix 11

QUANTIFYING REGIONAL SELF-RELIANCE AND REDUCED RELIANCE ON WATER SUPPLIES FROM THE DELTA WATERSHED

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 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 9279, 9280, and 9281, 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 9279, 9280, and 9281 are included in the 2020 UWMP Section 5, and Resolution 9281 for the WSCP is attached to the WSCP as Attachment C.

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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	Sections 2.6 and 6.1
	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	Not applicable
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	Section 4.2.4
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	Section 4.3.2
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	Section 4.4
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	Chapter 5
x		Chapter 5	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Chapter 5
	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	Not applicable

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	Sections 5.2, 5.3, and 5.5
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	Section 5.5
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	Sections 8.5 and 8.6
x		Section 8.6	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Section 8.6
x		Section 8.7	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7
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	Section 8.11
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	Not applicable
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	Sections 9.2 and 9.3
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	Chapter 10
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

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

Recorder/County Clerk
Los Angeles County
12400 Imperial Highway
Norwalk, CA 90650

SUBJECT: 2020 Urban Water Management Plan Update

Dear County Clerk:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

As an urban water supplier, the City of Monterey Park 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 City of Monterey Park will be reviewing the UWMP and will make amendments or changes, as appropriate. the City of Monterey Park 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 the City of Monterey Park.

Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

California Water Service
1720 North First Street
San Jose, CA 95112

SUBJECT: 2020 Urban Water Management Plan Update

Dear Water Utility:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

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320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

City Clerk
City of Alhambra
111South First Street
Alhambra, CA 91801

SUBJECT: 2020 Urban Water Management Plan Update

Dear City Clerk:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

City Clerk
City of Monterey Park
320 W. Newmark Ave.
Monterey Park, CA 91754

SUBJECT: 2020 Urban Water Management Plan Update

Dear City Clerk:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

Golden State Water Company
630 E. Foothill Blvd.
San Dimas, CA 91773

SUBJECT: 2020 Urban Water Management Plan Update

Dear Water Utility:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

Los Angeles County Flood Control District
Los Angeles County Public Works
900 S. Fremont Ave.
Alhambra, CA 91801

SUBJECT: 2020 Urban Water Management Plan Update

Dear Sir/Madam:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

Main San Gabriel Basin Watermaster
725 North Azusa Avenue
Azusa, CA 91702

SUBJECT: 2020 Urban Water Management Plan Update

Dear Sir/Madam:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

Mr. Darin Kasamoto
San Gabriel Valley Municipal Water District
1402 North Vosburg Drive
P.O. Box 1299
Azusa, CA 91702

SUBJECT: 2020 Urban Water Management Plan Update

Dear Mr. Kasamoto:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

CITY OF MONTEREY PARK
320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

January 11, 2021

San Gabriel Valley Water Company
14404 Valley Boulevard
Industry, CA 91746

SUBJECT: 2020 Urban Water Management Plan Update

Dear Water Utility:

The City of Monterey Park 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 City of Monterey Park is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Richard Gonzales
Water Utility Manager

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HELENA CHO
CITY OF MONTEREY PARK, CITY CLERK
320 W NEWMARK AVE
MONTEREY PARK, CA 91754-2818

CNS 3484493

COPY OF NOTICE

Notice Type: HRG NOTICE OF HEARING

Ad Description: 21-72 Notice of Public Hearing - Draft 2020 Urban Water Management Plan

To the right is a copy of the notice you sent to us for publication in the MONTEREY PARK PRESS. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

06/24/2021 , 07/01/2021

The charge(s) for this order is as follows. An invoice will be sent after the last date of publication. If you prepaid this order in full, you will not receive an invoice.

CITY OF MONTEREY PARK
NOTICE OF PUBLIC HEARING FOR THE CONSIDERATION OF ADOPTING THE DRAFT 2020 URBAN WATER MANAGEMENT PLAN

NOTICE is hereby given that a public hearing will be held before the City of Monterey Park City Council to determine that the Draft 2020 Urban Water Management Plan is consistent with the General Plan pursuant to Government Code Section 65401, and to consider adoption of the plan.

WHEN: July 7, 2021 – 6:30 p.m.

WHERE: Pursuant to Section 3 of Executive Order No. N-29-20 issued by Governor Newsom on March 17, 2020, the Monterey Park City Council meeting on July 7, 2021 will be via teleconference. The public may provide public comment using methods set forth in the agenda that will be posted for the July 7, 2021 meeting. For more information, contact the City Clerk's Office at (626) 307-1360.

PURSUANT to the California Environmental Quality Act (California Public Resources Code §§ 21000, et seq.,"CEQA") and CEQA regulations (14 California Code of Regulations §§ 15000, et seq .) because the project is the preparation and adoption of an Urban Water Management Plan pursuant to the provisions of § 10652 of the Water Code and does not involve any commitment to a specific project which could result in a potentially significant physical impact on the environment and will not result in direct or indirect physical changes in the environment. Accordingly, this Resolution does not constitute a "project" that requires environmental review (see specifically 14 CCR § 15282(v)).

REFERENCEis hereby made to the maps, documents and other data on file with the Public Works Department for further particulars.

PERSONS INTERESTED IN THIS MATTER are invited to attend this hearing to express their opinion on the above matter. If you challenge the proposed action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to the public hearing. The application and maps relevant to the proposed project may be obtained online at https://www.montereypark.ca.gov/1363/2020-Urban-Water-Management-Plan. Please contact the Public Works Department at (626) 307-1320 for other options to review the documents. Richard Gonzales, Water Utility Manager City of Monterey Park
6/24, 7/1/21
CNS-3484493#
MONTEREY PARK PRESS

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ORANGE COUNTY REPORTER, SANTA ANA	(714) 543-2027
SAN FRANCISCO DAILY JOURNAL, SAN FRANCISCO	(800) 640-4829
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CITY OF MONTEREY PARK

320 West Newmark Avenue • Monterey Park • California 91754-2896
www.montereypark.ca.gov

City Council
Peter Chan
Hans Liang
Henry Lo
Fred Sornoso
Yvonne Yiu

City Clerk
Vincent D. Chang

City Treasurer
Joseph Leon

June 21, 2021

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

The City of Monterey Park will hold a PUBLIC HEARING on July 7, 2021 for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The City of Monterey Park's 2020 Urban Water Management Plan incorporates the City of Monterey Park'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 City of Monterey Park's PUBLIC HEARING is as follows:

Date: Wednesday, July 7, 2021

Time: 6:30 pm

Place: Teleconference per Section 3 of Executive Order No. N-29-20

The public may watch the meeting live on the city's cable channel MPKTV (AT&T U-verse, channel 99 or Charter Communications, channel 182) or by visiting the city's website at http://www.montereypark.ca.gov/133/City-Council-Meeting-Videos.

PUBLIC PARTICIPATION:
The public may provide public comment using methods set forth in the agenda that will be posted for the July 7, 2021 meeting. For more information, contact the City Clerk's Office at (626) 307-1360.

The agenda for the meeting will be posted on the City of Monterey Park's website at the following address: http://www.montereypark.ca.gov/AgendaCenter/City-Council-17

The City of Monterey Park invites all interested entities to present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available at the City of Monterey Park's website: https://www.montereypark.ca.gov/1363/2020-Urban-Water-Management-Plan. Please submit written comments by 5 p.m. on July 6, 2021. They can be emailed to mpclerk@montereypark.ca.gov or mailed to Mr. Richard Gonzales, City of Monterey Park, 320 W. Newmark Ave., Monterey Park, CA 91754.

Sincerely,

Richard Gonzales
Water Utility Manager

APPENDIX E

AWWA WATER LOSS AUDIT REPORTS

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association.
Copyright © 2014, All Rights Reserved.

? Click to access definition
+ Click to add a comment

Water Audit Report for: City Of Monterey Park (CA1910092)
Reporting Year: 2016 | 1/2016 - 12/2016

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

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:	Value:	
Volume from own sources:	7	2,443.430	MG/Yr	3		MG/Yr
Water imported:	5	4.080	MG/Yr	5		MG/Yr
Water exported:	n/a		MG/Yr			MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 2,447.510 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	2,307.330	MG/Yr			
Billed unmetered:	n/a		MG/Yr			
Unbilled metered:	9		MG/Yr			
Unbilled unmetered:	5	6.119	MG/Yr		6.119	MG/Yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 2,313.449 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

134.061 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		6.119	MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	5	5.783	MG/Yr	0.25%		MG/Yr
Systematic data handling errors:		5.768	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 17.670 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 116.391 MG/Yr

WATER LOSSES: 134.061 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 140.180 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	6	134.0	miles
Number of active AND inactive service connections:	9	13,491	
Service connection density:		101	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 8 | 80.0 psi

COST DATA

Total annual cost of operating water system:	10	$13,322,553	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$1.85	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$154.00	$/Million gallons	Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

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

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
\+ Click to add a comment

Water Audit Report for: City Of Monterey Park (CA1910092)
Reporting Year: 2017 | 1/2017 - 12/2017

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

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

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	7	7,398.180	acre-ft/yr	8	-0.88%		acre-ft/yr
Water imported:	5	311.110	acre-ft/yr	5	-2.31%		acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 7,782.243 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	7,157.740	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	9	3.740	acre-ft/yr			
Unbilled unmetered:	6	17.830	acre-ft/yr		17.830	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 7,179.310 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

602.933 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		19.456	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	36.711	acre-ft/yr	0.51%	acre-ft/yr
Systematic data handling errors:		17.894	acre-ft/yr	0.25%	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 74.061 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 528.873 acre-ft/yr

WATER LOSSES: 602.933 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 624.503 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	136.6	miles
Number of active AND inactive service connections:	9	13,586	
Service connection density:		99	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 8 | 80.0 psi

COST DATA

Total annual cost of operating water system:	10	$9,093,032	$/Year
Customer retail unit cost (applied to Apparent Losses):	5	$2.30	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$359.51	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 68 out of 100 ***

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

PRIORITY AREAS FOR ATTENTION:

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

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

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
\+ Click to add a comment

Water Audit Report for: City Of Monterey Park (CA1910092)
Reporting Year: 2018 | 1/2018 - 12/2018

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

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

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	7	7,583.090	acre-ft/yr	8	-0.52%		acre-ft/yr
Water imported:	5	165.720	acre-ft/yr	5	-2.31%		acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 7,792.362 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	7,073.880	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	9	18.830	acre-ft/yr			
Unbilled unmetered:	6	21.300	acre-ft/yr		21.300	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 7,114.010 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 678.352 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		19.481	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	37.792	acre-ft/yr	0.53%		acre-ft/yr
Systematic data handling errors:		17.685	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 74.957 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 603.394 acre-ft/yr

WATER LOSSES: 678.352 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 718.482 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	136.6	miles
Number of active AND inactive service connections:	9	13,630	
Service connection density:		100	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	8	80.0	psi

COST DATA

Total annual cost of operating water system:	10	$10,806,469	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$2.53	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$547.90	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 68 out of 100 ***

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

PRIORITY AREAS FOR ATTENTION:

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

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

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
\+ Click to add a comment

Water Audit Report for: City Of Monterey Park (CA1910092)
Reporting Year: 2019 | 1/2019 - 12/2019

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

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

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

				Pcnt:	Value:	
Volume from own sources:	7	7,268.990	acre-ft/yr	-1.36%		acre-ft/yr
Water imported:	5	7.580	acre-ft/yr	-2.31%		acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 7,376.970 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	6,611.010	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	9	4.110	acre-ft/yr			
Unbilled unmetered:	6	17.470	acre-ft/yr		17.470	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 6,632.590 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

744.380 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	18.442	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	32.574	acre-ft/yr	0.49%	acre-ft/yr
Systematic data handling errors:		16.528	acre-ft/yr	0.25%	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 67.544 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 676.837 acre-ft/yr

WATER LOSSES: 744.380 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 765.960 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	136.6	miles
Number of active AND inactive service connections:	9	13,636	
Service connection density:		100	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	8	80.0	psi

COST DATA

Total annual cost of operating water system:	10	$11,090,495	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$2.29	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$610.58	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 68 out of 100 ***

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

PRIORITY AREAS FOR ATTENTION:

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

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

APPENDIX F

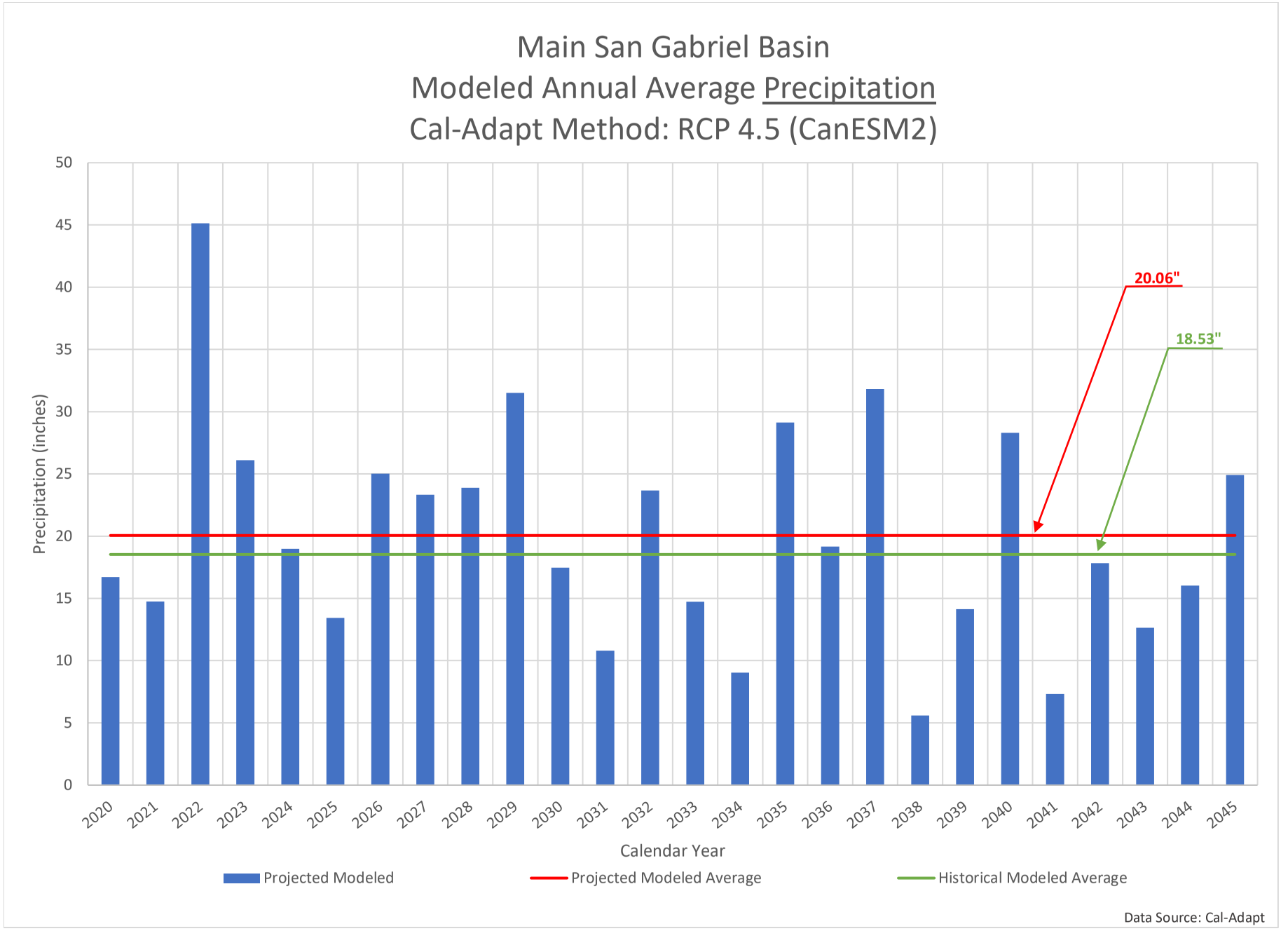
CLIMATE CHANGE CONSIDERATIONS (CAL- ADAPT DATA)

MAIN SAN GABRIEL BASIN

MODELED ANNUAL AVERAGE PRECIPITATION

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

Cal-Adapt
Annual Averages Tool - Precipitation
Main San Gabriel Basin

location	User Defined Boundary - Main San Gabriel Basin
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **20.0572 [inches]**
Historical Modeled Average: **18.53087 [inches]**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Sun Jan 01 1950 00:00:00 GMT-0800 (Pacific Standard Time)	1950			4.685112
CanESM2	Mon Jan 01 1951 00:00:00 GMT-0800 (Pacific Standard Time)	1951			23.05413
CanESM2	Tue Jan 01 1952 00:00:00 GMT-0800 (Pacific Standard Time)	1952			20.42137
CanESM2	Thu Jan 01 1953 00:00:00 GMT-0800 (Pacific Standard Time)	1953			13.47978
CanESM2	Fri Jan 01 1954 00:00:00 GMT-0800 (Pacific Standard Time)	1954			21.54391
CanESM2	Sat Jan 01 1955 00:00:00 GMT-0800 (Pacific Standard Time)	1955			34.92821
CanESM2	Sun Jan 01 1956 00:00:00 GMT-0800 (Pacific Standard Time)	1956			9.049924
CanESM2	Tue Jan 01 1957 00:00:00 GMT-0800 (Pacific Standard Time)	1957			15.43256
CanESM2	Wed Jan 01 1958 00:00:00 GMT-0800 (Pacific Standard Time)	1958			7.710687
CanESM2	Thu Jan 01 1959 00:00:00 GMT-0800 (Pacific Standard Time)	1959			12.81114
CanESM2	Fri Jan 01 1960 00:00:00 GMT-0800 (Pacific Standard Time)	1960			16.98388
CanESM2	Sun Jan 01 1961 00:00:00 GMT-0800 (Pacific Standard Time)	1961			18.55097
CanESM2	Mon Jan 01 1962 00:00:00 GMT-0800 (Pacific Standard Time)	1962			29.2631
CanESM2	Tue Jan 01 1963 00:00:00 GMT-0800 (Pacific Standard Time)	1963			5.927427
CanESM2	Wed Jan 01 1964 00:00:00 GMT-0800 (Pacific Standard Time)	1964			32.98481
CanESM2	Fri Jan 01 1965 00:00:00 GMT-0800 (Pacific Standard Time)	1965			40.77049
CanESM2	Sat Jan 01 1966 00:00:00 GMT-0800 (Pacific Standard Time)	1966			16.54101
CanESM2	Sun Jan 01 1967 00:00:00 GMT-0800 (Pacific Standard Time)	1967			23.49777
CanESM2	Mon Jan 01 1968 00:00:00 GMT-0800 (Pacific Standard Time)	1968			18.14894
CanESM2	Wed Jan 01 1969 00:00:00 GMT-0800 (Pacific Standard Time)	1969			38.02022
CanESM2	Thu Jan 01 1970 00:00:00 GMT-0800 (Pacific Standard Time)	1970			15.76751
CanESM2	Fri Jan 01 1971 00:00:00 GMT-0800 (Pacific Standard Time)	1971			5.570342
CanESM2	Sat Jan 01 1972 00:00:00 GMT-0800 (Pacific Standard Time)	1972			19.00945
CanESM2	Mon Jan 01 1973 00:00:00 GMT-0800 (Pacific Standard Time)	1973			14.41861
CanESM2	Tue Jan 01 1974 00:00:00 GMT-0800 (Pacific Standard Time)	1974			39.83373
CanESM2	Wed Jan 01 1975 00:00:00 GMT-0800 (Pacific Standard Time)	1975			10.39996
CanESM2	Thu Jan 01 1976 00:00:00 GMT-0800 (Pacific Standard Time)	1976			17.88769
CanESM2	Sat Jan 01 1977 00:00:00 GMT-0800 (Pacific Standard Time)	1977			21.0267
CanESM2	Sun Jan 01 1978 00:00:00 GMT-0800 (Pacific Standard Time)	1978			13.26527
CanESM2	Mon Jan 01 1979 00:00:00 GMT-0800 (Pacific Standard Time)	1979			11.84687
CanESM2	Tue Jan 01 1980 00:00:00 GMT-0800 (Pacific Standard Time)	1980			7.246671
CanESM2	Thu Jan 01 1981 00:00:00 GMT-0800 (Pacific Standard Time)	1981			16.32265
CanESM2	Fri Jan 01 1982 00:00:00 GMT-0800 (Pacific Standard Time)	1982			27.32421
CanESM2	Sat Jan 01 1983 00:00:00 GMT-0800 (Pacific Standard Time)	1983			16.94291
CanESM2	Sun Jan 01 1984 00:00:00 GMT-0800 (Pacific Standard Time)	1984			19.3673
CanESM2	Tue Jan 01 1985 00:00:00 GMT-0800 (Pacific Standard Time)	1985			46.4508
CanESM2	Wed Jan 01 1986 00:00:00 GMT-0800 (Pacific Standard Time)	1986			9.421445
CanESM2	Thu Jan 01 1987 00:00:00 GMT-0800 (Pacific Standard Time)	1987			21.04764
CanESM2	Fri Jan 01 1988 00:00:00 GMT-0800 (Pacific Standard Time)	1988			12.02208
CanESM2	Sun Jan 01 1989 00:00:00 GMT-0800 (Pacific Standard Time)	1989			20.08803
CanESM2	Mon Jan 01 1990 00:00:00 GMT-0800 (Pacific Standard Time)	1990			23.1006
CanESM2	Tue Jan 01 1991 00:00:00 GMT-0800 (Pacific Standard Time)	1991			20.80475
CanESM2	Wed Jan 01 1992 00:00:00 GMT-0800 (Pacific Standard Time)	1992			19.87184
CanESM2	Fri Jan 01 1993 00:00:00 GMT-0800 (Pacific Standard Time)	1993			17.11653
CanESM2	Sat Jan 01 1994 00:00:00 GMT-0800 (Pacific Standard Time)	1994			19.46629
CanESM2	Sun Jan 01 1995 00:00:00 GMT-0800 (Pacific Standard Time)	1995			14.83353
CanESM2	Mon Jan 01 1996 00:00:00 GMT-0800 (Pacific Standard Time)	1996			14.38013
CanESM2	Wed Jan 01 1997 00:00:00 GMT-0800 (Pacific Standard Time)	1997			49.37126
CanESM2	Thu Jan 01 1998 00:00:00 GMT-0800 (Pacific Standard Time)	1998			10.23361
CanESM2	Fri Jan 01 1999 00:00:00 GMT-0800 (Pacific Standard Time)	1999			10.75915
CanESM2	Sat Jan 01 2000 00:00:00 GMT-0800 (Pacific Standard Time)	2000			9.683032
CanESM2	Mon Jan 01 2001 00:00:00 GMT-0800 (Pacific Standard Time)	2001			11.97161
CanESM2	Tue Jan 01 2002 00:00:00 GMT-0800 (Pacific Standard Time)	2002			14.37179

Cal-Adapt
Annual Averages Tool - Precipitation
Main San Gabriel Basin

location	User Defined Boundary - Main San Gabriel Basin
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **20.0572 [inches]**
Historical Modeled Average: **18.53087 [inches]**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Wed Jan 01 2003 00:00:00 GMT-0800 (Pacific Standard Time)	2003			18.01362
CanESM2	Thu Jan 01 2004 00:00:00 GMT-0800 (Pacific Standard Time)	2004			19.62679
CanESM2	Sat Jan 01 2005 00:00:00 GMT-0800 (Pacific Standard Time)	2005			30.46913
CanESM2	Sun Jan 01 2006 00:00:00 GMT-0800 (Pacific Standard Time)	2006			16.2498
CanESM2	Mon Jan 01 2007 00:00:00 GMT-0800 (Pacific Standard Time)	2007			4.687571
CanESM2	Tue Jan 01 2008 00:00:00 GMT-0800 (Pacific Standard Time)	2008			16.07958
CanESM2	Thu Jan 01 2009 00:00:00 GMT-0800 (Pacific Standard Time)	2009			13.77223
CanESM2	Fri Jan 01 2010 00:00:00 GMT-0800 (Pacific Standard Time)	2010			15.8131
CanESM2	Sat Jan 01 2011 00:00:00 GMT-0800 (Pacific Standard Time)	2011			25.053
CanESM2	Sun Jan 01 2012 00:00:00 GMT-0800 (Pacific Standard Time)	2012			7.777958
CanESM2	Tue Jan 01 2013 00:00:00 GMT-0800 (Pacific Standard Time)	2013			9.874859
CanESM2	Wed Jan 01 2014 00:00:00 GMT-0800 (Pacific Standard Time)	2014			10.21487
CanESM2	Thu Jan 01 2015 00:00:00 GMT-0800 (Pacific Standard Time)	2015			28.73597
CanESM2	Fri Jan 01 2016 00:00:00 GMT-0800 (Pacific Standard Time)	2016			42.6728
CanESM2	Sun Jan 01 2017 00:00:00 GMT-0800 (Pacific Standard Time)	2017			13.03285
CanESM2	Mon Jan 01 2018 00:00:00 GMT-0800 (Pacific Standard Time)	2018			6.677918
CanESM2	Tue Jan 01 2019 00:00:00 GMT-0800 (Pacific Standard Time)	2019	18.53086914		13.37936
CanESM2	Wed Jan 01 2020 00:00:00 GMT-0800 (Pacific Standard Time)	2020	18.53086914	20.05720069	16.71917
CanESM2	Fri Jan 01 2021 00:00:00 GMT-0800 (Pacific Standard Time)	2021	18.53086914	20.05720069	14.74009
CanESM2	Sat Jan 01 2022 00:00:00 GMT-0800 (Pacific Standard Time)	2022	18.53086914	20.05720069	45.12891
CanESM2	Sun Jan 01 2023 00:00:00 GMT-0800 (Pacific Standard Time)	2023	18.53086914	20.05720069	26.10602
CanESM2	Mon Jan 01 2024 00:00:00 GMT-0800 (Pacific Standard Time)	2024	18.53086914	20.05720069	18.97621
CanESM2	Wed Jan 01 2025 00:00:00 GMT-0800 (Pacific Standard Time)	2025	18.53086914	20.05720069	13.43139
CanESM2	Thu Jan 01 2026 00:00:00 GMT-0800 (Pacific Standard Time)	2026	18.53086914	20.05720069	25.02212
CanESM2	Fri Jan 01 2027 00:00:00 GMT-0800 (Pacific Standard Time)	2027	18.53086914	20.05720069	23.33611
CanESM2	Sat Jan 01 2028 00:00:00 GMT-0800 (Pacific Standard Time)	2028	18.53086914	20.05720069	23.89469
CanESM2	Mon Jan 01 2029 00:00:00 GMT-0800 (Pacific Standard Time)	2029	18.53086914	20.05720069	31.50682
CanESM2	Tue Jan 01 2030 00:00:00 GMT-0800 (Pacific Standard Time)	2030	18.53086914	20.05720069	17.46751
CanESM2	Wed Jan 01 2031 00:00:00 GMT-0800 (Pacific Standard Time)	2031	18.53086914	20.05720069	10.80211
CanESM2	Thu Jan 01 2032 00:00:00 GMT-0800 (Pacific Standard Time)	2032	18.53086914	20.05720069	23.66535
CanESM2	Sat Jan 01 2033 00:00:00 GMT-0800 (Pacific Standard Time)	2033	18.53086914	20.05720069	14.72254
CanESM2	Sun Jan 01 2034 00:00:00 GMT-0800 (Pacific Standard Time)	2034	18.53086914	20.05720069	9.037275
CanESM2	Mon Jan 01 2035 00:00:00 GMT-0800 (Pacific Standard Time)	2035	18.53086914	20.05720069	29.13842
CanESM2	Tue Jan 01 2036 00:00:00 GMT-0800 (Pacific Standard Time)	2036	18.53086914	20.05720069	19.16849
CanESM2	Thu Jan 01 2037 00:00:00 GMT-0800 (Pacific Standard Time)	2037	18.53086914	20.05720069	31.82107
CanESM2	Fri Jan 01 2038 00:00:00 GMT-0800 (Pacific Standard Time)	2038	18.53086914	20.05720069	5.600583
CanESM2	Sat Jan 01 2039 00:00:00 GMT-0800 (Pacific Standard Time)	2039	18.53086914	20.05720069	14.14258
CanESM2	Sun Jan 01 2040 00:00:00 GMT-0800 (Pacific Standard Time)	2040	18.53086914	20.05720069	28.30963
CanESM2	Tue Jan 01 2041 00:00:00 GMT-0800 (Pacific Standard Time)	2041	18.53086914	20.05720069	7.330622
CanESM2	Wed Jan 01 2042 00:00:00 GMT-0800 (Pacific Standard Time)	2042	18.53086914	20.05720069	17.83167
CanESM2	Thu Jan 01 2043 00:00:00 GMT-0800 (Pacific Standard Time)	2043	18.53086914	20.05720069	12.63815
CanESM2	Fri Jan 01 2044 00:00:00 GMT-0800 (Pacific Standard Time)	2044	18.53086914	20.05720069	16.03419
CanESM2	Sun Jan 01 2045 00:00:00 GMT-0800 (Pacific Standard Time)	2045	18.53086914	20.05720069	24.91551
CanESM2	Mon Jan 01 2046 00:00:00 GMT-0800 (Pacific Standard Time)	2046	18.53086914	20.05720069	34.01642
CanESM2	Tue Jan 01 2047 00:00:00 GMT-0800 (Pacific Standard Time)	2047	18.53086914		28.53796
CanESM2	Wed Jan 01 2048 00:00:00 GMT-0800 (Pacific Standard Time)	2048	18.53086914		26.78511
CanESM2	Fri Jan 01 2049 00:00:00 GMT-0800 (Pacific Standard Time)	2049	18.53086914		11.3078
CanESM2	Sat Jan 01 2050 00:00:00 GMT-0800 (Pacific Standard Time)	2050	18.53086914		13.96474
CanESM2	Sun Jan 01 2051 00:00:00 GMT-0800 (Pacific Standard Time)	2051	18.53086914		9.066945
CanESM2	Mon Jan 01 2052 00:00:00 GMT-0800 (Pacific Standard Time)	2052	18.53086914		34.64868
CanESM2	Wed Jan 01 2053 00:00:00 GMT-0800 (Pacific Standard Time)	2053	18.53086914		13.88863
CanESM2	Thu Jan 01 2054 00:00:00 GMT-0800 (Pacific Standard Time)	2054	18.53086914		15.31696
CanESM2	Fri Jan 01 2055 00:00:00 GMT-0800 (Pacific Standard Time)	2055	18.53086914		12.39008

Cal-Adapt
Annual Averages Tool - Precipitation
Main San Gabriel Basin

location	User Defined Boundary - Main San Gabriel Basin
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **20.0572 [inches]**
Historical Modeled Average: **18.53087 [inches]**

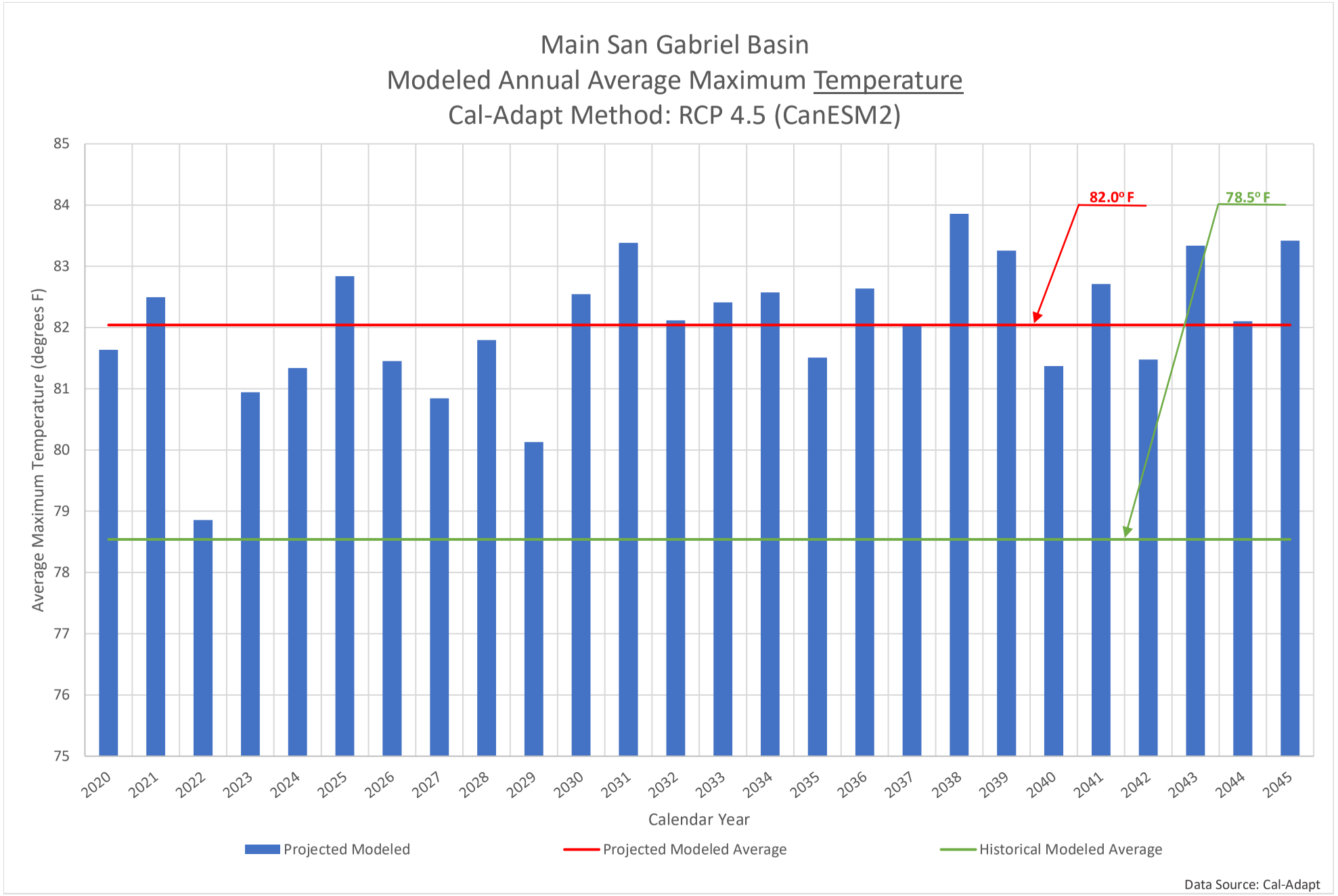
name	date	Year	Historical Average	Modeled Average	value
CanESM2	Sat Jan 01 2056 00:00:00 GMT-0800 (Pacific Standard Time)	2056	18.53086914		21.90416
CanESM2	Mon Jan 01 2057 00:00:00 GMT-0800 (Pacific Standard Time)	2057	18.53086914		20.30997
CanESM2	Tue Jan 01 2058 00:00:00 GMT-0800 (Pacific Standard Time)	2058	18.53086914		9.836494
CanESM2	Wed Jan 01 2059 00:00:00 GMT-0800 (Pacific Standard Time)	2059	18.53086914		33.08858
CanESM2	Thu Jan 01 2060 00:00:00 GMT-0800 (Pacific Standard Time)	2060	18.53086914		33.62924
CanESM2	Sat Jan 01 2061 00:00:00 GMT-0800 (Pacific Standard Time)	2061	18.53086914		8.842443
CanESM2	Sun Jan 01 2062 00:00:00 GMT-0800 (Pacific Standard Time)	2062	18.53086914		15.38017
CanESM2	Mon Jan 01 2063 00:00:00 GMT-0800 (Pacific Standard Time)	2063	18.53086914		5.381668
CanESM2	Tue Jan 01 2064 00:00:00 GMT-0800 (Pacific Standard Time)	2064	18.53086914		11.33596
CanESM2	Thu Jan 01 2065 00:00:00 GMT-0800 (Pacific Standard Time)	2065	18.53086914		17.17056
CanESM2	Fri Jan 01 2066 00:00:00 GMT-0800 (Pacific Standard Time)	2066	18.53086914		19.50667
CanESM2	Sat Jan 01 2067 00:00:00 GMT-0800 (Pacific Standard Time)	2067	18.53086914		26.77193
CanESM2	Sun Jan 01 2068 00:00:00 GMT-0800 (Pacific Standard Time)	2068	18.53086914		19.72816
CanESM2	Tue Jan 01 2069 00:00:00 GMT-0800 (Pacific Standard Time)	2069	18.53086914		32.26327
CanESM2	Wed Jan 01 2070 00:00:00 GMT-0800 (Pacific Standard Time)	2070	18.53086914		31.96877
CanESM2	Thu Jan 01 2071 00:00:00 GMT-0800 (Pacific Standard Time)	2071	18.53086914		26.69731
CanESM2	Fri Jan 01 2072 00:00:00 GMT-0800 (Pacific Standard Time)	2072	18.53086914		8.450815
CanESM2	Sun Jan 01 2073 00:00:00 GMT-0800 (Pacific Standard Time)	2073	18.53086914		30.79085
CanESM2	Mon Jan 01 2074 00:00:00 GMT-0800 (Pacific Standard Time)	2074	18.53086914		20.17345
CanESM2	Tue Jan 01 2075 00:00:00 GMT-0800 (Pacific Standard Time)	2075	18.53086914		25.51862
CanESM2	Wed Jan 01 2076 00:00:00 GMT-0800 (Pacific Standard Time)	2076	18.53086914		14.19568
CanESM2	Fri Jan 01 2077 00:00:00 GMT-0800 (Pacific Standard Time)	2077	18.53086914		29.56606
CanESM2	Sat Jan 01 2078 00:00:00 GMT-0800 (Pacific Standard Time)	2078	18.53086914		24.46505
CanESM2	Sun Jan 01 2079 00:00:00 GMT-0800 (Pacific Standard Time)	2079	18.53086914		25.2602
CanESM2	Mon Jan 01 2080 00:00:00 GMT-0800 (Pacific Standard Time)	2080	18.53086914		57.17352
CanESM2	Wed Jan 01 2081 00:00:00 GMT-0800 (Pacific Standard Time)	2081	18.53086914		21.9062
CanESM2	Thu Jan 01 2082 00:00:00 GMT-0800 (Pacific Standard Time)	2082	18.53086914		18.22665
CanESM2	Fri Jan 01 2083 00:00:00 GMT-0800 (Pacific Standard Time)	2083	18.53086914		18.06925
CanESM2	Sat Jan 01 2084 00:00:00 GMT-0800 (Pacific Standard Time)	2084	18.53086914		25.73052
CanESM2	Mon Jan 01 2085 00:00:00 GMT-0800 (Pacific Standard Time)	2085	18.53086914		10.181
CanESM2	Tue Jan 01 2086 00:00:00 GMT-0800 (Pacific Standard Time)	2086	18.53086914		30.50838
CanESM2	Wed Jan 01 2087 00:00:00 GMT-0800 (Pacific Standard Time)	2087	18.53086914		12.39789
CanESM2	Thu Jan 01 2088 00:00:00 GMT-0800 (Pacific Standard Time)	2088	18.53086914		42.97672
CanESM2	Sat Jan 01 2089 00:00:00 GMT-0800 (Pacific Standard Time)	2089	18.53086914		20.78388
CanESM2	Sun Jan 01 2090 00:00:00 GMT-0800 (Pacific Standard Time)	2090	18.53086914		14.76388
CanESM2	Mon Jan 01 2091 00:00:00 GMT-0800 (Pacific Standard Time)	2091	18.53086914		8.306978
CanESM2	Tue Jan 01 2092 00:00:00 GMT-0800 (Pacific Standard Time)	2092	18.53086914		6.183673
CanESM2	Thu Jan 01 2093 00:00:00 GMT-0800 (Pacific Standard Time)	2093	18.53086914		34.21679
CanESM2	Fri Jan 01 2094 00:00:00 GMT-0800 (Pacific Standard Time)	2094	18.53086914		19.27144
CanESM2	Sat Jan 01 2095 00:00:00 GMT-0800 (Pacific Standard Time)	2095	18.53086914		8.465535
CanESM2	Sun Jan 01 2096 00:00:00 GMT-0800 (Pacific Standard Time)	2096	18.53086914		13.83576
CanESM2	Tue Jan 01 2097 00:00:00 GMT-0800 (Pacific Standard Time)	2097	18.53086914		20.09841
CanESM2	Wed Jan 01 2098 00:00:00 GMT-0800 (Pacific Standard Time)	2098	18.53086914		27.06357
CanESM2	Thu Jan 01 2099 00:00:00 GMT-0800 (Pacific Standard Time)	2099	18.53086914		14.23975
CanESM2	Fri Jan 01 2100 00:00:00 GMT-0800 (Pacific Standard Time)	2100	18.53086914		20.92701

MAIN SAN GABRIEL BASIN

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

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Main San Gabriel Basin

location	User Defined Boundary - Main Basin
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **82.04186 °F**
Historical Modeled Average: **78.54023 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Sun Jan 01 1950 00:00:00 GMT-0800 (Pacific Standard Time)	1950			80.06415
CanESM2	Mon Jan 01 1951 00:00:00 GMT-0800 (Pacific Standard Time)	1951			77.93532
CanESM2	Tue Jan 01 1952 00:00:00 GMT-0800 (Pacific Standard Time)	1952			77.11396
CanESM2	Thu Jan 01 1953 00:00:00 GMT-0800 (Pacific Standard Time)	1953			78.03756
CanESM2	Fri Jan 01 1954 00:00:00 GMT-0800 (Pacific Standard Time)	1954			76.96433
CanESM2	Sat Jan 01 1955 00:00:00 GMT-0800 (Pacific Standard Time)	1955			76.20169
CanESM2	Sun Jan 01 1956 00:00:00 GMT-0800 (Pacific Standard Time)	1956			78.11666
CanESM2	Tue Jan 01 1957 00:00:00 GMT-0800 (Pacific Standard Time)	1957			77.99814
CanESM2	Wed Jan 01 1958 00:00:00 GMT-0800 (Pacific Standard Time)	1958			78.08364
CanESM2	Thu Jan 01 1959 00:00:00 GMT-0800 (Pacific Standard Time)	1959			79.05052
CanESM2	Fri Jan 01 1960 00:00:00 GMT-0800 (Pacific Standard Time)	1960			78.46333
CanESM2	Sun Jan 01 1961 00:00:00 GMT-0800 (Pacific Standard Time)	1961			76.70129
CanESM2	Mon Jan 01 1962 00:00:00 GMT-0800 (Pacific Standard Time)	1962			77.91644
CanESM2	Tue Jan 01 1963 00:00:00 GMT-0800 (Pacific Standard Time)	1963			80.78967
CanESM2	Wed Jan 01 1964 00:00:00 GMT-0800 (Pacific Standard Time)	1964			76.23539
CanESM2	Fri Jan 01 1965 00:00:00 GMT-0800 (Pacific Standard Time)	1965			74.57061
CanESM2	Sat Jan 01 1966 00:00:00 GMT-0800 (Pacific Standard Time)	1966			76.53852
CanESM2	Sun Jan 01 1967 00:00:00 GMT-0800 (Pacific Standard Time)	1967			77.90928
CanESM2	Mon Jan 01 1968 00:00:00 GMT-0800 (Pacific Standard Time)	1968			77.45104
CanESM2	Wed Jan 01 1969 00:00:00 GMT-0800 (Pacific Standard Time)	1969			76.68153
CanESM2	Thu Jan 01 1970 00:00:00 GMT-0800 (Pacific Standard Time)	1970			76.1629
CanESM2	Fri Jan 01 1971 00:00:00 GMT-0800 (Pacific Standard Time)	1971			77.70073
CanESM2	Sat Jan 01 1972 00:00:00 GMT-0800 (Pacific Standard Time)	1972			78.13608
CanESM2	Mon Jan 01 1973 00:00:00 GMT-0800 (Pacific Standard Time)	1973			77.27467
CanESM2	Tue Jan 01 1974 00:00:00 GMT-0800 (Pacific Standard Time)	1974			77.9264
CanESM2	Wed Jan 01 1975 00:00:00 GMT-0800 (Pacific Standard Time)	1975			79.59348
CanESM2	Thu Jan 01 1976 00:00:00 GMT-0800 (Pacific Standard Time)	1976			77.95787
CanESM2	Sat Jan 01 1977 00:00:00 GMT-0800 (Pacific Standard Time)	1977			76.79797
CanESM2	Sun Jan 01 1978 00:00:00 GMT-0800 (Pacific Standard Time)	1978			79.15042
CanESM2	Mon Jan 01 1979 00:00:00 GMT-0800 (Pacific Standard Time)	1979			79.12715
CanESM2	Tue Jan 01 1980 00:00:00 GMT-0800 (Pacific Standard Time)	1980			80.66491
CanESM2	Thu Jan 01 1981 00:00:00 GMT-0800 (Pacific Standard Time)	1981			80.06922
CanESM2	Fri Jan 01 1982 00:00:00 GMT-0800 (Pacific Standard Time)	1982			76.46474
CanESM2	Sat Jan 01 1983 00:00:00 GMT-0800 (Pacific Standard Time)	1983			77.53236
CanESM2	Sun Jan 01 1984 00:00:00 GMT-0800 (Pacific Standard Time)	1984			76.96061
CanESM2	Tue Jan 01 1985 00:00:00 GMT-0800 (Pacific Standard Time)	1985			76.16432
CanESM2	Wed Jan 01 1986 00:00:00 GMT-0800 (Pacific Standard Time)	1986			78.05146
CanESM2	Thu Jan 01 1987 00:00:00 GMT-0800 (Pacific Standard Time)	1987			76.91432
CanESM2	Fri Jan 01 1988 00:00:00 GMT-0800 (Pacific Standard Time)	1988			77.69031
CanESM2	Sun Jan 01 1989 00:00:00 GMT-0800 (Pacific Standard Time)	1989			76.83007
CanESM2	Mon Jan 01 1990 00:00:00 GMT-0800 (Pacific Standard Time)	1990			77.79703
CanESM2	Tue Jan 01 1991 00:00:00 GMT-0800 (Pacific Standard Time)	1991			78.64903
CanESM2	Wed Jan 01 1992 00:00:00 GMT-0800 (Pacific Standard Time)	1992			75.7116
CanESM2	Fri Jan 01 1993 00:00:00 GMT-0800 (Pacific Standard Time)	1993			79.53212
CanESM2	Sat Jan 01 1994 00:00:00 GMT-0800 (Pacific Standard Time)	1994			76.21768
CanESM2	Sun Jan 01 1995 00:00:00 GMT-0800 (Pacific Standard Time)	1995			79.34579
CanESM2	Mon Jan 01 1996 00:00:00 GMT-0800 (Pacific Standard Time)	1996			79.82844
CanESM2	Wed Jan 01 1997 00:00:00 GMT-0800 (Pacific Standard Time)	1997			77.41789
CanESM2	Thu Jan 01 1998 00:00:00 GMT-0800 (Pacific Standard Time)	1998			79.26016
CanESM2	Fri Jan 01 1999 00:00:00 GMT-0800 (Pacific Standard Time)	1999			80.09215
CanESM2	Sat Jan 01 2000 00:00:00 GMT-0800 (Pacific Standard Time)	2000			79.98756
CanESM2	Mon Jan 01 2001 00:00:00 GMT-0800 (Pacific Standard Time)	2001			80.0572

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Main San Gabriel Basin

location	User Defined Boundary - Main Basin
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **82.04186 °F**
Historical Modeled Average: **78.54023 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Tue Jan 01 2002 00:00:00 GMT-0800 (Pacific Standard Time)	2002			80.04846
CanESM2	Wed Jan 01 2003 00:00:00 GMT-0800 (Pacific Standard Time)	2003			78.1036
CanESM2	Thu Jan 01 2004 00:00:00 GMT-0800 (Pacific Standard Time)	2004			79.46905
CanESM2	Sat Jan 01 2005 00:00:00 GMT-0800 (Pacific Standard Time)	2005			79.15846
CanESM2	Sun Jan 01 2006 00:00:00 GMT-0800 (Pacific Standard Time)	2006			78.98276
CanESM2	Mon Jan 01 2007 00:00:00 GMT-0800 (Pacific Standard Time)	2007			80.43446
CanESM2	Tue Jan 01 2008 00:00:00 GMT-0800 (Pacific Standard Time)	2008			80.3906
CanESM2	Thu Jan 01 2009 00:00:00 GMT-0800 (Pacific Standard Time)	2009			80.93891
CanESM2	Fri Jan 01 2010 00:00:00 GMT-0800 (Pacific Standard Time)	2010			80.2581
CanESM2	Sat Jan 01 2011 00:00:00 GMT-0800 (Pacific Standard Time)	2011			80.59334
CanESM2	Sun Jan 01 2012 00:00:00 GMT-0800 (Pacific Standard Time)	2012			81.51284
CanESM2	Tue Jan 01 2013 00:00:00 GMT-0800 (Pacific Standard Time)	2013			82.46792
CanESM2	Wed Jan 01 2014 00:00:00 GMT-0800 (Pacific Standard Time)	2014			79.49625
CanESM2	Thu Jan 01 2015 00:00:00 GMT-0800 (Pacific Standard Time)	2015			79.43042
CanESM2	Fri Jan 01 2016 00:00:00 GMT-0800 (Pacific Standard Time)	2016			78.62877
CanESM2	Sun Jan 01 2017 00:00:00 GMT-0800 (Pacific Standard Time)	2017			80.36357
CanESM2	Mon Jan 01 2018 00:00:00 GMT-0800 (Pacific Standard Time)	2018			82.64362
CanESM2	Tue Jan 01 2019 00:00:00 GMT-0800 (Pacific Standard Time)	2019	78.54022879		81.00517
CanESM2	Wed Jan 01 2020 00:00:00 GMT-0800 (Pacific Standard Time)	2020	78.54022879	82.04185826	81.63505
CanESM2	Fri Jan 01 2021 00:00:00 GMT-0800 (Pacific Standard Time)	2021	78.54022879	82.04185826	82.4973
CanESM2	Sat Jan 01 2022 00:00:00 GMT-0800 (Pacific Standard Time)	2022	78.54022879	82.04185826	78.85515
CanESM2	Sun Jan 01 2023 00:00:00 GMT-0800 (Pacific Standard Time)	2023	78.54022879	82.04185826	80.94436
CanESM2	Mon Jan 01 2024 00:00:00 GMT-0800 (Pacific Standard Time)	2024	78.54022879	82.04185826	81.33806
CanESM2	Wed Jan 01 2025 00:00:00 GMT-0800 (Pacific Standard Time)	2025	78.54022879	82.04185826	82.83773
CanESM2	Thu Jan 01 2026 00:00:00 GMT-0800 (Pacific Standard Time)	2026	78.54022879	82.04185826	81.45215
CanESM2	Fri Jan 01 2027 00:00:00 GMT-0800 (Pacific Standard Time)	2027	78.54022879	82.04185826	80.8432
CanESM2	Sat Jan 01 2028 00:00:00 GMT-0800 (Pacific Standard Time)	2028	78.54022879	82.04185826	81.79438
CanESM2	Mon Jan 01 2029 00:00:00 GMT-0800 (Pacific Standard Time)	2029	78.54022879	82.04185826	80.13166
CanESM2	Tue Jan 01 2030 00:00:00 GMT-0800 (Pacific Standard Time)	2030	78.54022879	82.04185826	82.54669
CanESM2	Wed Jan 01 2031 00:00:00 GMT-0800 (Pacific Standard Time)	2031	78.54022879	82.04185826	83.38219
CanESM2	Thu Jan 01 2032 00:00:00 GMT-0800 (Pacific Standard Time)	2032	78.54022879	82.04185826	82.11577
CanESM2	Sat Jan 01 2033 00:00:00 GMT-0800 (Pacific Standard Time)	2033	78.54022879	82.04185826	82.40953
CanESM2	Sun Jan 01 2034 00:00:00 GMT-0800 (Pacific Standard Time)	2034	78.54022879	82.04185826	82.5733
CanESM2	Mon Jan 01 2035 00:00:00 GMT-0800 (Pacific Standard Time)	2035	78.54022879	82.04185826	81.50974
CanESM2	Tue Jan 01 2036 00:00:00 GMT-0800 (Pacific Standard Time)	2036	78.54022879	82.04185826	82.63633
CanESM2	Thu Jan 01 2037 00:00:00 GMT-0800 (Pacific Standard Time)	2037	78.54022879	82.04185826	82.04893
CanESM2	Fri Jan 01 2038 00:00:00 GMT-0800 (Pacific Standard Time)	2038	78.54022879	82.04185826	83.85755
CanESM2	Sat Jan 01 2039 00:00:00 GMT-0800 (Pacific Standard Time)	2039	78.54022879	82.04185826	83.25626
CanESM2	Sun Jan 01 2040 00:00:00 GMT-0800 (Pacific Standard Time)	2040	78.54022879	82.04185826	81.37234
CanESM2	Tue Jan 01 2041 00:00:00 GMT-0800 (Pacific Standard Time)	2041	78.54022879	82.04185826	82.71309
CanESM2	Wed Jan 01 2042 00:00:00 GMT-0800 (Pacific Standard Time)	2042	78.54022879	82.04185826	81.47676
CanESM2	Thu Jan 01 2043 00:00:00 GMT-0800 (Pacific Standard Time)	2043	78.54022879	82.04185826	83.33871
CanESM2	Fri Jan 01 2044 00:00:00 GMT-0800 (Pacific Standard Time)	2044	78.54022879	82.04185826	82.10259
CanESM2	Sun Jan 01 2045 00:00:00 GMT-0800 (Pacific Standard Time)	2045	78.54022879	82.04185826	83.41948
CanESM2	Mon Jan 01 2046 00:00:00 GMT-0800 (Pacific Standard Time)	2046			82.19345
CanESM2	Tue Jan 01 2047 00:00:00 GMT-0800 (Pacific Standard Time)	2047			81.80828
CanESM2	Wed Jan 01 2048 00:00:00 GMT-0800 (Pacific Standard Time)	2048			82.53622
CanESM2	Fri Jan 01 2049 00:00:00 GMT-0800 (Pacific Standard Time)	2049			82.59787
CanESM2	Sat Jan 01 2050 00:00:00 GMT-0800 (Pacific Standard Time)	2050			83.39278
CanESM2	Sun Jan 01 2051 00:00:00 GMT-0800 (Pacific Standard Time)	2051			83.25383
CanESM2	Mon Jan 01 2052 00:00:00 GMT-0800 (Pacific Standard Time)	2052			81.90969
CanESM2	Wed Jan 01 2053 00:00:00 GMT-0800 (Pacific Standard Time)	2053			83.5093

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Main San Gabriel Basin

location	User Defined Boundary - Main Basin
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **82.04186 °F**
Historical Modeled Average: **78.54023 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Thu Jan 01 2054 00:00:00 GMT-0800 (Pacific Standard Time)	2054			84.87219
CanESM2	Fri Jan 01 2055 00:00:00 GMT-0800 (Pacific Standard Time)	2055			85.72188
CanESM2	Sat Jan 01 2056 00:00:00 GMT-0800 (Pacific Standard Time)	2056			83.39512
CanESM2	Mon Jan 01 2057 00:00:00 GMT-0800 (Pacific Standard Time)	2057			82.98915
CanESM2	Tue Jan 01 2058 00:00:00 GMT-0800 (Pacific Standard Time)	2058			85.69518
CanESM2	Wed Jan 01 2059 00:00:00 GMT-0800 (Pacific Standard Time)	2059			83.21553
CanESM2	Thu Jan 01 2060 00:00:00 GMT-0800 (Pacific Standard Time)	2060			82.18014
CanESM2	Sat Jan 01 2061 00:00:00 GMT-0800 (Pacific Standard Time)	2061			84.84519
CanESM2	Sun Jan 01 2062 00:00:00 GMT-0800 (Pacific Standard Time)	2062			84.83427
CanESM2	Mon Jan 01 2063 00:00:00 GMT-0800 (Pacific Standard Time)	2063			85.35199
CanESM2	Tue Jan 01 2064 00:00:00 GMT-0800 (Pacific Standard Time)	2064			85.46047
CanESM2	Thu Jan 01 2065 00:00:00 GMT-0800 (Pacific Standard Time)	2065			83.49666
CanESM2	Fri Jan 01 2066 00:00:00 GMT-0800 (Pacific Standard Time)	2066			82.91767
CanESM2	Sat Jan 01 2067 00:00:00 GMT-0800 (Pacific Standard Time)	2067			81.27336
CanESM2	Sun Jan 01 2068 00:00:00 GMT-0800 (Pacific Standard Time)	2068			82.66496
CanESM2	Tue Jan 01 2069 00:00:00 GMT-0800 (Pacific Standard Time)	2069			83.59694
CanESM2	Wed Jan 01 2070 00:00:00 GMT-0800 (Pacific Standard Time)	2070			82.88289
CanESM2	Thu Jan 01 2071 00:00:00 GMT-0800 (Pacific Standard Time)	2071			83.17364
CanESM2	Fri Jan 01 2072 00:00:00 GMT-0800 (Pacific Standard Time)	2072			85.82475
CanESM2	Sun Jan 01 2073 00:00:00 GMT-0800 (Pacific Standard Time)	2073			82.79203
CanESM2	Mon Jan 01 2074 00:00:00 GMT-0800 (Pacific Standard Time)	2074			86.0182
CanESM2	Tue Jan 01 2075 00:00:00 GMT-0800 (Pacific Standard Time)	2075			84.03681
CanESM2	Wed Jan 01 2076 00:00:00 GMT-0800 (Pacific Standard Time)	2076			84.4686
CanESM2	Fri Jan 01 2077 00:00:00 GMT-0800 (Pacific Standard Time)	2077			84.84473
CanESM2	Sat Jan 01 2078 00:00:00 GMT-0800 (Pacific Standard Time)	2078			83.43061
CanESM2	Sun Jan 01 2079 00:00:00 GMT-0800 (Pacific Standard Time)	2079			84.88868
CanESM2	Mon Jan 01 2080 00:00:00 GMT-0800 (Pacific Standard Time)	2080			83.44685
CanESM2	Wed Jan 01 2081 00:00:00 GMT-0800 (Pacific Standard Time)	2081			83.66876
CanESM2	Thu Jan 01 2082 00:00:00 GMT-0800 (Pacific Standard Time)	2082			85.102
CanESM2	Fri Jan 01 2083 00:00:00 GMT-0800 (Pacific Standard Time)	2083			83.15845
CanESM2	Sat Jan 01 2084 00:00:00 GMT-0800 (Pacific Standard Time)	2084			83.51298
CanESM2	Mon Jan 01 2085 00:00:00 GMT-0800 (Pacific Standard Time)	2085			84.14847
CanESM2	Tue Jan 01 2086 00:00:00 GMT-0800 (Pacific Standard Time)	2086			83.72618
CanESM2	Wed Jan 01 2087 00:00:00 GMT-0800 (Pacific Standard Time)	2087			85.61758
CanESM2	Thu Jan 01 2088 00:00:00 GMT-0800 (Pacific Standard Time)	2088			83.88857
CanESM2	Sat Jan 01 2089 00:00:00 GMT-0800 (Pacific Standard Time)	2089			83.97964
CanESM2	Sun Jan 01 2090 00:00:00 GMT-0800 (Pacific Standard Time)	2090			83.7759
CanESM2	Mon Jan 01 2091 00:00:00 GMT-0800 (Pacific Standard Time)	2091			83.36398
CanESM2	Tue Jan 01 2092 00:00:00 GMT-0800 (Pacific Standard Time)	2092			85.05015
CanESM2	Thu Jan 01 2093 00:00:00 GMT-0800 (Pacific Standard Time)	2093			83.5979
CanESM2	Fri Jan 01 2094 00:00:00 GMT-0800 (Pacific Standard Time)	2094			82.23664
CanESM2	Sat Jan 01 2095 00:00:00 GMT-0800 (Pacific Standard Time)	2095			84.63882
CanESM2	Sun Jan 01 2096 00:00:00 GMT-0800 (Pacific Standard Time)	2096			84.08234
CanESM2	Tue Jan 01 2097 00:00:00 GMT-0800 (Pacific Standard Time)	2097			84.17547
CanESM2	Wed Jan 01 2098 00:00:00 GMT-0800 (Pacific Standard Time)	2098			83.17665
CanESM2	Thu Jan 01 2099 00:00:00 GMT-0800 (Pacific Standard Time)	2099			84.83184
CanESM2	Fri Jan 01 2100 00:00:00 GMT-0800 (Pacific Standard Time)	2100			85.60704

APPENDIX G

SB X7-7 VERIFICATION FORM

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	10,063	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range[3]	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range[4]	2008	

[1] *If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.* [2] *The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] *The ending year must be between December 31, 2004 and December 31, 2010.*

[4] *The ending year must be between December 31, 2007 and December 31, 2010.*

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1996	56,561
Year 2	1997	56,442
Year 3	1998	56,322
Year 4	1999	56,330
Year 5	2000	56,825
Year 6	2001	57,537
Year 7	2002	57,537
Year 8	2003	57,438
Year 9	2004	57,438
Year 10	2005	57,298
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2004	57,438
Year 2	2005	57,298
Year 3	2006	57,157
Year 4	2007	57,016
Year 5	2008	56,876
2015 Compliance Year Population		
2015		56,063
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	10,686			-		-	10,686
Year 2	1997	11,107			-		-	11,107
Year 3	1998	10,314			-		-	10,314
Year 4	1999	10,808			-		-	10,808
Year 5	2000	10,970			-		-	10,970
Year 6	2001	10,308			-		-	10,308
Year 7	2002	10,470			-		-	10,470
Year 8	2003	10,179			-		-	10,179
Year 9	2004	10,253			-		-	10,253
Year 10	2005	9,966			-		-	9,966
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**10,506**
5 Year Baseline - Gross Water Use								
Year 1	2004	10,253			-		-	10,253
Year 2	2005	9,966			-		-	9,966
Year 3	2006	10,439			-		-	10,439
Year 4	2007	11,018			-		-	11,018
Year 5	2008	10,063			-		-	10,063
5 year baseline average gross water use								**10,348**
2015 Compliance Year - Gross Water Use								
2015		8,391	-		-		-	**8,391**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Main Basin Groundwater
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	10,686		10,686
Year 2	1997	11,027		11,027
Year 3	1998	10,294		10,294
Year 4	1999	10,662		10,662
Year 5	2000	10,970		10,970
Year 6	2001	10,288		10,288
Year 7	2002	10,274		10,274
Year 8	2003	9,997		9,997
Year 9	2004	6,264		6,264
Year 10	2005	8,647		8,647
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2004	6,264		6,264
Year 2	2005	8,647		8,647
Year 3	2006	10,357		10,357
Year 4	2007	10,904		10,904
Year 5	2008	9,852		9,852
2015 Compliance Year - Water into Distribution System				
2015		8,132		8,132

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Purchased Groundwater			
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	0		0
Year 2	1997	80		80
Year 3	1998	20		20
Year 4	1999	146		146
Year 5	2000	0		0
Year 6	2001	20		20
Year 7	2002	196		196
Year 8	2003	182		182
Year 9	2004	3989		3,989
Year 10	2005	1319		1,319
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2004	3989		3,989
Year 2	2005	1319		1,319
Year 3	2006	82		82
Year 4	2007	114		114
Year 5	2008	211		211
2015 Compliance Year - Water into Distribution System				
2015		259		259
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	56,561	10,686	169
Year 2	1997	56,442	11,107	176
Year 3	1998	56,322	10,314	163
Year 4	1999	56,330	10,808	171
Year 5	2000	56,825	10,970	172
Year 6	2001	57,537	10,308	160
Year 7	2002	57,537	10,470	162
Year 8	2003	57,438	10,179	158
Year 9	2004	57,438	10,253	159
Year 10	2005	57,298	9,966	155
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**165**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2004	57,438	10,253	159
Year 2	2005	57,298	9,966	155
Year 3	2006	57,157	10,439	163
Year 4	2007	57,016	11,018	173
Year 5	2008	56,876	10,063	158
5 Year Average Baseline GPCD				**162**
2015 Compliance Year GPCD				
2015		56,063	8,391	**134**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	165
5 Year Baseline GPCD	162
2015 Compliance Year GPCD	134
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
165	**132**
NOTES:	

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☑	100%	South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**142**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
162	154	142	**142**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD *[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
142	165	**153**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
		Extraordinary Events	Weather Normalization	Economic Adjustment				
134	153	-	-	-	-	134	134	**YES**
NOTES:								

APPENDIX H

SB X7-7 2020 COMPLIANCE FORM

SB X7-7 2020 Compliance Form

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form. Baseline and target calculations are done in the SB X 7-7 Verification Form.

The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form.

Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

WUE Data Portal Entry Exceptions

The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.

Process Water Deduction

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	59,473
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	2020 Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use*	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	7,448			-		-	**7,448**

*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Main San Gabriel Basin Groundwater
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	7,434	-	7,434

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	San Gabriel Valley Water Company
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	14		14

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery[1]	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss[1]	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility[1,2]	Transmission/ Treatment Losses[1]	Recycled Volume Entering Distribution System from Groundwater Recharge	
			-		-			-	-

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] *Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water) Choose Only One	
☐	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES:	

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water using Criteria 1)

Criteria 1

Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
	7,448		0%	NO

NOTES:

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water using Criteria 2)

Criteria 2

Industrial water use is equal to or greater than 15 GPCD

2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	**Eligible for Exclusion Y/N**
		59,473	-	NO

NOTES:

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water using Criteria 3)

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
	7,448		7,448	59,473	112	YES

NOTES:

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility ***(For use only by agencies that are deducting process water using Criteria 4)***

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool https://gis.water.ca.gov/app/dacs/

☐	If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
☐	**2020**	**$75,235**		0%	YES

*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.

NOTES

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a separate table for each industrial customer with a process water exclusion

Name of Industrial Customer	*Enter Name of Industrial Customer 1*				
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
7,448	59,473	**112**
NOTES:		

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD (Enter "0" if Adjustment Not Used)			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
112	-	-	-	-	112	142	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

APPENDIX I

LONG BEACH JUDGMENT

Superior Court of the State of California
For the County of Los Angeles

BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH, et al.,
Plaintiffs

vs.

SAN GABRIEL VALLEY WATER COMPANY, et al.,
Defendants

No. 722647

SETTLEMENT DOCUMENTS

STIPULATION FOR JUDGMENT
JUDGMENT
MAP OF WHITTIER NARROWS
ENGINEERING APPENDIX
REIMBURSEMENT CONTRACT

Approved by Joint Negotiating Committees July 6, 1964.

EXHIBIT NO. 7

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH, a municipal corporation; CENTRAL BASIN MUNICIPAL WATER DISTRICT, a municipal water district; and CITY OF COMPTON, a municipal corporation,

Plaintiffs,

vs.

SAN GABRIEL VALLEY WATER COMPANY, a corporation; AZUSA AGRICULTURAL WATER COMPANY, a corporation; AZUSA VALLEY WATER COMPANY, a corporation; CALIFORNIA WATER & TELEPHONE COMPANY, a corporation; THE COLUMBIA LAND AND WATER COMPANY, a corporation; COVINA IRRIGATING COMPANY, a corporation; CROSS WATER COMPANY, a corporation; DUARTE WATER COMPANY, a corporation; EAST PASADENA WATER CO. LTD., a corporation; GLENDORA IRRIGATING COMPANY, a corporation; SAN DIMAS WATER COMPANY, a corporation; SOUTHERN CALIFORNIA WATER COMPANY, a corporation; SUBURBAN WATER SYSTEMS, a corporation; SUNNY SLOPE WATER CO., a corporation; VALLECITO WATER CO., a corporation; CITY OF ALHAMBRA, a municipal corporation; CITY OF ARCADIA, a municipal corporation; CITY OF AZUSA, a municipal corporation; CITY OF COVINA, a municipal corporation; CITY OF EL MONTE, a municipal corporation; CITY OF GLENDORA, a municipal corporation; CITY OF MONROVIA, a municipal corporation; CITY OF MONTEREY PARK, a municipal corporation; CITY OF SOUTH PASADENA, a municipal corporation; BALDWIN PARK COUNTY WATER DISTRICT, a county water district; and SAN GABRIEL COUNTY WATER DISTRICT, a county water district,

Defendants,

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER

NO. 722,647

STIPULATION FOR JUDGMENT

DISTRICT, a municipal water district, and CALIFORNIA DOMESTIC WATER COMPANY, a corporation,

Intervenors.

Plaintiffs Central Basin Municipal Water District, a municipal water district (herein sometimes referred to as Central Municipal); City of Long Beach, a municipal corporation, acting by and through the Board of Water Commissioners of the City of Long Beach; and City of Compton, a municipal corporation; and defendants City of Alhambra, a municipal corporation; City of Arcadia, a municipal corporation; City of Azusa, a municipal corporation; Azusa Agricultural Water Company, a corporation, sued herein as DOE 1; Azusa Valley Water Company, a corporation, for itself and as successor by merger to Azusa Irrigating Company, a corporation; Baldwin Park County Water District, a county water district; California Water and Telephone Company, a corporation; Columbia Land and Water Company, a corporation; City of Covina, a municipal corporation; Covina Irrigating Company, a corporation; Cross Water Company, a corporation, sued herein as DOE 2; Duarte Water Company (formerly Duarte Domestic Water Company), a corporation; East Pasadena Water Company, Ltd., a corporation, for itself and as successor by merger to California-Michigan Land and Water Company, a corporation; City of El Monte, a municipal corporation; City of Glendora, a municipal corporation; Glendora Irrigating Company, a corporation; City of Monrovia, a municipal corporation; City of Monterey Park, a municipal corporation; San Dimas Water Company, a corporation, sued herein as DOE 3; San Gabriel County Water District, a county water district; San Gabriel Valley Water Company, a corporation; Southern California Water Company, a corporation; City of South Pasadena, a municipal corporation; Suburban Water Systems, a corporation; Sunny Slope Water Company, a corporation; and Vallecito Water Company, a corporation; and

intervening defendant Upper San Gabriel Valley Municipal Water District, a municipal water district (herein sometimes referred to as Upper District); and intervening defendant California Domestic Water Company, a corporation; stipulate and agree as follows:

1. A Judgment in the form attached hereto as Exhibit I may be made and entered by the Court in the above-entitled action.

2. The following facts, considerations and objectives, among others, provide the basis for this Stipulation for Judgment:

(a) By their complaint plaintiffs seek a determination of the rights of the defendants, other than Upper District, in and to the waters of the San Gabriel River System and further seek to restrain defendants, other than Upper District, from an alleged interference with the rights of plaintiffs and persons represented by Central Municipal in and to said waters.

(b) At the present time, and for some time prior to the commencement of this action, the water supply of the San Gabriel River System has been inadequate to supply the diversions and extractions of both plaintiffs and defendants other than Central Municipal and Upper District but including the persons represented by Central Municipal and by Upper District, and as a result said diversions and extractions have exceeded, and still exceed, the natural replenishment of the water supply of the San Gabriel River System.

(c) The parties recognize and agree that the natural outflow from the San Gabriel Valley

to the Lower Area as defined in the Judgment has varied, and will vary from year to year, depending on the amount of precedent rainfall and other conditions.

(d) The parties recognize and agree that there is a need for a declaration of rights and a physical solution for the problems resulting from the inadequate and varying water supplies of the San Gabriel River System.

(e) The parties agree that the physical solution contained in said Judgment will bring about a fair division of the water of the San Gabriel River System as between plaintiffs and defendants other than Central Municipal and Upper District but including the persons represented by Central Municipal and by Upper District.

(f) The parties recognize that it may be necessary for defendants or some of them to use supplemental water in order to comply with the obligations imposed under said physical solution.

(g) Defendant Upper District is now a member unit of The Metropolitan Water District of Southern California, which will be supplied with water from sources in northern California under an existing contract with the State of California. Certain of the defendants not within the area of defendant Upper District are within the area of San Gabriel Valley Municipal Water District, which district also has contracted with the State of California for delivery of water from sources in northern California. It is anticipated that the

importation of this water will augment the natural supply of ground water within Upper Area as defined in the Judgment. Defendant Upper District intends to replenish the San Gabriel Valley with supplemental supplies.

3. The parties hereto hereby waive any and all Findings of Fact, Conclusions of Law, and any and all notice of the making or entry herein of the attached form of Judgment, and all rights of appeal, if any, from such Judgment.

4. Plaintiffs and defendants agree that during the period prior to entry of the attached form of Judgment, they will cooperate in endeavoring to collect such information as the Watermaster would obtain if the attached form of Judgment had been entered and the Watermaster had been appointed by the Court pursuant to paragraph 6 of the Judgment, which information is herein referred to as "said information." To that end, the parties hereto hereby agree that promptly following the complete execution of this stipulation by all parties, Upper District and Central Municipal shall each notify the other in writing as to the identity of the person who it expects will be nominated as the representative of Upper Area Parties or Lower Area Parties, as the case may be, under paragraph 6 of the Judgment. Upon receiving such notice, Upper District and Central Municipal shall each instruct its designated nominee that until the attached form of Judgment is entered and the Watermaster has been appointed pursuant to paragraph 6 of the Judgment he shall in cooperation with the other designated nominee do all things reasonably necessary to obtain such of said information as is available from the parties hereto or any public agency.

5. Judgment shall not be rendered pursuant hereto unless and until the execution of this stipulation by Central Basin Municipal Water District and by Upper San Gabriel Valley

Municipal Water District shall have been validated by a decree or decrees rendered in a proceeding or proceedings instituted in a court of competent jurisdiction of the State of California, and either such decree or decrees shall have become final or both of said Districts shall have further stipulated that said Judgment shall be rendered.

6. This stipulation may be executed in counterparts (each counterpart being an exact copy or duplicate of the original) and all counterparts collectively shall be considered as constituting one complete Stipulation for Judgment.

DATED: _____, 1964.

Attorneys (for the respective party listed opposite and to the right of the respective attorneys listed below)	Signature of Stipulating Party and Its Designation of Mailing Address
Leonard Putnam City Attorney Clifford E. Hayes Principal Deputy City Attorney City of Long Beach	Board of Water Commissioners of the City of Long Beach
By _____	By _____ Its _____ President
	By _____ Its _____ Secretary
Burris & Lagerlof Stanley C. Lagerlof H. Jess Senecal Jack T. Swafford	1800 East Wardlow Road Long Beach 7, California
By _____	

Burris & Lagerlof
Stanley C. Lagerlof
H. Jess Senecal
Jack T. Swafford

By _____

Central Basin Municipal Water District

By _____

Its President

By _____

Its Secretary

7439 East Florence Avenue
Downey, California

Lloyd A. Bulloch
City Attorney
City of Compton

_____

City of Compton

By _____

Its Mayor

205 South Willowbrook Avenue
Compton, California

Burris & Lagerlof
Stanley C. Lagerlof
H. Jess Senecal
Jack T. Swafford

By _____

Don D. Bercu
City Attorney
City of Alhambra

_____

City of Alhambra

By _____

Its Mayor

City Hall
111 South First Street
Alhambra, California

Taylor & Smith

By _____

James A. Nicklin
City Attorney
City of Arcadia

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

City of Arcadia

By _____

Its Mayor

City Hall
Arcadia, California

Harry C. Williams
City Attorney
City of Azusa

_____

Taylor & Smith

By _____

City of Azusa

By _____

Its Mayor

City Hall
213 East Foothill Boulevard
Azusa, California

Taylor & Smith

By _____

Azusa Agricultural Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

18352 East Foothill Boulevard
Azusa, California

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Azusa Valley Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

P. O. Box "W"
Azusa, California

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

Baldwin Park County Water District

By _____

Its ____ President

By _____

Its _____ Secretary

14521 East Ramona Boulevard
Baldwin Park, California

Bacigalupi, Elkus & Salinger

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

California Water & Telephone Company

By _____

Its ____ President

By _____

Its _____ Secretary

300 Montgomery Street
San Francisco, California

Allard, Shelton & O'Connor

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

Columbia Land & Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

P. O. Box 296
San Dimas, California

Allard, Shelton & O'Connor

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

Kerckhoff & Kerckhoff

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

George C. Gillette

_____

Henry W. Shatford
Shatford & Shatford

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

City of Covina

By _____

Its Mayor

City Hall
Covina, California

Covina Irrigating Company

By _____

Its ____ President

By _____

Its _____ Secretary

146 East College Street
Covina, California

Cross Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

15825 East Main Street
La Puente, California

Duarte Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

1101 South Oak Avenue
Duarte, California

Gray & Maddox

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

James A. Nicklin
City Attorney
City of El Monte

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Leonard A. Shelton
City Attorney
City of Glendora

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

East Pasadena Water Company, Ltd.

By _____

Its ____ President

By _____

Its _____ Secretary

269 South Rosemead
Pasadena, California

City of El Monte

By _____

Its Mayor

City Hall
El Monte, California

City of Glendora

By _____

Its Mayor

City Hall
Glendora, California

Allard, Shelton & O'Connor

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Glendora Irrigating Company

By _____

Its ____ President

By _____

Its _____ Secretary

224 North Michigan Avenue
Glendora, California

Homer H. Bell
City Attorney
City of Monrovia

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

City of Monrovia

By _____

Its Mayor

City Hall
Monrovia, California

Charles R. Martin
City Attorney
City of Monterey Park

_____

Taylor & Smith

By _____

City of Monterey Park

By _____

Its Mayor

City Hall
320 West Newmark Avenue
Monterey Park, California

Allard, Shelton & O'Connor

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

J. E. Skelton

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock & Mann

By _____

San Dimas Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

P. O. Box 181
San Dimas, California

San Gabriel County Water District

By _____

Its ____ President

By _____

Its _____ Secretary

8229 East Las Tunas Drive
San Gabriel, California

San Gabriel Valley Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

11142 Garvey Avenue
El Monte, California

O'Melveny & Myers

By _____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Charles R. Martin
City Attorney
City of South Pasadena

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Frank E. Gray

_____

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Hahn & Hahn

By _____

Southern California Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

11911 South Vermont Avenue
Los Angeles 44, California

City of South Pasadena

By _____

Its Mayor

825 Mission Street
South Pasadena, California

Suburban Water Systems

By _____

Its ____ President

By _____

Its _____ Secretary

16340 East Maplegrove Street
La Puente, California

Sunny Slope Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

1040 El Campo Drive
Pasadena, California

Surr & Hellyer

By _____

Clayson, Stark, Rothrock
& Mann

By _____

Vallecito Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

749 South Ninth Avenue
City of Industry, California

Stearns, Gross and Moore

By _____

California Domestic Water Company

By _____

Its ____ President

By _____

Its _____ Secretary

P. O. Box 1026, Perry Annex
Whittier, California

Ralph B. Helm

_____

Upper San Gabriel Valley
Municipal Water District

By _____

Its ____ President

By _____

Its _____ Secretary

11229 East Valley Boulevard
El Monte, California

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH, a municipal corporation; CENTRAL BASIN MUNICIPAL WATER DISTRICT, a municipal water district; and CITY OF COMPTON, a municipal corporation,

Plaintiffs,

vs.

NO. 722,647

SAN GABRIEL VALLEY WATER COMPANY, a corporation; AZUSA AGRICULTURAL WATER COMPANY, a corporation; AZUSA VALLEY WATER COMPANY, a corporation; CALIFORNIA WATER & TELEPHONE COMPANY, a corporation; THE COLUMBIA LAND AND WATER COMPANY, a corporation; COVINA IRRIGATING COMPANY, a corporation; CROSS WATER COMPANY, a corporation; DUARTE WATER COMPANY, a corporation; EAST PASADENA WATER CO. LTD., a corporation; GLENDORA IRRIGATING COMPANY, a corporation; SAN DIMAS WATER COMPANY, a corporation; SOUTHERN CALIFORNIA WATER COMPANY, a corporation; SUBURBAN WATER SYSTEMS, a corporation; SUNNY SLOPE WATER CO., a corporation; VALLECITO WATER CO., a corporation; CITY OF ALHAMBRA, a municipal corporation; CITY OF ARCADIA, a municipal corporation; CITY OF AZUSA, a municipal corporation; CITY OF COVINA, a municipal corporation; CITY OF EL MONTE, a municipal corporation; CITY OF GLENDORA, a municipal corporation; CITY OF MONROVIA, a municipal corporation; CITY OF MONTEREY PARK, a municipal corporation; CITY OF SOUTH PASADENA, a municipal corporation; BALDWIN PARK COUNTY WATER DISTRICT, a county water district; and SAN GABRIEL COUNTY WATER DISTRICT, a county water district,

Defendants,

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER

JUDGMENT

DISTRICT, a municipal water district, and CALIFORNIA DOMESTIC WATER COMPANY, a corporation,

Intervenors.

The original complaint herein was filed by Plaintiffs on May 12, 1959, and an amended complaint was filed herein on June 8, 1961. Each Defendant in this action filed an answer to the amended complaint denying the material allegations therein. On _____, 1964, and _____, 1964, respectively, Upper San Gabriel Valley Municipal Water District, a municipal water district, and California Domestic Water Company, a corporation, intervened in the action as Defendants. On _____, 1964, there was filed herein a Stipulation for Judgment signed by all of the parties to this action.

After due examination and consideration of the pleadings, said Stipulation for Judgment and other documents and papers on file herein, it appears to the Court that:

(a) In bringing and maintaining this action, plaintiff Central Basin Municipal Water District, a municipal water district, has done so as a representative of and for the benefit of all owners of water rights within, all owners of land within, and all inhabitants of, the district, except to the extent that defendant California Domestic Water Company is representing itself.

(b) In intervening in this action, defendant Upper San Gabriel Valley Municipal Water District, a municipal water district, has done so as representative of and for the benefit of all owners of water rights within, all owners of land within, and all inhabitants of, the district, except to the extent that other Defendants who are within the district are representing themselves.

(c) There is a need for a physical solution to the complex water problems which have given rise to this action.

(d) The physical solution embodied in this Judgment is a feasible, equitable and just resolution of the issues presented by the amended complaint and answers thereto on file herein, and it will bring about a fair division of the water supply of the San Gabriel River System between Upper Area and Lower Area, as those terms are hereinafter defined.

(e) On the basis of the Stipulation for Judgment filed herein and the consent of all Plaintiffs and Defendants it is in the interests of justice and in furtherance of the water policy of the State of California to proceed without trial and to make and enter this Judgment.

Now, therefore, it is hereby ORDERED, ADJUDGED AND DECREED:

JURISDICTION 1. The Court has jurisdiction of the subject matter of this action and of the Upper Area Parties and Lower Area Parties, as those terms are hereinafter defined.

EXHIBITS 2. The following Exhibits marked A and B, are attached to this Judgment and made a part hereof:

(a) Exhibit A -- Map entitled "Rio Hondo and San Gabriel River in Vicinity of Whittier Narrows Dam".

(b) Exhibit B -- Engineering Appendix.

DEFINITIONS 3. As used in this Judgment, the following terms shall have the meanings assigned to them:

(a) Central Municipal -- Central Basin Municipal Water District.

(b) Upper District -- Upper San Gabriel Valley Municipal Water District.

(c) Lower Area Parties -- the Plaintiffs, and

all persons, firms and corporations, public or private, who are represented by Central Municipal.

(d) Upper Area Parties -- the Defendants, and all persons, firms and corporations, public or private, who are represented by Upper District.

(e) Upper Area -- the area (exclusive of the Raymond Basin and the portion of San Gabriel Mountains tributary thereto) wherein surface and subsurface waters are tributary to Whittier Narrows upstream from the common boundary of Upper District and Central Municipal through Whittier Narrows.

(f) Lower Area -- the area which lies downstream from the common boundary of Central Municipal and Upper District through Whittier Narrows and which is included within the incorporated limits of the Plaintiffs.

(g) Whittier Narrows -- a gap between Merced Hills and Puente Hills shown on Exhibit A.

(h) Montebello Forebay -- the area designated as such on Exhibit A.

(i) Export to Lower Area -- water diverted from surface streams in Upper Area or pumped or developed from underground sources in Upper Area, and in either case conveyed by conduit through Whittier Narrows.

(j) Subsurface Flow -- all water which passes as ground water through Whittier Narrows at the "narrowest section" as shown on Exhibit A.

(k) Surface Flow -- all water other than Export to Lower Area and Subsurface Flow, which passes from Upper Area to Lower Area through Whittier Narrows.

(l) Usable Water -- all Surface Flow, Subsurface Flow and Export to Lower Area, but excluding:

(1) that portion of Surface Flow, if any, which crosses the southerly boundary of Montebello Forebay as surface runoff less the amount of Surface Flow which has been caused to flow out of Montebello Forebay as surface runoff by any spreading of water in Montebello Forebay by or on behalf of Lower Area Parties, or any of them;

(2) water imported by or on behalf of Lower Area Parties from outside of the watershed of the San Gabriel River System;

(3) Reclaimed Water, as defined in subparagraph (o) herein, provided, however, that Reclaimed Water (other than that reclaimed by or on behalf of Lower Area Parties) which is percolated and commingled with ground water in Upper Area shall be deemed Subsurface Flow, Surface Flow, or Export to Lower Area as the case may be, when and if it passes through Whittier Narrows;

(4) that portion, if any, of Export to Lower Area which in any Water Year after September 30, 1966, exceeds 23,395 acre-feet;

(5) Make-up Water, as defined in subpara-

graph (m) herein; and

(6) any water whether flowing on the surface or beneath the surface of the ground which has passed any of the points of surface measurement in Whittier Narrows shown on Exhibit B and prior to its passing from Upper Area to Lower Area is intercepted and returned upstream by conduit or otherwise so that it could again pass any such points of measurement.

(m) Make-up Water -- water of usable quality for ground water recharge required to be delivered to Lower Area under terms of paragraph 5 of this Judgment.

(n) Water Year -- October 1 through the following September 30.

(o) Reclaimed Water -- water reclaimed from sewage generated in the watershed of the San Gabriel River System above Whittier Narrows.

DECLARATION OF RIGHT

4. Lower Area Parties have rights in the water supply of the San Gabriel River System. The nature and extent of such rights is not known; however, Lower Area Parties and all other persons downstream from Whittier Narrows who receive water from the San Gabriel River System or have rights in and to such water, shall have, as against Upper Area Parties and all other pumpers of water in the San Gabriel Valley, a right to receive from Upper Area an average annual usable supply of ninety-eight thousand four hundred fifteen (98,415) acre-feet of water over a long-term period of normal rainfall derived as set forth in Exhibit B, consisting

of Surface Flow, Subsurface Flow, Export to Lower Area and Make-up Water. If in the future a court of competent jurisdiction shall decree that any person downstream from Whittier Narrows within Central and West Basin Water Replenishment District who is not bound by this Judgment, shall have, as against Upper Area Parties and substantially all other pumpers in the San Gabriel Valley, a right to receive from Upper Area a stated amount of usable supply consisting of Surface Flow, Subsurface Flow, Export to Lower Area or Make-up Water, which right arose out of and is based upon the ownership of land or the production of water downstream from Whittier Narrows and within Central and West Basin Water Replenishment District, then and in that event the stated amount of such right so decreed shall not increase the declared rights as set forth in this paragraph 4.

PHYSICAL SOLUTION

5. In recognition of the complexities of annual supply and demand and variations in the components thereof, the Court hereby declares the following physical solution to be a fair and equitable basis for satisfaction of the declared right set forth in paragraph 4 hereof. Compliance with this paragraph 5 shall constitute full and complete satisfaction of said declared right.

AVERAGE ANNUAL ENTITLEMENT

(a) It is determined that the amount of Lower Area average annual entitlement to Usable Water is ninety-eight thousand four hundred fifteen (98,415) acre-feet.

BASIS OF ANNUAL ENTITLEMENT

(b) The outflow of water from Upper Area through Whittier Narrows to Lower Area has

varied from year to year and will vary from year to year in the future depending on changing conditions of supply and demand; and as to any Water Year, the average annual rainfall for the San Gabriel Valley during the ten (10) consecutive Water Years ending with that Water Year, is a reasonable basis for determining the entitlement of Lower Area to Usable Water for such Water Year.

DETERMINATION OF RAINFALL

(c) The rainfall in each Water Year for the San Gabriel Valley shall be determined by application of the procedures described in Exhibit B.

RAINFALL ADJUSTMENT TABLE

(d) The quantity of water which Lower Area is entitled to receive in any Water Year (hereinafter called Lower Area Annual Entitlement) shall be determined in accordance with the following table, except that no determination of Lower Area Annual Entitlement shall be made for the last year of any Long-term Accounting Period as hereinafter defined.

TABLE A

LOWER AREA ANNUAL ENTITLEMENT
BASED ON 10-YEAR AVERAGE RAINFALL
FOR SAN GABRIEL VALLEY

(In Acre-feet)

Inches of Rainfall	0	.1	.2	.3	.4	.5	.6	.7	.8	.9
14	64,200	64,900	65,700	66,500	67,200	68,000	68,700	69,500	70,300	71,100
15	71,800	72,600	73,400	74,100	74,900	75,600	76,400	77,200	77,900	78,700
16	79,500	80,200	81,000	81,800	82,600	83,300	84,000	84,800	85,600	86,400
17	87,100	87,900	88,700	89,400	90,200	91,000	91,500	92,500	93,200	94,000
18	94,800	95,300	96,200	96,900	97,600	98,300	98,800	99,500	100,100	100,800
19	101,400	102,000	102,700	103,300	103,900	104,500	105,100	105,700	106,300	107,000
20	107,600	108,200	108,800	109,400	110,100	110,700	111,300	111,900	112,500	113,100
21	113,700	114,300	115,000	115,600	116,200	116,800	117,400	118,100	118,600	119,300
22	119,900	120,400	121,000	121,600	122,200	122,700	123,300	123,900	124,400	125,000
23	125,500	126,100	126,700	127,200	127,800	128,400	128,900	129,500	130,100	130,600
24	131,200	131,700	132,200	132,700	133,100	133,700	134,100	134,700	135,100	135,600

DETERMINATION OF ACCRUED DEBIT OR CREDIT

(e) The difference between the aggregate of water entitlements determined as provided in this Judgment and the aggregate of Usable Water and delivered Make-up Water shall be computed as of the end of each Water Year. Any excess of water entitlements over the quantity of Usable Water and Make-up Water received by Lower Area after September 30, 1963, is hereinafter referred to as Accrued Debit of Upper Area. Any excess of Usable Water and Make-up Water received by Lower Area after September 30, 1963, over water entitlements, is hereinafter referred to as Accrued Credit of Upper Area.

ACCRUED DEBIT

(f) If at the end of any Water Year it is determined pursuant to subparagraph (e) of this paragraph 5 that there is an Accrued Debit of Upper Area, then Upper District shall cause Make-up Water to be delivered to Lower Area during the following Water Year in an amount not less than the sum of (1) one-third of such Accrued Debit of Upper Area, and (2) that portion, if any, of such Accrued Debit of Upper Area over 25,000 acre-feet which remains after deducting said one-third. If Upper District shall fail to deliver Make-up Water as next above provided and Plaintiffs shall have diligently pursued their legal and equitable remedies to cause Upper District to so deliver, and either: (1) it shall be finally determined that Upper District is not obligated to so deliver, or (2) it shall appear that Upper District will not thereafter deliver Make-up Water, then Defendants and any successor or successors in interest by title to a Defendant's water right in Upper Area shall be obligated to so deliver Make-up Water. The provisions of this paragraph are subject to the provisions of paragraph 5(h) below.

ACCRUED CREDIT

(g) If at the end of any Water Year it is determined pursuant to subparagraph (e) of this paragraph 5 that there is an Accrued Credit of Upper Area, then there shall be no obligation to deliver Make-up Water to Lower Area during the following Water Year.

LONG-TERM ACCOUNTING

(h) Following September 30, 1963, a Long-term Accounting shall be made from time to time but not sooner than at the end of 15 Water Years, nor later than 25 Water Years after September 30, 1963, or after the last such accounting, whichever is later. A Long-term Accounting shall be made sooner than said 25-year period whenever the average annual rainfall in the San Gabriel Valley for a period of 15 Water Years or more after September 30, 1963, or after the last such accounting, whichever is later, is at least 18 inches but not more than 19 inches.

In making such Long-term Accounting for any such period (herein called Long-term Accounting Period), the aggregate of all Usable Water and Make-up Water received by Lower Area during such period shall be determined and (a) there shall be deducted from said aggregate the amount of Make-up Water, if any, delivered during such period by reason of the existence of an Accrued Debit of Upper Area at the end of the immediately preceding Long-term Accounting Period, or (b) there shall be added to said aggregate the amount of any Accrued Credit of Upper Area determined to exist at the end of the immediately preceding Long-term Accounting Period. The net aggregate amount of Usable Water and Make-up Water so computed shall be compared to the result to be obtained by (1) multiplying the 98,415 acre-feet of water to be received by

Lower Area as its average annual usable supply by the number of Water Years in the Long-term Accounting Period, and (2) adjusting the product by the percentage by which the average annual rainfall (to the nearest one hundredth of an inch) for the Long-term Accounting Period involved exceeds or is less than 18.52 inches. (i.e.:

98,415 x (number of Water Years in Period) x $\left(\frac{\text{average rainfall for the Period}}{18.52}\right)$.)

If as a result of such comparison it is determined that there is a deficiency in the net aggregate amount of Usable Water and Make-up Water received during the Long-term Accounting Period, then such deficiency shall be compensated in the following Water Year by delivery of Make-up Water to Lower Area in the manner and by the means provided herein. If it is determined as a result of such comparison that there is an excess of net aggregate Usable Water and Make-up Water received, then the amount of such excess shall be carried forward as an Accrued Credit of Upper Area.

MAKE-UP WATER DELIVERY

(i) Make-up Water which Defendants are obligated to deliver through Upper District may be delivered by any one or more of the following means:

SURFACE FLOW DELIVERY

(1) By causing water other than Reclaimed Water to flow on the surface into Montebello Forebay by any means and from any source, provided that such deliveries shall

be at such rates or flows and at such times as may be scheduled by the Watermaster.

RECLAIMED WATER CREDIT

(2) By paying to Central Municipal for the benefit of all Lower Area Parties the total amount or any portion of the total amount which Central and West Basin Water Replenishment District or any Plaintiff shall have expended in reclaiming water or for the purchase of Reclaimed Water in the preceding Water Year, and which water when so reclaimed or purchased shall have been passed through Whittier Narrows to Lower Area. Upon written request made by Upper District not later than three months after the end of a Water Year, Central Municipal shall give a written notice to Upper Distric and the Watermaster of the total number of acre-feet of such Reclaimed Water so reclaimed or purchased during the preceding Water Year and of the cost per acre-foot therefor at the existing Whittier Narrows Water Reclamation Plant for reclamation of waste water, and at any future additions thereto, and payment therefor at said cost, or costs, may be made not later than one year after receipt of such written notice. Such payment shall be made for the total production of Reclaimed Water from the existing plant in the preceding Water Year before Upper District shall be entitled to make payment for all, or any portion of,

Reclaimed Water produced in that year by any future addition to that plant. Such payment by Upper District on behalf of Defendants shall be deemed a delivery of Make-up Water equal to the quantity of Reclaimed Water for which the expenditure of a like sum would have paid at the cost, or costs, per acre-foot so paid for such Reclaimed Water. In no event, however, shall any payment by Upper District under this subparagraph (i)(2) be deemed a delivery of Make-up Water in excess of 14,735 acre-feet in any Water Year during which the amount of Make-up Water required to be furnished by Upper Area is available to it at ground water replenishment rates for delivery to Lower Area, except with the prior written consent of Plaintiffs.

DIRECT DELIVERY

(3) By delivering, or causing to be delivered, water to any of Lower Area Parties with consent of Plaintiffs for use in Lower Area.

WATER RIGHTS BOUND

(j) It is further determined and adjudicated that the obligations provided above in subparagraphs (f) and (h) of this paragraph 5 for each Defendant shall constitute and be a servitude upon the existing water rights of each Defendant in and to the water supply of the San Gabriel River System upstream from Lower Area and shall run with and forever bind said water rights for the benefit of the water

rights of Lower Area Parties.

TRANSFER OF WATER RIGHTS

(k) If any Defendant, other than Upper District, shall desire to transfer all or any of its said water rights to a person, firm or corporation, public or private, who or which is not then bound by this Judgment as a Defendant, such Defendant shall as a condition to being discharged as hereinafter provided cause such transferee to appear in this action and file a valid and effective express assumption of the obligations imposed upon such Defendant under this Judgment as to such transferred water rights. Such appearance and assumption of obligations shall include the filing of a designation of the address to which shall be mailed all notices, requests, objections, reports and other papers permitted or required by the terms of this Judgment.

If any Defendant shall have transferred all of its said water rights and each transferee not theretofore bound by this Judgment as a Defendant shall have appeared in this action and filed a valid and effective express assumption of the obligations imposed upon such Defendant under this Judgment as to such transferred water rights, such transferring Defendant shall thereupon be discharged from all obligations hereunder. If any Defendant other than Upper District shall cease to own any rights in and to the water supply of the San Gabriel River System upstream from Lower Area, and shall have caused the appearance

and assumption provided for in the third preceding sentence with respect to each voluntary transfer, then upon application to this Court and after notice and hearing such Defendant shall thereupon be relieved and discharged from all further obligations hereunder. Any such discharge of any Defendant hereunder shall not impair the aggregate rights of Lower Area Parties or the responsibility hereunder of the remaining Defendants or any of the successors.

WATERMASTER PROVISIONS

WATERMASTER APPOINTMENT

6. A Watermaster comprised of three persons to be nominated as hereinafter provided shall be appointed by and serve at the pleasure of and until further order of this Court. One shall be a representative of Upper Area Parties nominated by and through Upper District, one shall be a representative of Lower Area Parties nominated by and through Central Municipal, and one shall be jointly nominated by Upper District and Central Municipal. If a dispute arises in choosing the joint appointee, the Court shall make the appointment. If Central Municipal or Upper District shall at any time or times nominate a substitute appointee in place of the appointee last appointed to represent Lower Area Parties, in the case of Central Municipal, or to represent Upper Area Parties, in the case of Upper District, or if Central Municipal and Upper District shall at any time or times jointly nominate a substitute appointee in place of the joint appointee last appointed,

such substitute appointee shall be appointed by the Court in lieu of such last appointee or joint appointee. Each such nomination shall be made in writing, served upon the other parties to this action and filed with the Court. The Watermaster when so appointed shall administer and enforce the provisions of this Judgment and the instructions and subsequent orders of this Court.

POWERS AND DUTIES

7. The Watermaster shall have the following powers and duties and shall take all steps necessary to make the following determinations for each Water Year promptly after the end of such Water Year:

(a) the amount of Surface Flow,

(b) the amount of Subsurface Flow,

(c) the amount of Export to Lower Area,

(d) the amount of water which passed as Surface Flow or Subsurface Flow across the boundary between Upper Area and Lower Area through Whittier Narrows and which was imported by or on behalf of Lower Area Parties from outside of the watershed of the San Gabriel River System above Whittier Narrows,

(e) the amount and quality of Reclaimed Water reclaimed by or on behalf of Lower Area,

(f) the total amount of Make-up Water delivered to Lower Area, together with the respective amounts delivered by each method specified in paragraph 5 of this Judgment,

(g) the amount of Usable Water received by Lower Area,

(h) the amount of local storm inflow, originating in Lower Area, to the channel of

each of Rio Hondo and San Gabriel River within Montebello Forebay,

(i) the surface outflow from Montebello Forebay in the channel of each of the Rio Hondo and San Gabriel River,

(j) the number of inches of depth of average rainfall in the San Gabriel Valley,

(k) the average annual rainfall in the San Gabriel Valley for the ten consecutive Water Years just ended,

(l) Lower Area Annual Entitlement or the entitlement for the Long-term Accounting Period, determined pursuant to subparagraph (d) or (h), respectively, of paragraph 5 of this Judgment,

(m) Accrued Debit of Upper Area, if any, or Accrued Credit of Upper Area, if any, as it exists at the end of such Water Year, and

(n) the amount, if any, of Make-up Water which Upper District is obligated to deliver during the following Water Year.

DETERMINATIONS TO BE BASED ON EXHIBIT B

8. Each of the above required determinations shall be based on and conform to the procedures specified in this Judgment and in Exhibit B insofar as said exhibit provides a procedure.

REPORTS MEASUREMENTS AND DATA

9. The Watermaster shall report to the Court and to each party in writing at the same time and not more than five months after the end of each Water Year the determinations required by paragraph 7 above.

The Watermaster shall cause to be installed and maintained in good working order such measuring

devices in Whittier Narrows and elsewhere as are necessary or required and not otherwise available for the making of the determinations required by paragraph 7 above.

The Watermaster shall collect and assemble from each of the parties, and the parties shall make available to the Watermaster, such records, reports and other data as may reasonably be required in the making of the determinations required of the Watermaster under paragraph 7 above. All records, reports and data received, maintained or compiled by the Watermaster shall be open to inspection by any party or its representative.

OBJECTIONS

10. Any party who objects to any determination made by the Watermaster pursuant to paragraph 7 above, may make such objection in writing to the Watermaster within thirty (30) days after the Watermaster gives the required written notice of such determination. Within thirty (30) days after expiration of the time within which objection may be made to such determination, the Watermaster shall consider all objections thereto and shall amend, modify or affirm the determination and give notice thereof at the same time to all parties and shall file a copy of such final determination with the Court. If the Watermaster denies any objection in whole or in part, the party whose objection was so denied may within thirty (30) days after service of the final determination upon it, make written objection to such denial by filing its objections with the Court after first mailing a copy of such objections to the

Watermaster and to each party, and such party shall bring its objections on for hearing before the Court upon notice and motion and at such time as the Court may direct. If the Watermaster shall change or modify any determination, then any party may within fifteen (15) days after service of such final determination upon it object to such change or modification by following the procedure prescribed above in the case of a denial of an objection to the first determination. If objection to a final determination is filed with the Court as herein provided and brought on for hearing, then such final determination may be confirmed or modified in whole or in part as the Court may deem proper.

CHANGE IN METHOD OF MEASUREMENT

11. If the Watermaster shall deem it advisable to make a change in the method of making any measurement required under the terms of this Judgment, the Watermaster shall notify all parties of such proposed change, and if within sixty (60) days of such notification no party shall file written objections to such change with the Watermaster, the Watermaster may put such proposed change into effect. If, however, any party files its written objection to the proposed change, it shall by notice of motion filed not later than fifteen (15) days after the expiration of said 60-day period and served on the Watermaster and all parties bring its objection on for hearing before the Court at such time as the Court may direct, and the Court shall rule on whether the Watermaster may make such proposed change.

BUDGET

12. In addition to the above-specified administrative powers and duties, the Watermaster shall prepare a tentative budget for each Water Year, stating the estimated expense for discharging the duties of the Watermaster set forth in this Judgment. The Watermaster shall mail a copy of the tentative budget to each of the parties at the same time at least sixty (60) days before the beginning of each Water Year. However, with respect to the first Water Year following the entry of this Judgment, the tentative budget shall be mailed not later than one hundred and twenty (120) days from the entry of this Judgment. If any party has an objection to a tentative budget, or any suggestions with respect thereto, that party shall present the same in writing to the Watermaster within fifteen (15) days after service of the tentative budget upon it. If no objections are received, the tentative budget shall become the final budget. If objections to the tentative budget are received, the Watermaster shall, within fifteen (15) days after the expiration of the time for presenting objections, consider all such objections, prepare a final budget, and mail a copy thereof to each party, together with a statement of the amount assessed, if any, to each party, computed as provided in paragraph 13. If the Watermaster denies any objection in whole or in part, the party whose objection was so denied may, within fifteen (15) days after service of the final budget upon it, make written objection to such denial by filing

its objections with the Court after first mailing a copy of such objections to each party, and such party shall bring its objections on for hearing before the Court upon notice and motion and at such time as the Court may direct. If the Watermaster makes a change in the tentative budget, then any party may within fifteen (15) days after service of the final budget upon it object to any such change by following the procedure prescribed above in the case of a denial of an objection to the tentative budget. If objection to the final budget is filed with the Court as herein provided and brought on for hearing, then such final budget may be confirmed or adjusted in whole or part as the Court may deem proper.

FEES AND EXPENSES

13. The fees, compensation and expenses of the Watermaster hereunder shall be borne by the parties in the following proportions: 50% by Upper District, 41.2% by Central Municipal, 7.125% by the City of Long Beach, and 1.675% by the City of Compton, or such other division among the Plaintiffs as they may agree upon in writing and file with the Watermaster.

Payment of the amount assessed to a party, whether or not subject to adjustment by the Court as provided in paragraph 12, shall be paid on or prior to the beginning of the Water Year to which the final budget and statement of assessed costs is applicable. If such payment by any party is not made on or before said date, the Watermaster shall add a penalty of 5% thereof to such party's

statement. Payment required of any party hereunder may be enforced by execution issued out of this Court, or as may be provided by order hereinafter made by this Court. All such payments and penalties received by the Watermaster shall be expended by him for the administration of this Judgment. Any money remaining at the end of any Water Year shall be available for use in the following Water Year.

SUCCESSOR OF UPPER DISTRICT

14. If a public agency or district shall be formed hereafter which shall include the present area of Upper District and shall have ability equal to or greater than that which Upper District now has to perform the obligations under this Judgment, and shall appear in this action and file a valid and effective assumption of such obligations, then Upper District upon application to this Court, and after notice and hearing, shall thereupon be relieved and discharged from all further obligations hereunder.

CONTINUING JURISDICTION OF THE COURT

15. Full jurisdiction, power and authority is retained and reserved by the Court for the purpose of enabling the Court upon application of any party by motion and upon at least thirty (30) days notice thereof, and after hearing thereon (i) to make such further or supplemental orders or directions as may be necessary or appropriate for the construction, enforcement or carrying out of this Judgment, and (ii) to modify, amend or amplify any of the provisions of this Judgment whenever substantial developments affecting the physical, hydrological or other conditions dealt

with herein may, in the Court's opinion, justify or require such modification, amendment or amplification.

If at any time Plaintiffs and at least two-thirds of the Defendants including any two of the cities of Alhambra, Azusa and Monterey Park, shall file with the Court a written stipulation (i) that henceforth in determining any one or more of the component parts of Usable Water received by Lower Area in any Water Year, the Watermaster shall not use the method specified in this Judgment but shall use instead a new, different or altered method as specified and described in such stipulation, and (ii) that such new, different or altered method or methods shall be applied to redetermine the average annual amount of Usable Surface Flow, Subsurface Flow and Export to Lower Area which Lower Area received each Water Year during the period October 1, 1934 to September 30, 1959, referred to as the base period, and that on the basis of such redetermination the Court may modify paragraphs 4 and 5 of this Judgment to establish a new and different water entitlement and yearly adjustment thereto which shall thereafter control, then and in that event, after hearing pursuant to motion and notice to all parties, held at such time as the Court may direct, the Court may deny the motion or it may grant it and (a) approve the future use of the stipulated new, different or altered method or methods, by the Watermaster, and (b) by use of the stipulated new, different or altered method or

methods, redetermine the average annual amount of Usable Surface Flow, Subsurface Flow and Export to Lower Area received each Water Year during the base period, and on the basis thereof modify paragraphs 4 and 5 of this Judgment to provide for a new and different water entitlement and yearly adjustment thereto, which modifications shall be effective and control commencing with the Water Year following the entry of the order so modifying paragraphs 4 and 5.

REPORT OF TRANSFER OF WATER RIGHTS

16. Every transfer of any of those water rights of Defendants which are the subject of Paragraph 5(j) of this Judgment, whether such transfer is voluntary or involuntary, shall be reported promptly in writing by the transferor to the Watermaster; and the Watermaster shall give prompt written notice of such transfer to each party and to each transferee involved in every other transfer of any of those water rights. Such report by the transferor and notice by the Watermaster shall contain the following information as to each such transfer:

(a) The identity of the transferor;

(b) The identity of the transferee;

(c) The effective date of the transfer;

(d) A brief description of the document by which such transfer is made, and the recording data, if any;

(e) A statement as to whether the transfer was voluntary or involuntary;

(f) A statement whether or not after such transfer the transferor still has or

claims to have any of the water rights which are the subject of Paragraph 5(j) of this Judgment.

NOTICES

17. All notices, requests, objections, reports and other papers permitted or required by the terms of this Judgment shall be given or made by written document and shall be served by mail on each party and on each transferee of water rights who has appeared and filed the assumption of obligations required by paragraph 5(k) of this Judgment, and where required or appropriate, on the Watermaster. For all purposes of this paragraph the mailing address of each party shall be that set forth below its signature to the Stipulation for Judgment, and the mailing address of each transferee of water rights shall be that set forth in the appearance and assumption of obligations required by paragraph 5(k) of this Judgment, until changed as provided below. No further notice of any kind as to any matter arising hereunder, including notice to attorneys of record for any party or such transferee, need be given, made or served.

If any party or any such transferee of water rights shall desire to change its designation of mailing address, it shall file a written notice of such change with the clerk of this court and shall serve a copy thereof by mail on the Watermaster. Upon the receipt of any such notice the Watermaster shall promptly give written notice thereof to each party and to each transferee of water rights.

EFFECTIVE DATE

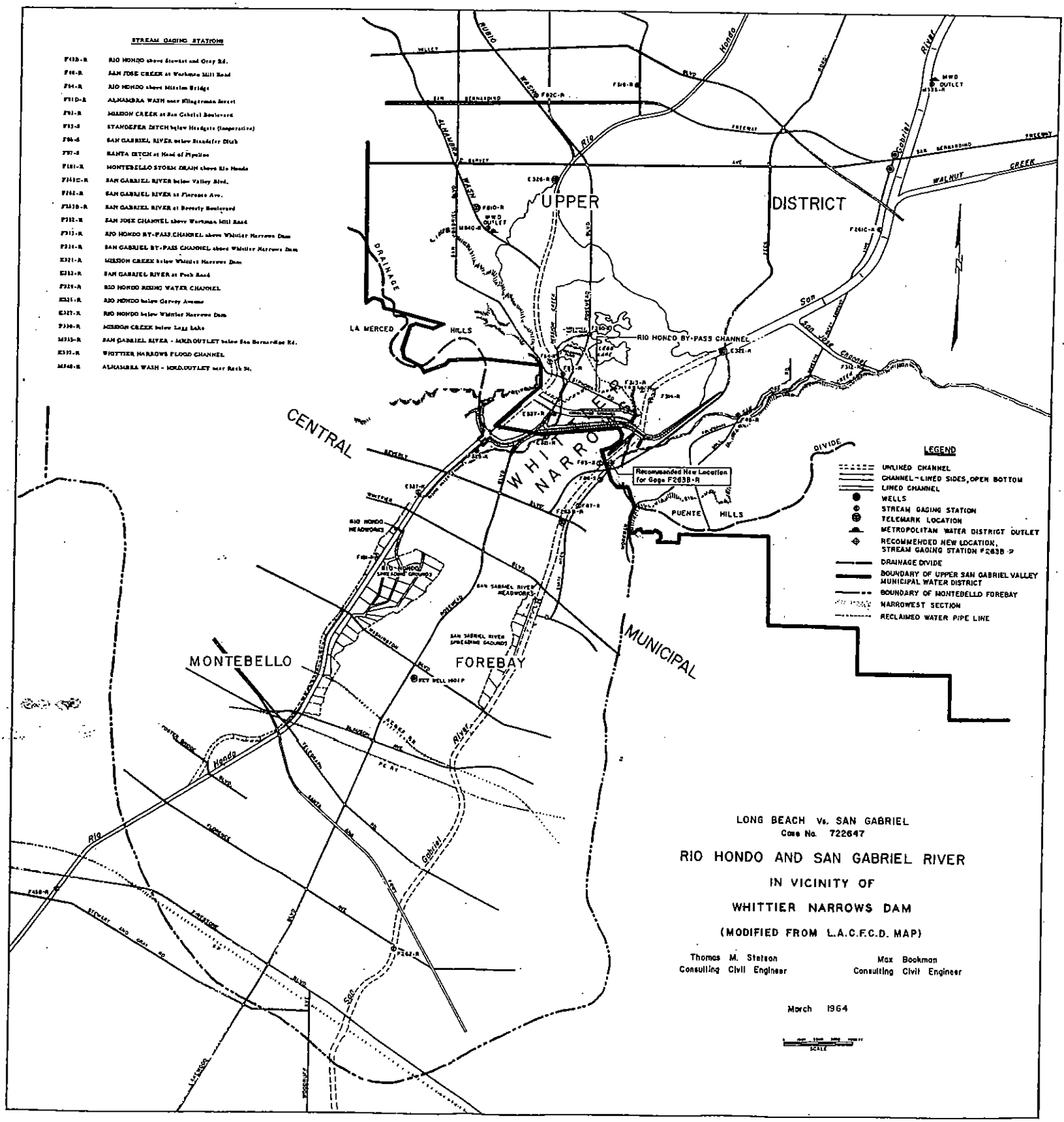
18. The rights decreed and the obligations imposed by this Judgment shall be effective October 1, 1963, and shall accrue from that date.

COSTS

19. None of the parties shall recover any costs from any other party.

Dated: _____, 1964.

_____
Judge



LONG BEACH Vs. SAN GABRIEL
Case No. 722647

RIO HONDO AND SAN GABRIEL RIVER
IN VICINITY OF
WHITTIER NARROWS DAM
(MODIFIED FROM L.A.C.F.C.D. MAP)

Thomas M. Stetson
Consulting Civil Engineer

Max Bookman
Consulting Civil Engineer

March 1964

EXHIBIT A

LONG BEACH v. SAN GABRIEL

ENGINEERING APPENDIX

EXHIBIT B

ENGINEERING APPENDIX

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ENGINEERING APPENDIX

INTRODUCTION

Pursuant to the declaration of rights contained in paragraph 4 of the Judgment and the physical solution contained in paragraph 5 of the Judgment, the purpose of this exhibit is to establish the basis for calculations and measurements to provide for operation of the Judgment in the future.

Unless otherwise provided in this exhibit, all terms used herein are used in the same sense as defined or used in the Judgment.

The derivation of the Lower Area average annual entitlement is based upon the data presented herein covering the base period. However, if a more accurate method of determining Subsurface Flow is developed at some future time, it will be acceptable for use in carrying out the terms of this Judgment so long as it can also apply to the base period and to the years over which the Judgment shall have operated to that time.

I. DERIVATION OF LOWER AREA AVERAGE ANNUAL ENTITLEMENT

The Lower Area average annual entitlement is stipulated in paragraph 5 (a) of the Judgment to be 98,415 acre-feet. It was derived from three components of water supply over the base period, October 1, 1934, through September 30, 1959. Said components were: (1) Usable Surface Flow, (2) Subsurface Flow, and (3) Export to Lower Area.

A. Usable Surface Flow

For the base period, Usable Surface Flow was calculated as that portion of Surface Flow which percolated

in Montebello Forebay, less the calculated amounts of Lower Area Replenishment Water (hereby defined as water imported from outside of the watershed of the San Gabriel River system by or on behalf of Lower Area Parties for replenishment of Montebello Forebay and passing from Upper Area to Lower Area), and less one-half of the Raymond Basin sewage discharged in Upper Area from the Tri-City Sewage Treatment Plant.

Table 1 presents the calculation of Usable Surface Flow during the base period. The average annual quantity was calculated to be 51,620 acre-feet. Its derivation is summarized in the following tabulation.

		Average annual quantity in acre-feet
1. Surface Flow		108,560
2. Montebello Forebay surface outflow	45,000	
3. Local storm inflow within Montebello Forebay	1,660	
4. Portion of Surface Flow leaving Montebello Forebay (2 minus 3)		43,340
5. Surface Flow percolated in Montebello Forebay (1 minus 4)		65,220
6. Lower Area Replenishment Water (Colorado River water) passing through Whittier Narrows	11,870	
7. One-half of Raymond Basin sewage discharged in Upper Area	1,730	
8. Usable Surface Flow (5 minus 6 minus 7)		51,620

TABLE 1

CALCULATION OF USABLE SURFACE FLOW

DURING BASE PERIOD

(Acre-Feet)

	Surface Flow						Montebello Forebay surface outflow								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Water Year	Rio Hondo F-64	Mission Creek F-83	Rio Hondo Bypass F-313	Sycamore Canyon	San Gabriel River at maximum rising water	Total (2+3+4+5+6)	Rio Hondo F-45	San Gabriel River F-262	Subtotal (8+9)	Montebello Storm Drain F-181	Outflow of Surface Flow (10-11)	Surface Flow percolated in Montebello Forebay (7-12)	Colorado River water passing Whittier Narrows	One-half of Raymond Basin sewage discharged in Upper Area	Usable Surface Flow (13-14-15)
1934-35	29,230	9,140	0	390	22,410	61,170	6,000	4,700	10,700	1,650	9,050	52,120		2,650	49,470
36	20,700	9,810	0	70	16,140	46,720	4,220	1,750	5,970	890	5,080	41,640		2,735	38,905
37	50,900	10,840	0	260	47,750	109,750	26,870	21,000	47,870	2,170	45,700	64,050		2,865	61,185
38	209,330	14,700	0	510	109,120	333,660	172,100	60,000	232,100	2,050	230,050	103,610		2,960	100,650
39	30,650	16,330	0	200	38,380	85,560	9,540	2,540	12,080	980	11,100	74,460		2,970	71,490
1939-40	27,660	16,210	0	110	29,510	73,490	4,850	1,900	6,750	890	5,860	67,630		2,985	64,645
41	130,650	18,120	0	1,070	112,440	262,280	93,260	75,780	169,040	4,090	164,950	97,330		3,205	94,125
42	28,810	18,740	0	80	43,770	91,400	6,730	13,570	20,300	960	19,340	72,060		3,140	68,920
43	59,470	17,410	0	150	222,670	299,700	41,910	186,420	228,330	2,580	225,750	73,950		3,235	70,715
44	51,390	18,850	0	220	121,420	191,880	26,820	79,930	106,750	2,390	104,360	87,520		3,545	83,975
1944-45	32,300	18,020	0	70	57,130	107,520	8,460	26,110	34,570	770	33,800	73,720		3,490	70,230
46	43,160	15,630	0	70	51,580	110,440	11,280	16,480	27,760	870	26,890	83,550		3,635	79,915
47	48,410	14,230	0	110	56,790	119,540	16,030	27,650	43,680	1,350	42,330	77,210		3,785	73,425
48	25,370	12,670	0	20	20,970	59,030	3,510	0	3,510	910	2,600	56,430		2,065	54,365
49	11,100	10,640	0	40	13,590	35,370	1,490	0	1,490	860	630	34,740		0	34,740
1949-50	12,280	8,780	0	110	11,780	32,950	2,840	0	2,840	1,240	1,600	31,350		0	31,350
51	7,880	6,700	0	0	8,420	23,000	780	0	780	890	-110	23,110		0	23,110
52	34,570	6,090	0	530	56,800	97,990	26,040	24,250	50,290	3,330	46,960	51,030		0	51,030
53	16,120	6,210	0	50	22,350	44,730	3,450	980	4,430	1,430	3,000	41,730		0	41,730
54	23,390	3,580	7,230	100	18,130	52,430	10,760	3,790	14,550	2,190	12,360	40,070	15,690	0	24,380
1954-55	11,350	3,100	9,730	70	14,630	38,880	8,000	1,000	9,000	1,210	7,790	31,090	23,130	0	7,960
56	16,180	2,310	14,990	150	28,930	62,560	14,540	10,360	24,900	2,110	22,790	39,770	42,870	0	-3,100
57	16,840	1,840	20,400	50	22,220	61,350	4,640	1,390	6,030	1,120	4,910	56,440	51,870	0	4,570
58	119,320	2,660	15,300	540	91,320	229,140	30,260	23,960	54,220	3,250	50,970	178,170	103,900	0	74,270
1958-59	39,800	3,920	0	10	39,790	83,520	3,900	3,130	7,030	1,230	5,800	77,720	59,390	0	18,330
TOTALS	1,096,860	266,530	67,650	4,980	1,278,040	2,714,060	538,280	586,690	1,124,970	41,410	1,083,560	1,630,500	296,850	43,265	1,290,385
Averages	43,870	10,660	2,710	200	51,120	108,560	21,530	23,470	45,000	1,660	43,340	65,220	11,870	1,730	51,620

B. Subsurface Flow

The State of California, Department of Water Resources, published in April 1962, Appendix B, "Safe Yield Determinations", of Bulletin No. 104, a report entitled "Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County". That report included estimates of the seasonal Subsurface Flow through Whittier Narrows for each Water Year during the period 1934-35 through 1956-57. By applying the same methods of computation, the estimates have been extended through the Water Year 1958-59 and a 25-year average of 28,400 acre-feet derived.

Table 2 sets out the Subsurface Flow for each Water Year in the base period and the average annual Subsurface Flow during the base period.

TABLE 2

SUBSURFACE FLOW
DURING BASE PERIOD

Water Year	Acre-Feet
1934-35	33,500
36	33,500
37	31,100
38	25,600
39	25,000
1939-40	23,900
41	23,300
42	21,800
43	21,900
44	23,700
1944-45	23,500
46	23,100
47	22,400
48	25,700
49	30,300
1949-50	34,000
51	32,800
52	32,100
53	32,800
54	33,200
1954-55	33,600
56	32,200
57	32,600
58	30,500
1958-59	27,800
TOTAL	709,900
Average	28,400

C. Export to Lower Area

During the base period there were a number of water producers or water service agencies which produced water by surface diversions or wells in Upper Area and exported it to Lower Area. At the present time, and for the past several years, all such water has been pumped from wells in Upper Area.

There are four water service agencies which currently so export water. They are the Rincon Ditch Company, California Domestic Water Company, Suburban Water Systems, and the City of Whittier.

Table 3 sets forth Export to Lower Area for each Water Year during the base period and the average annual Export to Lower Area during the base period.

TABLE 3

EXPORT TO LOWER AREA
DURING BASE PERIOD

Water Year	Acre-Feet
1934-35	15,049
35-36	21,644
36-37	22,668
37-38	25,151
38-39	27,532
1939-40	22,566
40-41	24,191
41-42	27,514
42-43	30,484
43-44	31,182
1944-45	25,953
45-46	27,456
46-47	29,877
47-48	30,165
48-49	25,515
1949-50	18,363
50-51	21,651
51-52	16,302
52-53	18,141
53-54	18,360
1954-55	18,796
55-56	20,728
56-57	19,686
57-58	22,031
58-59	23,881
TOTAL	584,886
Average	23,395

D. Derivation of Lower Area Average Annual Entitlement

Table 4 presents the derivation of the Lower Area average annual entitlement.

TABLE 4

LOWER AREA AVERAGE ANNUAL ENTITLEMENT

(In acre-feet for base period)

Usable Surface Flow (Table 1)	51,620
Subsurface Flow (Table 2)	28,400
Export to Lower Area (Table 3)	23,395
Sub-total	103,415
Stipulated deduction	5,000
Lower Area average annual entitlement	98,415

II. DETERMINATION OF FUTURE LOWER AREA ANNUAL ENTITLEMENT

In determining a future Lower Area Annual Entitlement, as set forth in paragraph 5 (d) of the Judgment, the annual rainfall for San Gabriel Valley shall be determined in accordance with procedures set forth below, which are those presently utilized by the Los Angeles County Flood Control District. The 90-year (1872-73 through 1961-62) average rainfall for San Gabriel Valley has been calculated by said District to be eighteen and fifty-two one-hundredths (18.52) inches. For purposes of this Judgment, this quantity shall be the long-term average annual rainfall for San Gabriel Valley and shall not be subject to change.

The arithmetic average of the annual rainfall recorded at the four precipitation stations listed below shall constitute the rainfall for San Gabriel Valley for the respective Water Year.

Station No.	Location
95	114 East First Street, San Dimas
102C	19711 East Valley Blvd., Walnut
108C	119 South Hoyt Avenue, El Monte
610B	City Hall, Pasadena

Table 5 presents the annual rainfall for San Gabriel Valley for the Water Years 1954-55 through 1962-63.

TABLE 5

ANNUAL RAINFALL FOR SAN GABRIEL VALLEY

Water Year	Rainfall, Inches
1954-55	13.9
56	16.7
57	13.7
58	30.2
59	8.5
1959-60	10.6
61	5.9
62	22.4
63	12.3

The average rainfall in inches for the ten (10) consecutive Water Years ending with the year for which entitlement is being calculated shall be used as the basis for determining Lower Area Annual Entitlement.

Lower Area Annual Entitlements have been computed for 10-year average rainfall in increments of one-tenth (0.1) inch between fourteen (14) and twenty-five (25) inches and are set forth in Table A in paragraph 5 (d) of the Judgment. The following outlines the procedure for determining Lower Area Annual Entitlement from Table A:

(1) Derive the 10-year average rainfall for San Gabriel Valley to the nearest one-tenth (0.1) inch;

(2) Enter Table A in left-hand column at whole number of inches of rainfall; and

(3) Read horizontally to the vertical column representing the appropriate tenth of an inch of rainfall to obtain the quantity of Lower Area Annual Entitlement in acre-feet.

III. FUTURE MEASUREMENTS

It will be necessary to maintain records of measurement of stream flow, flow in pipelines, rainfall and depth to ground water at a number of locations. The purpose of this Part III is to locate and identify those measurement stations and to specify the manner in which the measurements are to be used in the future operation of the Judgment. The line through Whittier Narrows shown on Exhibit A as "narrowest section" is the line at which accounting shall be made of the water to be received in the future by Lower Area Parties. The Watermaster shall, insofar as practicable, utilize measurement data available from existing sources. When such data are not available the Watermaster may make such measurements as may be necessary or reasonably required for the purposes of this Judgment. The Watermaster is hereby authorized to re-establish, rebuild or replace measuring stations whenever necessary for the operation of this Judgment.

A. Surface Water Measurements and Calculations.

There may be several categories of water flowing on the surface through Whittier Narrows. Among them may be local stream flow, Lower Area Replenishment Water, Reclaimed Water and Make-up Water. The Watermaster shall have the responsibility of determining the quantities of each category of water flowing through Whittier Narrows in the future.

The approximate locations of stream measuring stations in and near Whittier Narrows are shown on Exhibit A. The surface

water measurements and calculations shall include the following:

1. Measurements of Surface Flow.
   a. Rio Hondo above Mission Bridge, Station F64-R.
   b. Mission Creek at San Gabriel Boulevard, Station F83-R.
   c. Rio Hondo By-pass Channel, Station F313-R.
   d. Whittier Narrows Flood Channel, Station E337-R.
   e. Calculation of Sycamore Canyon runoff based on annual rainfall to nearest inch at Station 170-C as shown on Table 6.
   f. San Gabriel River near Parkway Bridge. This is to be a new station to replace the existing station on San Gabriel River at Beverly Boulevard, Station F263B-R.
   g. The portion of Reclaimed Water from Whittier Narrows Reclamation Plant diverted to Rio Hondo.
2. Measurement of local storm inflow to the channel of each of the Rio Hondo and San Gabriel River within Montebello Forebay.
   a. Montebello storm drain, Station F181-R.
   b. Calculation of unmeasured local storm inflow.
3. Measurements of diversions to spreading grounds Montebello Forebay.
4. Measurement of surface outflow from Montebello Forebay in the channel of each of Rio Hondo and

San Gabriel River.

a. Rio Hondo above Stewart and Gray Road, Station F45B-R.

b. San Gabriel River at Florence Avenue, Station F262-R.

5. Measurement of Lower Area Replenishment Water imported to Upper Area from outside the watershed of the San Gabriel River system.

a. Rio Hondo By-pass Channel, Station F313-R.

b. San Gabriel By-pass Channel, Station F314-R.

c. San Gabriel River MWD Outlet, Station M335-R.

d. Alhambra Wash MWD Outlet, Station M340-R.

e. Any other measuring point or points in Upper Area at which such replenishment water is released.

6. Measurement of total Reclaimed Water from Whittier Narrows Reclamation Plant reclaimed by or on behalf of Lower Area Parties.

In the event that any of the aforementioned gaging stations are inoperative for any reason and for any period of time the Watermaster shall estimate the quantity that would have been measured at the station had it been operative. The estimate shall be based on correlation to nearby operative measuring stations or on other reasonable engineering methods.

TABLE 6

RAINFALL - RUNOFF RELATIONSHIP OF SYCAMORE CANYON*

Annual rainfall, in inches at Precipitation Station No. 170-C	Estimated runoff in acre-feet
6	5
7	10
8	15
9	25
10	35
11	45
12	60
13	75
14	90
15	105
16	125
17	145
18	170
19	200
20	240
21	275
22	315
23	355
24	400
25	445
26	490
27	535
28	580
29	630
30	685

Extrapolate for rainfall values in excess of 30 inches.

* Located on Westerly side of Whittier Narrows, upstream from dam and downstream from stream gaging Station F64-R. Approximate drainage area is 2.77 square miles.

B. Subsurface Flow

The determination of Subsurface Flow involves certain measurements and procedures which are set forth in this section. In connection with a recent comprehensive study made by the State of California, Department of Water Resources, for Bulletin No. 104, "Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County", estimates were made of Subsurface Flow through Whittier Narrows. The State concluded that a reasonable method of determining Subsurface Flow was by the transmissibility method, which is based on Darcy's Law applied

at the location shown on Exhibit A as "narrowest section". Darcy's Law states that $Q = PIA$, in which

Q = Subsurface Flow

P = Permeability, in gallons per day per square foot under unit hydraulic gradient

I = Slope of water table

A = Cross-sectional area

Under this Judgment calculations shall be made by the Watermaster for the spring and fall of each year and because of slight variations due to the nature of the data available, Subsurface Flow for any one year will be equal to the tri-annual average of the quantities calculated for the three years ending with the year of calculation. In this manner, annual Subsurface Flow shall be based on the average of six calculations, the first of which shall be the spring of 1962.

The elevation of the ground surface at the "narrowest section" of Whittier Narrows is deemed to be 208 feet above sea level, and the width of the section is deemed to be 7,900 feet. Water levels fluctuate at Whittier Narrows and the cross-sectional area of the ground water at Whittier Narrows will vary with fluctuations in ground water elevation.

It should be noted that $T = PD$, where T = transmissibility in gallons per day per foot of width under unit hydraulic gradient and D = saturated depth in feet. Therefore $PA = TW$ and $Q = PAI = TWI$. The product TW (or PA) for the entire cross-sectional area was determined to be 4,739.5 x 1,000,000 gallons per day, or 7,333.6 cfs. The actual slope of the water table, I, would then be applied to the calculated quantity of TW (or PA).

The average permeability of the material to a depth of 100 feet below the ground surface has been determined to be equal to 2,000 gallons per day per square foot, which is

equal to .003095 cubic feet per second per square foot. This represents the average permeability in the zone of water level fluctuation.

In order to correct for the unsaturated depth, the equation $Q = TWI$ is modified to $Q = (TW - C)I$ where

$C = P_1Wd$,

C = The flow which would occur in the unsaturated section if it were saturated, in cubic feet per second under unit hydraulic gradient.

P_1 = Average permeability for a distance of 100 feet below the ground surface.

W = The cross-sectional width, or 7,900 feet.

d = The distance from the water surface to the top of the ground, or 208 feet minus ground water elevation.

Utilizing the values of permeability shown above, then

C = 24.45 d, in cubic feet per second, for values of "d" to a depth of 100 feet below the ground surface.

The "effective transmissibility" is equal to the total transmissibility times the width at the narrowest section minus C, or,

$Tw_e = TW - C$

$Tw_e = 7,334 - C$, in cubic feet per second.

Subsurface Flow is equal to the effective transmissibility times the average slope of the water table. The formula derived from the foregoing, may be stated as follows:

$Q = 724\ I\ [7,334 - 24.45\ (208 - E)]$

Where: Q = Subsurface Flow in acre-feet per year,

I = Average adjusted slope of ground water surface at narrowest section, and

E = Ground water elevation of the water surface in feet above sea level at the narrowest cross-section.

The detailed steps to be carried out by the Watermaster are as follows:

(1) Ground water level contour maps in the vicinity of Whittier Narrows are drawn on the basis of water level measurements.

(2) A line representing the narrowest cross-section is drawn on the ground water contour maps.

(3) This line is subdivided into four equal lengths.

(4) The average slope of the water table at each of the three points within the narrowest section is determined along a line perpendicular to the ground water contours in the manner heretofore used by the State of California, Department of Water Resources.

(5) Adjustment is made to the ground water slope at each of the three points so that it is perpendicular to the narrowest section by:

(a) measuring the angle, in degrees, between the line representing the narrowest cross-section and the tangent to the flow line at the narrowest cross-section,

(b) applying the sine of that angle to the previously determined slope to determine the adjusted slope, and

(c) obtaining an average of the three adjusted slopes to represent the average slope through the narrowest cross-section.

(6) The elevation of the water surface at the narrowest cross-section is determined by interpolating between the ground water contours.

(7) The distance to the ground water surface is computed from the top of the ground by the formula: $d = 208 - E$, where E represents the average water level elevation of the narrowest cross-section, in feet.

(8) The correction factors for the transmissibility for the area from the top of ground to the water surface is computed by the formula $C = 24.45\ d$, in cubic feet per second.

(9) The effective transmissibility is computed by the formula $Tw_e = 7,334 - C$, in cubic feet per second.

(10) Subsurface Flow is computed by multiplying the effective transmissibility by the average adjusted slope.

(11) The computed Subsurface Flow, in cubic feet per second, is converted to acre-feet per year by multiplying it by 724.

The selected wells within the vicinity of Whittier Narrows which have been used for drawing the ground water contours are as follows:

Location No.	State No.
2927B	2S 11W 06M01S
2927D	06K01S
2928	07B01S
2936	06A01S
2936A	1S 11W 31J03S
2938A	2S 11W 07H1S
2938D	05N05S
2939	08N01S
2939B	18B01S
2939G	07R01S
2947C	-
2947F	05L01S
2947N	05P01S
2948	05N04S
2948E	08B02S
2948F	08L03S
2957H	-

The Watermaster shall obtain measurements of ground water elevations in the spring and fall of each year when they are at their approximate high and low levels, respectively. Such measurements may be made at, but need not be limited to, all of the above listed wells.

C. Export to Lower Area

If present measuring devices on existing conduits are inadequate, the Watermaster shall install or cause to be installed adequate measuring devices to determine the amount of Export to Lower Area.

IV. ACCOUNTING

Utilizing the appropriate measurements described in the previous portion of this Exhibit B, the Watermaster shall maintain accounts for the determination of Lower Area Annual Entitlement, the annual amount of Usable Water, Make-up Water to be delivered, Make-up Water received, the annual total amount of Usable Water and Make-up Water, the accumulated Lower Area Annual Entitlements, the accumulated amounts of Usable Water and Make-up Water received subsequent to September 30, 1963, Accrued Debit of Upper Area or Accrued Credit of Upper Area, and records necessary for accomplishing the Long-term Accounting.

In maintaining the accounting records listed above, the Watermaster shall establish the necessary accounting procedures to accomplish the recordation of data and required calculations for accomplishment of the provisions set forth in paragraph 5 of the Judgment.

A. Components of Usable Water

1. Surface Flow. Surface Flow shall be measured as set forth in Part III.A. of this exhibit to include all water other than Export to Lower Area and Subsurface Flow which passes from Upper Area to Lower Area through Whittier Narrows. When the new station to be constructed on the San Gabriel River near Parkway Bridge is completed, it shall replace the gaging station on the San Gabriel River at Beverly Boulevard, Station F263B-R. Until such new station is in operation, Surface Flow as measured at Station F263B-R shall be increased by the amount of Surface Flow which has percolated or been diverted between Station F263B-R and the point of maximum rising water. The Watermaster shall determine the quantity so percolated or diverted based upon available measurements by the Los Angeles County Flood Control District.

2. Subsurface Flow. Subsurface Flow shall be calculated in accordance with the procedures heretofore set forth.

3. Export to Lower Area. The Watermaster shall reduce to acre-feet the meter readings on each of the conduits transporting through Whittier Narrows water diverted from surface streams in Upper Area or pumped or developed from underground sources in Upper Area. These quantities shall be used to determine Export to Lower Area except that after September 30, 1966, Export to Lower Area used for determination of Usable Water shall not exceed 23,395 acre-feet per year. (Paragraph 3(1) of this Judgment.)

B. Calculation of Usable Water

After determining the amounts of Surface Flow, Subsurface Flow and Export to Lower Area during a Water Year, as provided above, the Watermaster, in order to determine the extent to which such water constitutes the receipt of Usable Water by Lower Area during such Water Year, shall deduct from the total of such amounts, the following:

1. Lower Area Replenishment Water. An amount equal to the total quantity of Lower Area Replenishment Water released in Upper Area in each Water Year subsequent to September 30, 1963, less such amount, if any, as the Watermaster determines to be lost due to evaporation or transpiration prior to the receipt of such water in Lower Area;

2. Reclaimed Water. An amount equal to the total quantity of Reclaimed Water which is reclaimed by or on behalf of Lower Area Parties;

3. Make-up Water. An amount equal to the quantity of Make-up Water delivered to Lower Area during such Water Year, calculated as hereafter provided, to the extent included in

Surface Flow or Export to Lower Area;

4. Paragraph 3(1)(6) Water. An amount equal to the quantity of any water which falls within the scope of paragraph 3(1)(6) of the Judgment; and

5. Unusable Surface Flow. An amount equal to the quantity of Unusable Surface Flow, which is determined by deducting from the total outflow as measured at Stations F45B-R and F262-R: (1) Local Storm Outflow and (2) the portion of Surface Flow which has been caused to pass said stations by reason of any spreading of water in Montebello Forebay by or on behalf of Lower Area Parties.

Local Storm Outflow is a portion of local storm inflow originating in Montebello Forebay upstream from said measuring stations, the amount of which outflow is to be determined as hereinafter provided. When actual measurements of local storm inflow are not available, the amount thereof discharging to the channels of Rio Hondo or San Gabriel River within Montebello Forebay upstream from stations F45B-R and F262-R shall be estimated by correlation with the local storm inflow measured at Montebello Storm Drain, Station F181-R. Such quantities shall be estimated on the basis of the individual drainage areas of storm drain projects and the runoff per unit area determined from the Montebello Storm Drain, Station F181-R, during the particular time interval under consideration. When water is flowing out of Montebello Forebay on the surface in the Rio Hondo or San Gabriel River channels, the Watermaster shall determine Local Storm Outflow as follows:

a. Local Storm Outflow from Rio Hondo. When outflow occurs at Station F45B-R, all local storm inflow, both measured and estimated, which enters the Rio Hondo channel between that station and Upper Area shall constitute Local Storm Outflow from Rio Hondo, but the amount thereof shall not exceed the amount of

outflow at Station F45B-R for such periods.

b. Local Storm Outflow from San Gabriel River. At such times as local storm inflow does not join Surface Flow in San Gabriel River, the portion of such local storm inflow passing Station F262-R shall constitute Local Storm Outflow. In addition, at such times as Surface Flow in the San Gabriel River commingles with the local storm inflow, then the Watermaster shall determine Local Storm Outflow as follows:

(1) Calculate the total amount of local storm inflow to the San Gabriel River during such times, but such amount to be used in the determination of Local Storm Outflow shall not exceed the amount of San Gabriel River outflow passing Station F262-R during such periods.

(2) Calculate the Local Storm Outflow passing Station F262-R during such times, which calculation shall be based on the Surface Flow and local storm inflow to the San Gabriel River channel, giving appropriate weight to the quantities involved and the distance the respective quantities of water traverse Montebello Forebay in said channel.

(3) These two calculations shall then be averaged arithmetically and the resulting amount shall be Local Storm Outflow from San Gabriel River.

C. Determination and Delivery of Make-up Water

1. By Additions to Surface Flow (paragraph 5(i)(1) of Judgment). The determination of the amount of Make-up Water which is delivered to Lower Area as an addition to Surface Flow shall be based upon (a) measurements of Make-up Water at the

delivery outlet of such water upstream from Whittier Narrows, (b) measurements of water consisting in whole or in part of Make-up Water passing the applicable stations listed in Part III.A.1. of this Exhibit B, and (c) such deductions from the measurements of Make-up Water at said stations so listed as are necessary to take into account (i) the amount of any water other than Make-up Water included in the measurements at said stations so listed, (ii) any losses due to evaporation or transpiration of Make-up Water after such measurement and prior to its receipt in Lower Area, and (iii) any percolation of Make-up Water after such measurement and prior to the time it reaches the "narrowest section" in Whittier Narrows.

As changing conditions may require, the Watermaster shall change the points of measurement of Make-up Water in order to obtain those measurements necessary to determine the amount of Make-up Water delivered to Lower Area Parties by means of increasing Surface Flow.

2. By Payment for Reclaimed Water (paragraph 5(i)(2) of the Judgment). The Watermaster shall determine (a) the quantity of Reclaimed Water reclaimed at the Whittier Narrows Water Reclamation Plant as it existed October 1, 1963, and which when so reclaimed shall have been passed through Whittier Narrows, and (b) the quantity, if any, of Reclaimed Water reclaimed at any future additions to said plant after September 30, 1963, and which when so reclaimed shall have been passed through Whittier Narrows. Such quantities shall be ascertained from the records of Los Angeles County Flood Control District.

Upon being advised that a payment has been made by Upper District or Defendants to Central Municipal pursuant to the provisions of paragraph 5(i)(2) of the Judgment, the Watermaster shall credit Upper Area Parties with the delivery of Make-up Water computed according to said paragraph of the

Judgment.

3. By Deliveries to a Lower Area Party (paragraph 5(i)(3) of the Judgment). Any Make-up Water delivered directly to a Lower Area Party with the consent of Plaintiffs shall be metered and the meter records reduced to acre-feet per year. Upon being advised that a Lower Area Party has received a direct delivery of Make-up Water pursuant to the provisions of paragraph 5(i)(3) of the Judgment, the Watermaster shall credit Upper Area Parties with delivery of such Make-up Water in the Water Year in which it was so delivered.

D. Long-term Accounting

The Watermaster shall maintain a record of the annual rainfall in the San Gabriel Valley, including a running average of such rainfall, so that the Watermaster will be informed when a Long-term Accounting shall be carried out as specified in paragraph 5(h) of the Judgment, and shall thereafter perform the necessary calculations for accomplishment of the adjustment, if any, between the aggregate amount of water received compared to the aggregate entitlement for the period.

E. Water Usable for Ground Water Replenishment

With respect to any delivery of Make-up Water the Watermaster shall determine the suitability of such water for ground water replenishment. The Watermaster shall gather, insofar as readily available from public and private agencies, data relating to the quality of all categories of water, Surface Flow, Subsurface Flow, Export to Lower Area, Reclaimed Water, Lower Area Replenishment Water and Make-up Water.

REIMBURSEMENT CONTRACT

LONG BEACH v. SAN GABRIEL

d.

REIMBURSEMENT CONTRACT

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ed.

REIMBURSEMENT CONTRACT

THIS CONTRACT is made by and between UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, herein called "Upper District", and the cities of ALHAMBRA, ARCADIA, AZUSA, COVINA, EL MONTE, GLENDORA, MONTEREY PARK, MONROVIA, SOUTH PASADENA, and WHITTIER; BALDWIN PARK COUNTY WATER DISTRICT, and SAN GABRIEL COUNTY WATER DISTRICT; AZUSA AGRICULTURAL WATER COMPANY, AZUSA VALLEY WATER COMPANY, CALIFORNIA DOMESTIC WATER COMPANY, CALIFORNIA WATER & TELEPHONE COMPANY, COLUMBIA LAND AND WATER COMPANY, COVINA IRRIGATING COMPANY, CROSS WATER COMPANY, DUARTE WATER COMPANY, EAST PASADENA WATER COMPANY, LTD., GLENDORA IRRIGATING COMPANY, SAN DIMAS WATER COMPANY, SAN GABRIEL VALLEY WATER COMPANY, SOUTHERN CALIFORNIA WATER COMPANY, SUBURBAN WATER SYSTEMS, SUNNYSLOPE WATER COMPANY, and VALLECITO WATER COMPANY, corporations, herein collectively called "Pumpers."

ed.

RECITALS

1. The Action. In the matter of Board of Water Commissioners of the City of Long Beach, et al. v. San Gabriel Valley Water Company, et al., (L. A. Superior Court No. 722,647) the water rights of substantially all major water producers in the main San Gabriel Valley are sought to be restricted.

2. Judgment. The parties named above, except City

of Whittier, are concurrently executing a Stipulation that a Judgment substantially in the form annexed hereto shall be rendered and it is anticipated that such Judgment will be rendered in the action.

3. Public Interest in Settlement. It is in the best interests of the Pumpers and in the best interests of the water users and taxpayers within the corporate boundaries of those Pumpers which are public agencies, of the consumers of those Pumpers which are utilities or mutual water companies, and of all residents and taxpayers of Upper District, that said action be settled and disposed of in accordance with the terms of said judgment in order to preserve the water supplies within Upper Area.

DEFINITIONS

1. "Contract Costs" -- All costs hereafter paid by Upper District:

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(a) In providing Make-up Water under the terms of the judgment. In computing such cost of providing Make-up Water, any cost which Upper District shall pay which it would have paid even though it had not provided Make-up Water shall be excluded; and particularly but not exclusively, no amount which shall be paid to The Metropolitan Water District of Southern California as a condition to any past or future annexation shall be

deemed a cost of providing Make-up Water. Such costs may include interest paid by Upper District upon money borrowed for advancements made by it or interest which would have been received by the District, but which it lost by reason of making such advancements.

(b) In complying with the terms of said judgment.

(c) In keeping the records, making the determinations and collecting the moneys required by the later provisions of this contract.

2. "Assessable Pumpage" -- The amount of ground water produced in the applicable calendar year by or on behalf of any Pumper by pumping or extraction thereof from the Upper Area, including ground water produced under rights hereafter acquired from any source.

ed.

3. Common Terms With Judgment -- All terms specially defined in said judgment are used herein in the sense in which they are therein defined, and said special definitions are incorporated herein by this reference.

OPERATIVE PROVISIONS

1. Consideration for Execution. The great majority of the defendants in the action are situated in whole or in part within Upper District and pump water therein. Certain defendants, including the Cities of Alhambra, Azusa and

Monterey Park, as well as the City of Whittier which is not a defendant, lie outside Upper District. Execution of this agreement by all parties to it is essential to induce each party hereto to execute this agreement, and likewise, execution of the Stipulation for Judgment by all defendants in the action is necessary to induce each party hereto to execute this contract. Each party executes this contract in consideration of its execution by the other parties, and in consideration of the execution of the Stipulation by the parties thereto. Moreover, by this contract each party other than City of Whittier waives its right to cross-complain in the action so as to bring City of Whittier into the action as a party.

2. Intervention by Upper District. In consideration of the execution of this contract by Pumpers and to contribute to the physical solution of providing adequate water for its inhabitants, Upper District has intervened as a defendant in the action and agrees to execute the stipulation for said judgment.

3. Administration. Upper District shall administer the provisions of Paragraphs 6 through 9, below, as to all Pumpers, including additional parties hereto mentioned in Paragraph 16.

4. Covenant to Reimburse. Each Pumper hereby agrees to pay to Upper District such Pumper's share of Contract

Costs allocated and determined as provided below.

5. Allocation of Costs Among Pumpers. Pumpers agree among themselves, each for the benefit of all other Pumpers, to share and participate in the payment of any sums due Upper District hereunder in such proportion as the Assessable Pumpage of each Pumper bears to the total Assessable Pumpage of all Pumpers for the applicable period covered by any assessment as hereinafter provided, subject to the provisions of Paragraph 9 below.

6. Reports by Pumpers. Pumpers shall file under penalty of perjury the reports hereinafter specified in the form provided by Upper District, as follows:

(a) Time and Procedure for Filing. Each year, on or before March 1, each Pumper shall file with Upper District a written report of its extractions of water from Upper Area for the preceding calendar year containing the information set forth in subparagraph (b) of this paragraph.

ed.

(b) Contents of the Report. Such annual reports to Upper District shall set forth:

(1) The name and address of the Pumper; and

(2) The number of acre feet of water which was pumped or extracted from Upper Area by or on behalf of the Pumper during

the calendar year covered.

(c) Determination in Lieu of Report. In the event any Pumper fails to so file such report, Upper District may make a determination of the Assessable Pumpage of such Pumper, which determination shall be final and binding.

7. Notice of Assessment. On or before June 1 of each year, Upper District shall serve a Notice of Assessment on each Pumper covering the preceding calendar year which will contain a statement of:

(a) The amount of Assessable Pumpage by each Pumper;

(b) A detailed statement of Contract Costs during the preceding calendar year, if any; and

(c) A statement of the amount of such Contract Costs which are assessable to and payable by the Pumper to whom such notice is sent.

ed.

8. Payment--Delinquency and Default. All assessments herein provided for shall be due and payable on the following July 31. In the event of nonpayment of any assessment, Upper District may bring an action and shall have the right to recover such assessment, together with interest thereon at the rate of 7% per annum from the date of delinquency and costs of suit, including any reasonable attorneys' fees incurred.

If, after due diligence, Upper District is unable to collect a Pumper's allocated cost, such uncollectible amount (including interest, costs and attorneys' fees) shall be prorated among and paid by the other Pumpers in the same proportions as they paid assessments for the year or years in question. Said proration shall be billed and payable with the next succeeding assessment.

9. Redetermination of Assessable Pumpage. Any Pumper may at any time within 90 days after receipt of any Notice of Assessment request a redetermination of the Assessable Pumpage of such Pumper or of any other Pumper or Pumpers reflected in such notice. Such request shall be addressed in writing to Upper District and shall set forth the basis of the requesting Pumper's belief that such data are incorrect. Upon the receipt of any request, the following procedures shall be undertaken by Upper District:

ed.

(a) Notice of Request for Redetermination. Upper District shall forthwith notify in writing any Pumper whose Assessable Pumpage has been questioned, of the fact of such request and the name of the requesting Pumper. Notice shall further be sent to all Pumpers that procedures will be undertaken pursuant to this paragraph, and shall state briefly the issues to be determined.

(b) Availability of Records. Subsequent to such notice, the records of the Pumper whose Assessable Pumpage is subject to a request for redetermination shall be made available at reasonable hours and upon reasonable demand to Upper District, insofar as such records are relevant to a determination of the Assessable Pumpage of the Pumper during the period involved.

(c) Investigation and Notice of Hearing. Upper District shall conduct an investigation and shall by written decision served on all Pumpers redetermine or affirm such Assessable Pumpage. Upper District may at its option set a date for hearing. In such event, at least ten days' notice in writing of said hearing date shall be given to all Pumpers.

ed.

(d) Conduct of Hearing and Decision. If hearing be held, Upper District shall not be bound therein by strict rules of evidence, but may rely on any evidence which it deems of probative value. Any Pumper may present evidence and arguments thereat. The written decision of Upper District, with or without such hearing, shall be served on all Pumpers and shall be conclusive for purposes of this contract, unless said issue is submitted

to a court of competent jurisdiction within 90 days from notice of such decision.

(e) Reallocation of Contract Costs. If Assessable Pumpage is modified by any such decision, Contract Costs shall be reallocated in accordance therewith. Said reallocation shall be billed and payable with the next succeeding assessment.

10. Water Rights Unaffected. This contract relates solely to the equitable allocation of Contract Costs and does not involve or constitute an admission or agreement as to the water rights of any Pumper. Execution of this contract shall not prevent any party hereto from bringing or maintaining any action or proceeding to determine rights to pump, extract or store water, or to limit or curtail any pumping, extraction or storage of water in or from Upper Area or elsewhere, except as limited by Paragraphs 1 and 16 of the Operative Provisions hereof.

ed.

11. Changed Conditions. It is recognized that conditions in Upper Area may hereafter change to such an extent that it may become equitable to modify either the total obligation of Pumpers to Upper District hereunder or the allocation of Contract Costs. While this contract is entered into to assure Upper District of reimbursement of an amount up to its entire Contract Costs, it is not intended hereby, and this contract shall not be deemed, to prevent Upper District

from modifying and reducing such obligation or from applying other relief which may reduce the burden on Pumpers. Without limitation upon the power of Upper District to otherwise reduce the aggregate amount payable under this contract, the following specific instances of changed conditions are contemplated:

(a) Allocation of Portion of Burden to Taxes. It may at some future date appear equitable and fair to allocate all or a portion of Contract Costs to ad valorem taxes or other revenues of Upper District. In such event, Upper District may, in the discretion of its Board of Directors, allocate all or a portion of Contract Costs to such revenue sources and the remainder, if any, thereof, shall be payable under the terms of this contract.

(b) Imposition of Pump Tax. If Upper District should acquire and exercise the right to levy a tax upon the pumping or extraction of ground water, then the aggregate of such tax shall be credited proportionally amongst Pumpers with respect to Assessable Pumpage within Upper District.

(c) Adjudication of Rights. If all or substantially all of the water rights within Upper Area shall be adjudicated (including the rights of all Pumpers), and its natural and safe yield

determined, then this contract shall be deemed modified to the extent that Assessable Pumpage shall include only that amount of water produced over and above the safe yield portion of adjudicated rights owned by any Pumper; provided that this subparagraph (c) shall not apply to any year in which the aggregate of all Assessable Pumpage as so modified is less than 25,000 acre feet.

12. Effective Date. This contract shall be effective ten (10) days after notice in writing of execution thereof by all parties, which notice shall be given to all Pumpers by Upper District, but shall cease and terminate on July 1, 1966, unless by said date (a) this contract shall have been validated as provided below, and (b) the Judgment shall have been rendered.

ed.

13. Validation. Within four months after this contract becomes effective, a proceeding or proceedings shall be instituted by Upper District in a court of competent jurisdiction by an appropriate action or actions for determination of the validity of this contract.

14. Term. The term of this contract shall commence upon its effective date and continue so long as the Judgment, as entered or as modified, shall remain in effect, subject, however, to the provisions of Paragraph 12 above.

15. Notices. Any notice to be served upon any party hereunder may be served either personally or by mail. If served by mail, such notice shall be mailed in the County of Los Angeles, State of California, by certified mail, postage prepaid, return receipt requested, or by registered mail, and shall be addressed to the party to be served at its address as set forth below, or (in the case of Upper District) at such other address as it may have last specified in writing to the Pumper or Pumpers involved for the service of notices hereunder, or (in the case of a Pumper) at such other address as it may have last specified in writing to Upper District for the service of notices hereunder. Any notice so served by mail shall be deemed to have been served upon the first business day (excluding Saturdays, Sundays and holidays) after such mailing.

ed.

16. Additional Parties. In addition to Pumpers and their successors and assigns referred to in Paragraph 17 below, any other person or entity who or which shall pump or extract water in or from Upper Area (herein referred to as an "additional party"), may become a party to this contract, provided (a) Upper District shall give its written consent thereto, and (b) no Pumper or additional party shall serve upon Upper District its written objection thereto. If Upper District shall give its written consent to execution of this contract by an applying additional party, it shall

then give written notice of such application and consent by Upper District to each Pumper and each additional party, and if within thirty (30) days after such notice no Pumper or additional party shall have served upon Upper District its written objection to execution of this contract by the applying additional party, such additional party's application shall be deemed to have been accepted and it may become a party to this contract by delivery to Upper District of a duly executed instrument in writing stating that such person or entity joins in and becomes a party to this contract.

Any additional party so joining shall become bound by all obligations of this contract, becoming due or which should be performed within the terms of this contract on and after the ensuing January 1. Such obligations include the duty to make the report of extractions during the preceding calendar year (i.e., the year in which the contract is executed) required by Paragraph 6, and to make the payment based upon such extractions as required by Paragraph 5, provided, however, that such additional party shall have no liability under Paragraph 8 with respect to any nonpayments of an assessment based upon extractions by a Pumper or other additional party prior to the year in which such additional party joins in this contract.

ed.

As to each Pumper who executes this contract after it becomes effective, Upper District agrees that for a

period of 90 days after giving its said written consent, it will bring no action against such additional party to limit or define its rights to pump water in or from Upper Area. Further, if more than one such Pumper shall become a party to this agreement at the same time as any other pumper, each will execute and shall be deemed to have executed this contract and to have joined therein in consideration of the joinder in this contract by the other or others concurrently joining in this contract.

Any such additional party shall be deemed a Pumper for all purposes of this agreement.

17. Successors and Assigns. This contract shall inure to the benefit of and bind the successors in ownership of the water rights of the parties. If any Pumper shall sell or transfer or agree to sell or transfer its water rights in Upper Area or any part of such water rights, such Pumper shall require as a condition of any such sale, transfer or agreement that the purchaser or transferee, if not already a party to this contract, shall execute this contract and become a party thereto. Upon a full transfer of such rights by a Pumper and assumption by the assignee as above provided, the assigning Pumper shall be discharged of obligation hereunder. If such Pumper fails to obtain such assumption (except in cases of a transfer under order of court or by operation of law) the assigning Pumper shall

ed.

remain bound by the contract and production of water by said assignee by the exercise of the right assigned shall be treated as production by such Pumper.

18. Execution in Counterparts. This contract may be executed in counterparts (each counterpart being an exact copy or duplicate of the original) and all counterparts collectively shall be considered as constituting one complete contract.

IN WITNESS WHEREOF this contract is executed by the undersigned by its duly authorized officer.

Dated: _____.

_____

By _____

(SEAL)

By _____

ed.

APPENDIX J

AMENDED MAIN BASIN JUDGMENT

NOSSAMAN LLP
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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

Upper San Gabriel Valley Municipal Water District, Plaintiff, vs. City of Alhambra, et al, Defendants	Case No.: 924128 **AMENDED JUDGMENT** (And Exhibits Thereto)

HONORABLE MAUREEN DUFFY-LEWIS

Assigned Judge Presiding

DEPARTMENT 38

June 21, 2012

(This version includes prior Amendments and updated Exhibits through June 21, 2012.)

AMENDED JUDGMENT
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EXHIBITS

"A" – Map entitled, "San Gabriel River Watershed Tributary to Whittier Narrows"

"B" – Boundaries of Relevant Watershed

"C" – Table Showing Base Annual Diversion Rights of Certain Diverters

"D" – Table Showing Prescriptive Pumping Rights and Pumper's Share of Each Pumper

"E" – Table Showing Production Rights of Each Integrated Producer

"F" – Table Showing Special Category Rights

"G" – Table Showing Non-consumptive Users

"H" – Watermaster Operating Criteria

"J" – Puente Narrows Agreement

"K" – Overlying Rights

(Exhibit "K" Includes - Nature of Overlying Right, Description of Overlying Lands To Which Overlying Rights Are Appurtenant, Producers Entitled To Exercise Overlying Rights and Their Respective Consumptive Use Portions, and Map of Overlying Lands.)

"L" – List of Producers and Other Parties and Their Designees (June 2012) (New)

"M" – Watermaster Members, Officers, and Staff, Including Calendar Year 2012 (New)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

Upper San Gabriel Valley Municipal Water District, Plaintiff, vs. City of Alhambra, et al, Defendant	Case No.: 924128 **AMENDED JUDGMENT** Hearing: June 21, 2012 Department 38, 9:30 A.M.

The Petition of the MAIN SAN GABRIEL BASIN WATERMASTER for this AMENDED JUDGMENT herein, came on regularly for hearing in this Court before the **HONORABLE MAUREEN DUFFY-LEWIS**, ASSIGNED JUDGE PRESIDING, on June 21, 2012; Frederic A. Fudacz appeared as attorney for Watermaster - Petitioner; and good cause appearing, the following **ORDER** and **AMENDED JUDGMENT** are, hereby, made:

I. INTRODUCTION

1. Pleadings, Parties, and Jurisdiction. The complaint herein was filed on January 2, 1968, seeking an adjudication of water rights. By amendment of said complaint and dismissals of certain parties, said adjudication was limited to the Main San Gabriel Basin and its Relevant Watershed. Substantially all defendants and the cross-defendant have appeared herein, certain defaults have been entered, and other defendants dismissed. By the pleadings herein and by

Order of this Court, the issues have been made those of a full inter se adjudication of water rights as between each and all of the parties. This Court has jurisdiction of the subject matter of this action and of the parties herein.

2. Stipulation for Entry of Judgment. A substantial majority of the parties, by number and by quantity of rights herein Adjudicated, Stipulated for entry of a Judgment in substantially the form of the original Judgment herein.

3. Lis Pendens. (New) A Lis Pendens was recorded August 20, 1970, as Document 2650, in Official Records of Los Angeles County, California, in Book M 3554, Page 866.

4. Findings and Conclusions. (Prior Judgment Section 3) Trial was had before the Court, sitting without a jury, John Shea, Judge Presiding, commencing on October 30, 1972, and Findings of Fact and Conclusions of Law have been entered herein.

5. Judgment. (New) Judgment (and Exhibits Thereto), Findings of Fact and Conclusions of Law (and Exhibits Thereto), Order Appointing Watermaster, and Initial Watermaster Order were signed and filed December 29, 1972, and Judgment was entered January 4, 1973, in Book 6791, Page 197.

6. Intervention After Judgment. (New) Certain defendants have, pursuant to the Judgment herein and the Court's continuing jurisdiction, intervened and appeared herein after entry of Judgment.

7. Amendments of Judgment. (New) The original Judgment herein was previously amended on March 29 1979, by: (1) adding definition (r [1]) thereto, (2) amending definition (bb) therein, (3) adding Exhibit "K" thereto, (4) adding Sections 14.5 and 16.5 thereto, and (5) amending Sections 37(b), 37(c), 37(d), and Section 47 therein; it was again amended on December 21, 1979, by amending Section 38(c) thereof; again amended on February 21, 1980, by amending Section 24 thereof; again amended on September 12, 1980, by amending Sections 35(a), 37(a), and 38(a); again amended on December 22, 1987, by adding Section 37(e) thereto; amended again on July 22, 1988 by amending Section 37(e) thereof and Ordering an Amended Judgment herein; again amended on January 29, 1991, by amending Sections 10(j), 40, and by adding Sections 40(a), 40(b), 40(c), 40(d), 40(e) and 40(f); again amended on April 2, 1991, by

amending Sections 10(ff), 10(jj), and 34(h); again amended on February 24, 1992, by amending Section 40(b); again amending Appendices in 2000; and again on June 21, 2012 by amending Sections 10(ff), 26, 29(d), 34(b), 34(c), 34(g), 34(h), 34(j), 36, 42, 44, 45, 46(a), 47, 50, 54, Exhibit H Sections 2, 3(d), 4; adding Sections 34(p), 34(q), 34(r); and deleting Section 53 entirely.

8. Transfers. (New) Since the entry of Judgment herein there have been numerous transfers of Adjudicated water rights. To the date hereof, said transfers are reflected in Exhibits "C", "D", and "E".

9. Producers and Their Designees. (New) The current status of Producers and their Designees is shown on Exhibit "L".

10. Definitions. (Prior Judgment Section 4) As used in this Judgment, the following terms shall have the meanings herein set forth:

(a) Base Annual Diversion Right – The average annual quantity of water which a Diverter is herein found to have the right to Divert for Direct Use.

(b) Direct Use – Beneficial use of water other than for spreading or Ground Water recharge.

(c) Divert or Diverting – To take waters of any surface stream within the Relevant Watershed.

(d) Diverter – Any party who Diverts.

(e) Elevation – Feet above mean sea level.

(f) Fiscal Year – A period July 1 through June 30, following.

g) Ground Water – Water beneath the surface of the ground and within the zone of saturation.

(h) Ground Water Basin – An interconnected permeable geologic formation capable of storing a substantial Ground Water supply.

(i) Integrated Producer – Any party that is both a Pumper and a Diverter, and has elected to have its rights adjudicated under the optional formula provided in Section 18 of this Judgment.

(j) In-Lieu Water Cost – The differential between a particular Producer's cost of Watermaster directed produced, treated, blended, substituted, or Supplemental Water delivered or substituted to, for, or taken by, such Producer in-lieu of his cost of otherwise normally Producing a like amount of Ground Water from the Basin. (Amended 1/29/91)

(k) Key Well – Baldwin Park Key Well, being elsewhere designated as State Well No. 1S/10W-7R2, or Los Angeles County Flood Control District Well No. 3030-F. Said well has a ground surface Elevation of 386.7.

(l) Long Beach Case – Los Angeles Superior Court Civil Action No. 722647, entitled, "Long Beach, et al., v. San Gabriel Valley Water Company, et al."

(m) Main San Gabriel Basin or Basin – The Ground Water Basin underlying the area shown as such on Exhibit "A".

(n) Make-Up Obligation – The total cost of meeting the obligation of the Basin to the area at or below Whittier Narrows, pursuant to the Judgment in the Long Beach Case.

(o) Minimal Producer – Any party whose Production in any Fiscal Year does not exceed five (5) acre-feet. (Prior to June 21, 2012)

(p) Natural Safe Yield – The quantity of natural water supply which can be extracted annually from the Basin under conditions of long term average annual supply, net of the requirement to meet downstream rights as determined in the Long Beach Case (exclusive of Pumped export), and under cultural conditions as of a particular year.

(q) Operating Safe Yield – The quantity of water which the Watermaster determines hereunder may be Pumped from the Basin in a particular Fiscal Year, free of the Replacement Water Assessment under the Physical Solution herein.

(r) Overdraft – A condition wherein the total annual Production from the Basin exceeds the Natural Safe Yield thereof.

(s) Overlying Rights – (Prior Judgment Section 4(r)[1]) The right to Produce water from the Basin for use on Overlying Lands, which rights are exercisable only on specifically defined Overlying Lands and which cannot be separately conveyed or

transferred apart therefrom.

(t) Physical Solution – (Prior Judgment Section 4(s)) The Court decreed method of managing the waters of the Basin so as to achieve the maximum utilization of the Basin and its water supply, consistent with the rights herein declared.

(u) Prescriptive Pumping Right – (Prior Judgment Section 4(t)) The highest continuous extractions of water by a Pumper from the Basin for beneficial use in any five (5) consecutive years after commencement of Overdraft and prior to filing of this action, as to which there has been no cessation of use by that Pumper during any subsequent period of five (5) consecutive years, prior to the said filing of this action.

(v) Produce or Producing – (Prior Judgment Section 4(u)) To Pump or Divert Water.

(w) Producer – (Prior Judgment Section 4(v)) A party who Produces water.

(x) Production – (Prior Judgment Section 4(w)) The annual quantity of water Produced, stated in acre feet.

(y) Pump or Pumping – (Prior Judgment Section 4(x)) To extract Ground Water from the Basin by Pumping or any other method.

(z) Pumper – (Prior Judgment Section 4(y)) Any party who Pumps water.

(aa) Pumper's Share – (Prior Judgment Section 4(z)) A Pumper's right to a percentage of the entire Natural Safe Yield, Operating Safe Yield and appurtenant Ground Water storage.

(bb) Relevant Watershed – (Prior Judgment Section 4(aa)) That portion of the San Gabriel River watershed tributary to Whittier Narrows which is shown as such on Exhibit "A", and the exterior boundaries of which are described in Exhibit "B".

(cc) Replacement Water – (Prior Judgment Section 4(bb)) Water purchased by Watermaster to replace: (1) Production in excess of a Pumper's Share of Operating Safe Yield; (2) The consumptive use portion resulting from the exercise of an Overlying Right; and (3) Production in excess of a Diverter's right to Divert for Direct Use.

(dd) Responsible Agency – (Prior Judgment Section 4(cc)) The municipal water

district which is the normal and appropriate source from whom Watermaster shall purchase Supplemental Water for replacement purposes under the Physical Solution, being one of the following:

(1) Upper District – Upper San Gabriel Valley Municipal Water District, a member public agency of the Metropolitan Water District of Southern California (MWD).

(2) San Gabriel District – San Gabriel Valley Municipal Water District, which has a direct contract with the State of California for State Project Water.

(3) Three Valleys District – Three Valleys Municipal Water District, formerly, "Pomona Valley Municipal Water District", a member public agency of MWD.

(ee) Stored Water – (Prior Judgment Section 4(dd)) Supplemental Water stored in the Basin pursuant to a contract with Watermaster as authorized by Section 34(n).

(ff) Supplemental Water – (Prior Judgment Section 4(ee)) Nontributary water imported through a Responsible Agency and reclaimed water or water obtained from other available sources when water is not available in a timely fashion from a Responsible Agency. (Amended 6/21/12)

(gg) Transporting Parties – (Prior Judgment Section 4(ff)) Any party presently transporting water (i.e., during the 12 months immediately preceding the making of the findings herein) from the Relevant Watershed or Basin to an area outside thereof, and any party presently or hereafter having an interest in lands or having a service area outside the Basin or Relevant Watershed contiguous to lands in which it has an interest or a service area within the Basin or Relevant Watershed. Division by a road, highway, or easement shall not interrupt contiguity. Said term shall also include the City of Sierra Madre, or any party supplying water thereto, so long as the corporate limits of said City are included within one of the Responsible Agencies and if said City, in order to supply water to its corporate area from the Basin, becomes a party to this action bound by this Judgment.

(hh) Water Level – (Prior Judgment Section 4(gg)) The measured Elevation of water in the Key Well, corrected for any temporary effects of mounding caused by replenishment or local depressions caused by Pumping.

(ii) Year – (Prior Judgment Section 4(hh)) A calendar year, unless the context clearly indicates a contrary meaning.

(jj) Reclaimed Water – Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. (Amended 4/2/91)

11. Exhibits. (Prior Judgment Section 5) The following exhibits are attached to this Judgment and incorporated herein by this reference:

Exhibit "A" – Map entitled, "San Gabriel River Watershed Tributary to Whittier Narrows", showing the boundaries and relevant geologic and hydrologic features in the portion of the watershed of the San Gabriel River lying upstream from Whittier Narrows.

Exhibit "B" – Boundaries of Relevant Watershed.

Exhibit "C" – Table Showing Base Annual Diversion Rights of Certain Diverters.

Exhibit "D" – Table Showing Prescriptive Pumping Rights and Pumper's Share of Each Pumper.

Exhibit "E" – Table Showing Production Rights of Each Integrated Producer.

Exhibit "F" – Table Showing Special Category Rights.

Exhibit "G" – Table Showing Non-consumptive Users.

Exhibit "H" – Watermaster Operating Criteria.

Exhibit "J" – Puente Narrows Agreement.

Exhibit "K" – Overlying Rights, Nature of Overlying Right, Description of Overlying Lands to which Overlying Rights are Appurtenant, Producers Entitled to Exercise Overlying Rights and their Respective Consumptive Use Portions, and Map of Overlying Lands.

Exhibit "L" – (New) List of Producers And Their Designees, as of June 2012.

Exhibit "M" – (New) Watermaster Members, Officers and Staff, Including

Calendar Year 2012.

II. DECREE

NOW, THEREFORE, IT IS HEREBY DECLARED, ORDERED, ADJUDGED AND DECREED:

A. DECLARATION OF HYDROLOGIC CONDITIONS

12. Basin as Common Source of Supply. (Prior Judgment Section 6) The area shown on Exhibit "A" as Main San Gabriel Basin overlies a Ground Water basin. The Relevant Watershed is the watershed area within which rights are herein adjudicated. The waters of the Basin and Relevant Watershed constitute a common source of natural water supply to the parties herein.

13. Determination of Natural Safe Yield. (Prior Judgment Section 7) The Natural Safe Yield of the Main San Gabriel Basin is found and declared to be one hundred fifty-two thousand seven-hundred (152,700) acre-feet under Calendar Year 1967 cultural conditions.

14. Existence of Overdraft. (Prior Judgment Section 8) In each and every Calendar year commencing with 1953, the Basin has been and is in Overdraft.

B. DECLARATION OF RIGHTS

15. Prescription. (Prior Judgment Section 9) The use of water by each and all parties and their predecessors in interest has an open, notorious, hostile, adverse, under claim of right, and with notice of said overdraft continuously from January 1, 1953 to January 4, 1973. The rights of each party herein declared are prescriptive in nature. The following aggregate consequences of said prescription within the Basin and Relevant Watershed are hereby declared:

(a) Prior Prescription. Diversions within the Relevant Watershed have created rights for direct consumptive use within the Basin, as declared and determined in Sections 16 and 18 hereof, which are of equal priority inter se, but which are prior and paramount to Pumping Rights in the Basin.

(b) Mutual Prescription. The aggregate Prescriptive Pumping Rights of the parties who are Pumpers now exceed, and for many years prior to filing of this action, have exceeded, the Natural Safe Yield of the Basin. By reason of said condition, all

rights of said Pumpers are declared to be mutually prescriptive and of equal priority, inter se.

(c) Common Ownership of Safe Yield and Incidents Thereto. By reason of said Overdraft and mutual Prescription, the entire Natural Safe Yield of the Basin, the Operating Safe Yield thereof and the appurtenant rights to Ground Water storage capacity of the Basin are owned by Pumpers in undivided Pumpers' Shares as hereinafter individually declared, subject to the control of Watermaster, pursuant to the Physical Solution herein decreed. Nothing herein shall be deemed in derogation of the rights to spread water pursuant to rights set forth in Exhibit "G".

16. Surface Rights. (Prior Judgment Section 10) Certain of the aforesaid prior and paramount prescriptive water rights of Diverters to Divert for Direct Use stream flow within the Relevant Watershed are hereby declared and found in terms of Base Annual Diversion Right as set forth in Exhibit "C". Each Diverter shown on Exhibit "C" shall be entitled to Divert for Direct Use up to two hundred percent (200%) of said Base Annual Diversion Right in any one (1) Fiscal Year; provided that the aggregate quantities of water Diverted in any consecutive ten (10) Fiscal Year period shall not exceed ten (10) times such Diverter's Base Annual Diversion Right.

17. Ground Water Rights. (Prior Judgment Section 11) The Prescriptive Pumping Right of each Pumper, who is not an Integrated Producer, and his Pumper's Share are declared as set forth in Exhibit "D".

18. Optional Integrated Production Rights. (Prior Judgment Section 12) Those parties listed on Exhibit "E" have elected to be treated as Integrated Producers. Integrated Production Rights have two (2) historical components:

(1) a fixed component based upon historic Diversions for Direct Use; and

(2) a mutually prescriptive Pumper's Share component based upon Pumping during the period 1953 through 1967.

Assessment and other Watermaster regulation of the rights of such parties shall relate to and be based upon each such component. So far as future exercise of such rights is concerned,

however, the gross quantity of the aggregate right in any Fiscal Year may be exercised, in the sole discretion of such party, by either Diversion or Pumping or any combination or apportionment thereof; provided, that for Assessment purposes the first water Produced in any Fiscal Year (other than "Carry-over", under Section 49 hereof) shall be deemed an exercise of the Diversion Component, and any Production over said quantity shall be deemed Pumped water, regardless of the actual method of Production.

19. Special Category Rights. (Prior Judgment Section 13) The parties listed on Exhibit "F" have water rights in the Relevant Watershed which are not ordinary Production rights. The nature of each such right is as described in Exhibit "F".

20. Non-consumptive Practices. (Prior Judgment Section 14) Certain Producers have engaged in Water Diversion and spreading practices which have caused such Diversions to have a non-consumptive or beneficial impact upon the aggregate water supply available in the Basin. Said parties, and a statement of the nature of their rights, uses and practices, are set forth in Exhibit "G". The Physical Solution decreed herein, and particularly its provisions for Assessments, shall not apply to such non-consumptive uses. Watermaster may require reports on the operations of said parties.

21. Overlying Rights. (Prior Judgment Section 14.5) Producers listed in Exhibit "K" hereto were not parties herein at the time of the original entry of Judgment herein. They have exercised in good faith Overlying Rights to Produce water from the Basin during the periods subsequent to the entry of Judgment herein and have by self-help initiated or maintained appurtenant Overlying Rights. Such rights are exercisable without quantitative limit only on specifically described Overlying Land and cannot be separately conveyed or transferred apart therefrom. As to such rights and their exercise, the owners thereof shall become parties to this action and be subject to Watermaster Replacement Water assessments under Section 45(b) hereof, sufficient to purchase Replenishment Water to offset the net consumptive use of such Production and practices. In addition, the gross amount of such Production for such overlying use shall be subject to Watermaster Administration Assessments under Section 45(a) hereof and the consumptive use portion of such Production for overlying use shall be subject to

Watermaster's In-Lieu Water Cost Assessments under Section 45(d) hereof. The Producers presently entitled to exercise Overlying Rights, a description of the Overlying Land to which Overlying Rights are appurtenant, the nature of use and the consumptive use portion thereof are set forth in Exhibit "K" hereto. Watermaster may require reports and make inspections of the operations of said parties for purposes of verifying the uses set forth in said Exhibit "K", and, in the event of a material change, to redetermine the net amount of consumptive use by such parties as changed, in the exercise of such Overlying Rights.

Annually, during the first two (2) weeks of June in each calendar year, such Overlying Rights Producers shall submit to Watermaster a verified statement as to the nature of the then current uses of said Overlying Rights on said Overlying Lands for the next ensuing Fiscal Year, whereupon Watermaster shall either affirm the prior determination or redetermine the net amount of the consumptive use portion of the exercise of such Overlying Right by said Overlying Rights Producer.

C. INJUNCTION

22. Injunction Against Unauthorized Production. (Prior Judgment Section 15) Effective July 1, 1973, each and every party, its officers, agents, employees, successors and assigns, to whom rights to waters of the Basin or Relevant Watershed have been declared and decreed herein is **ENJOINED AND RESTRAINED** from Producing water for Direct Use from the Basin or the Relevant Watershed except pursuant to rights and Pumpers' Shares herein decreed or which may hereafter be acquired by transfer pursuant to Section 55, or under the provisions of the Physical Solution in this Judgment and the Court's continuing jurisdiction, provided that no party is enjoined from Producing up to five (5) acre feet per Fiscal Year.

23. Injunction re Non-consumptive Uses. (Prior Judgment Section 16) Each party listed in Exhibit "G", its officers, agents, employees, successors and assigns, is **ENJOINED AND RESTRAINED** from materially changing said non-consumptive method of use.

24. Injunction re Change in Overlying Use Without Notice Thereof to Watermaster. (Prior Judgment Section 16.5) Each party listed in Exhibit "K", its officers, agents, employees, successors and assigns, is **ENJOINED AND RESTRAINED** from materially changing said

overlying uses at any time without first notifying Watermaster of the intended change of use, in which event Watermaster shall promptly redetermine the consumptive use portion thereof to be effective after such change.

25. Injunction Against Unauthorized Recharge. (Prior Judgment Section 17) Each party, its officers, agents, employees, successors and assigns, is **ENJOINED AND RESTRAINED** from spreading, injecting or otherwise recharging water in the Basin except pursuant to: (a) an adjudicated non-consumptive use, or (b) consent and approval of or Cyclic Storage Agreement with Watermaster, or (c) subsequent order of this Court.

26. Injunction Against Transportation from Basin or Relevant Watershed. (Prior Judgment Section 18) Except upon further order of Court and except as provided in section 34(r) herein, all parties, other than Transporting Parties and MWD in its exercise of its Special Category Rights, to the extent authorized therein, are **ENJOINED AND RESTRAINED** from transporting water hereafter Produced from the Relevant Watershed or Basin outside the areas thereof. For purposes of this Section, water supplied through a city water system which lies chiefly within the Basin shall be deemed entirely used within the Basin. Transporting Parties are entitled to continue to transport water to the extent that any Production of water by any such party does not violate the injunctive revisions contained in Section 22 hereof; provided that said water shall be used within the present service areas or corporate or other boundaries and additions thereto so long as such additions are contiguous to the then existing service area or corporate or other boundaries; except that a maximum of ten percent (10%) of use in any Fiscal Year may be outside said then existing service areas or corporate or other boundaries. Notwithstanding the foregoing and without in any way changing or limiting the Transporting Parties' entitlement to transport water as set forth herein, any party may enter into an agreement with Watermaster to store Supplemental Water and export said stored Supplemental Water under specific terms and conditions approved by Watermaster. Such storage and export shall be subject to (1) a determination by Watermaster that no material injury to the Basin or parties will result therefrom; (2) execution of an agreement with Watermaster setting forth the terms and conditions upon which water may be stored in or exported from the Basin; and (3) compliance

with Watermaster Rules and Regulations respecting Basin storage and export. (Amended 6/21/12)

D. CONTINUING JURISDICTION

27. Jurisdiction Reserved. (Prior Judgment Section 19) Full jurisdiction, power and authority are retained by and reserved to the Court for purposes of enabling the Court upon application of any party or of the Watermaster, by motion and upon at least thirty (30) days notice thereof, and after hearing thereon, to make such further or supplemental orders or directions as may be necessary or appropriate for interim operation before the Physical Solution is fully operative, or for interpretation, enforcement or carrying out 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:

(1) modification or amendment of the quantities specified in the declared rights of any party;

(2) modification or amendment of the manner of exercise of the Base Annual Diversion Right or Integrated Production Right of any party; or

(3) the imposition of an injunction prohibiting transportation outside the Relevant Watershed or Basin as against any Transporting Party transporting in accordance with the provisions of this Judgment or against MWD as to its Special Category Rights.

E. WATERMASTER

28. Watermaster to Administer Judgment. (Prior Judgment Section 20) A Watermaster comprised of nine (9) persons, to be nominated as hereinafter provided and appointed by the Court, shall administer and enforce the provisions of this Judgment and any subsequent instructions or orders of the Court thereunder.

29. Qualification, Nomination and Appointment. (Prior Judgment Section 21) The nine (9) member Watermaster shall be composed of six (6) Producer representatives and three (3) public representatives qualified, nominated and appointed as follows:

(a) Qualification. Any adult citizen of the State of California shall be eligible to serve as Watermaster; provided, however, that no officer, director, employee or agent of Upper District or San Gabriel District shall be qualified as a Producer member of Watermaster.

(b) Nomination of Producer Representatives. A meeting of all parties shall be held at the regular meeting of Watermaster in November of each year, at the offices of Watermaster. Nomination of the six (6) Producer representatives shall be by cumulative voting, in person or by proxy, with each Producer entitled to one (1) vote for each one hundred (100) acre-feet, or portion thereof, of Base Annual Diversion Right or Prescriptive Pumping Right or Integrated Production Right.

(c) Nomination of Public Representatives. On or before the regular meeting of Watermaster in November of each year, the three (3) public representatives shall be nominated by the boards of directors of Upper District (which shall select two [2]) and San Gabriel District (which shall select one [1]). Said nominees shall be members of the board of directors of said public districts.

(d) Appointment. All Watermaster nominations shall be promptly certified to the Court, which will in ordinary course confirm the same by an appropriate order appointing said Watermaster; provided, however, that the Court at all times reserves the right and power to refuse to appoint, or to remove, any member of Watermaster. Notwithstanding section 27 herein, Watermaster nominations may be promptly certified by the Court upon 10 calendar days' notice thereof, plus the time prescribed by statute for service by mail, e-mail or other electronic means. (Amended 6/21/12)

30. Term and Vacancies. (Prior Judgment Section 22) Each member of Watermaster shall serve for a one (1) year term commencing on January 1, following his appointment, or until his successor is appointed. In the event of a vacancy on Watermaster, a successor shall be nominated at a special meeting to be called by Watermaster within ninety (90) days (in the case of a Producer representative) or by action of the appropriate district board of directors (in the case of a public representative).

31. Quorum. (Prior Judgment Section 23) Five (5) members of the Watermaster shall constitute a quorum for the transaction of affairs of the Watermaster. Action by the affirmative vote of five (5) members shall constitute action by Watermaster, except that the affirmative vote of six (6) members shall be required:

(a) to approve the purchase, spreading or injection of water for Ground Water recharge, or

(b) to enter in any Agreement pursuant to Section 34 (n) hereof.

32. Compensation. (Prior Judgment Section 24) Each Watermaster member shall receive compensation of One Hundred Dollars ($100.00) per day for each day's attendance at meetings of Watermaster or for each day's service rendered as a Watermaster member at the request of Watermaster, together with any expenses incurred in the performance of his duties required or authorized by Watermaster. No member of the Watermaster shall be employed by or compensated for professional services rendered by him to Watermaster, other than the compensation herein provided, and any authorized travel or related expense.

33. Organization. (Prior Judgment Section 25) At its first meeting in each year, Watermaster shall elect a chairman and a vice chairman from its membership. It shall also select a secretary, a treasurer and such assistant secretaries and assistant treasurers as may be appropriate, any of whom may, but need not be, members of Watermaster.

(a) Minutes. Minutes of all Watermaster meetings shall be kept, which shall reflect all actions taken by Watermaster. Draft copies thereof shall be furnished to any party who files a request therefor in writing with Watermaster. Said draft copies of minutes shall constitute notice of any Watermaster action therein reported; failure to request copies thereof shall constitute waiver of notice.

(b) Regular Meetings. Watermaster shall hold regular meetings at places and times to be specified in Watermaster's rules and regulations to be adopted by Watermaster. Notice of the scheduled or regular meetings of Watermaster and of any changes in the time or place thereof shall be mailed to all parties who shall have filed a request therefor in writing with Watermaster.

(c) Special Meetings. Special meetings of Watermaster may be called at any time by the chairman or vice chairman or by any three (3) members of Watermaster by written notice delivered personally or mailed to each member of Watermaster and to each party requesting notice, at least twenty-four (24) hours before the time of each such meeting in the case of personal delivery, and forty-eight (48) hours prior to such meeting in the case of mail. The calling notice shall specify the time and place of the special meeting and the business to be transacted at such meeting. No other business shall be considered at such meeting.

(d) Adjournments. Any meeting of Watermaster may be adjourned to a time and place specified in the order of adjournment. Less than a quorum may so adjourn from time to time. A copy of the order or notice of adjournment shall be conspicuously posted on or near the door of the place where the meeting was held within twenty-four (24) hours after adoption of the order of adjournment.

34. Powers and Duties. (Prior Judgment Section 26) Subject to the continuing supervision and control of the Court, 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.

(a) Rules and Regulations. To make and adopt any and all appropriate rules and regulations for conduct of Watermaster affairs. A copy of said rules and regulations and any amendments thereof shall be mailed to all parties.

(b) Acquisition of Facilities. To purchase, own, lease, acquire and hold, as trustee for the benefit of the Parties, all necessary personal property and equipment, and such limited real property such as office quarters, monitoring wells, the key well, and other facilities necessary to fulfill Watermaster's basin management responsibilities under this Judgment. (Amended 6/21/12)

(c) Employment of Experts and Agents. To employ such administrative personnel, engineering, geologic, accounting, legal, public policy education or other

specialized services (but not including registered lobbyists) and consulting assistants as may be deemed appropriate in the carrying out of its powers and to require appropriate bonds from all officers and employees handling Watermaster funds. (Amended 6/21/12)

(d) Measuring Devices, etc. To cause parties, pursuant to uniform rules, to install and maintain in good operating condition, at the cost of each party, such necessary measuring devices or meters as may be appropriate; and to inspect and test any such measuring device as may be necessary.

(e) Assessments. To levy and collect all Assessments specified in the Physical Solution.

(f) Investment of Funds. To hold and invest any and all funds which Watermaster may possess in investments authorized from time to time for public agencies in the State of California.

(g) Borrowing. To borrow in anticipation of receipt of Assessment proceeds an amount not to exceed the annual amount of Assessments levied but uncollected, or in accordance with the provisions of Sections 45 and 46 hereto. Upon approval by the Watermaster at its regularly scheduled public meeting, when necessary to secure Supplemental Water, Watermaster may borrow funds in excess of the annual amount of Assessments levied but uncollected. Prior to borrowing funds, Watermaster shall meet and confer with Responsible Agencies and seek their input. Watermaster shall adopt Rules and Regulations specifying: (i) how debt repayment will be allocated among the Parties; (ii) that Watermaster obtain prior approval of the Court before incurring debt that exceeds the total of one year's levied Assessments; and (iii) such other matters as Watermaster deems appropriate for Rules and Regulations respecting the purchase of Supplemental Water using debt. (Amended 6/21/12)

(h) Purchase of and Recharge with Supplemental Water. To purchase Supplemental Water and to introduce the same into the Basin, including Reclaimed Water, for replenishment, Replacement Water, and cyclic storage purposes in the Basin subject to the affirmative vote of six (6) members of Watermaster, provided, the

California Department of Public Health and the Los Angeles Regional Water Quality Control Board have approved such Reclaimed Water for said uses, Watermaster has given prior notice to all parties of its intention to use said Reclaimed Water for such purposes, held noticed hearings thereon, and approves such uses. Reclaimed Water used by Watermaster as Supplemental Water for said purposes shall not be a violation of Sections 3(b) or 3(c) of Exhibit "H" hereto. (Amended 4/2/91 and 6/21/12)

(i) Contracts. To enter into contracts for the performance of any administrative powers herein granted, subject to approval of the Court.

(j) Cooperation with Existing Agencies. To act jointly or cooperate with agencies of the United States and the State of California or any political subdivision, municipality or district to the end that the purposes of the Physical Solution may be fully and economically carried out. (Amended 6/21/12)

(k) Assumption of Make-Up Obligation. Watermaster shall assume the Make-Up Obligation for and on behalf of the Basin.

(m) Water Quality. Water quality in the Basin shall be a concern of Watermaster, and all reasonable steps shall be taken to assist and encourage appropriate regulatory agencies to enforce reasonable water quality regulations affecting the Basin, including regulation of solid and liquid waste disposal.

(n) Cyclic Storage Agreements. To enter into appropriate contracts, to be approved by the Court, for utilization of Ground Water storage capacity of the Basin for cyclic or regulatory storage of Supplemental Water by parties and non-parties, for subsequent recovery or Watermaster credit by the storing entity, pursuant to uniform rules and conditions, which shall include provision for:

(1) Watermaster control of all spreading or injection and extraction scheduling and procedures for such stored water;

(2) calculation by Watermaster of any special costs, damages or burdens resulting from such operations;

(3) determination by Watermaster of, and accounting for, all losses in

stored water, assuming that such stored water floats on top of the Ground Water supplies, and accounting for all losses of water which otherwise would have replenished the Basin, with priorities being established as between two or more such contractors giving preference to parties over non-parties; and

(4) payment to Watermaster for the benefit of the parties hereto of all special costs, damages or burdens incurred (without any charge, rent, assessment or expense as to parties hereto by reason of the adjudicated proprietary character of said storage rights, nor credit or offset for benefits resulting from such storage); provided, that no party shall have any direct interest in or control over such contracts or the operation thereof by reason of the adjudicated right of such party, the Watermaster having sole custody and control of all Ground Water storage rights in the Basin pursuant to the Physical Solution herein, and subject to review of the Court.

(o) Notice List. Maintain a current list of party designees to receive notice hereunder, in accordance with Section 54 hereof.

(p) Authority to Sue. To prosecute litigation, engage in dispute resolution and file amicus curiae briefs in the furtherance of Watermaster's responsibilities under this Judgment. (Amended 6/21/12)

(q) Public Policy Education. To perform public policy education activities in furtherance of Watermaster's responsibilities under this Judgment. (Amended 6/21/12)

(r) Export Agreements. Watermaster may fix terms and conditions under which parties and non-parties may store Supplemental Water in and export said stored Supplemental Water from the Basin. (Amended 6/21/12)

35. Policy Decisions – Procedure. (Prior Judgment Section 27) It is contemplated that Watermaster will exercise discretion in making policy decisions relating to Basin management under the Physical Solution decreed herein. In order to assure full participation and opportunity to be heard for those affected, no policy decision shall be made by Watermaster until thirty (30) days after the question involved has been raised for discussion at a Watermaster

meeting and noted in the draft of minutes thereof.

36. Reports. (Prior Judgment Section 28) Watermaster shall annually file with the Court and mail to the parties a report of all Watermaster activities during the preceding year, including an audited statement of all accounts and financial activities of Watermaster, summary reports of Diversions and Pumping, and all other pertinent information. To the extent practical, said report shall be mailed to all parties on or before November 1. The tables set forth in Exhibits C, D, E, K, L and M are listed for reference purposes only. Future updates to those exhibits shall be set forth in the Watermaster annual report. In lieu of mailing the annual report, Watermaster in its discretion may post the report on its website, mail or e-mail a notice of availability to the parties, and/or provide a hard copy of the report upon request. If a party does not have a valid e-mail address or internet access, that party shall identify an alternative method of service to be approved by Watermaster in its sole discretion. (Amended 6/21/12)

37. Review Procedures. (Prior Judgment Section 29) Any action, decision, rule or procedure of Watermaster (other than a decision establishing Operating Safe Yield, see Section 43(c)) shall be subject to review by the Court on its own motion or on timely motion for an Order to Show Cause by any party, as follows:

(a) Effective Date of Watermaster Action. Any order, decision or action of Watermaster shall be deemed to have occurred on the date that written notice thereof is mailed. Mailing of draft copies of Watermaster minutes to the parties requesting the same shall constitute notice to all such parties.

(b) Notice of Motion. Any party may, by a regularly noticed motion, petition the Court for review of said Watermaster's action or decision. Notice of such motion shall be mailed to Watermaster and all parties. Unless so ordered by the Court, such petition shall not operate to stay the effect of such Watermaster action.

(c) Time for Motion. Notice of motion to review any Watermaster action or decision shall be served and filed within ninety (90) days after such Watermaster action or decision.

(d) De Novo Nature of Proceeding. Upon filing of such motion for hearing, the

Court shall notify the parties of a date for taking evidence and argument, and shall review de novo the question at issue on the date designated. The Watermaster decision or action shall have no evidentiary weight in such proceeding.

(e) Decision. The decision of the Court in such proceeding shall be an appealable Supplemental Order in this case. When the same is final, it shall be binding upon the Watermaster and the parties.

F. PHYSICAL SOLUTION

38. Purpose and Objective. (Prior Judgment Section 30) Consistent with the California Constitution and the decisions of the Supreme Court, the Court hereby adopts and Orders the parties to comply with this Physical Solution. The purpose and objective of these provisions is to provide a legal and practical means for accomplishing the most economic, long term, conjunctive utilization of surface, Ground Water, Supplemental Water and Ground Water storage capacity to meet the needs and requirements of the water users dependent upon the Basin and Relevant Watershed, while preserving existing equities.

39. Need for Flexibility. (Prior Judgment Section 31) In order that Watermaster may be free to utilize both existing and new and developing technological, social and economic concepts for the fullest benefit of all those dependent upon the Basin, it is essential that the Physical Solution hereunder provide for maximum flexibility and adaptability. To that end, the Court has retained continuing jurisdiction to supplement the broad discretion herein granted to the Watermaster.

40. Watermaster Control. (Prior Judgment Section 32) In order to develop an adequate and effective program of Basin management, it is essential that Watermaster have broad discretion in the making of Basin management decisions within the ambit hereinafter set forth. The maintenance, improvement, and control of the water quality and quantity of the Basin, withdrawal and replenishment of supplies of the Basin and Relevant Watershed, and the utilization of the water resources thereof, must be subject to procedures established by Watermaster in implementation of the provisions of this Judgment. Both the quantity and quality of said water resource are thereby preserved and its beneficial utilization maximized.

(Amended 1/29/91)

(a) Watermaster shall develop an adequate and effective program of Basin management. The maintenance, improvement, and control of the water quality and quantity of the Basin, withdrawal and replenishment of supplies of the Basin and Relevant Watershed, and the utilization of the water resources thereof, must be subject to procedures established by Watermaster in implementation of the Physical Solution provisions of this Judgment. All Watermaster programs and procedures shall be adopted only after a duly noticed public hearing pursuant to Section 37 and 40 of the Amended Judgment herein. (Amended 1/29/91)

(b) Watermaster shall have the power to control pumping in the Basin by water Producers therein for Basin cleanup and water quality control so that specific well production can be directed as to a lesser amount, to total cessation, as to an increased amount, and even to require pumping in a new location in the Basin. Watermaster's right to regulate pumping activities of Producers shall be subordinate to any conflicting Basin cleanup plan established by the EPA or other public governmental agency with responsibility for ground water management or clean up, whether existing at the time of this Judgment or subsequent hereto. (Amended 2/24/92)

(c) Watermaster may act individually or participate with others to carry on technical and other necessary investigations of all kinds and collect data necessary to carry out the herein stated purposes. It may engage in contractual relations with the EPA or other agencies in furtherance of the clean up of the Basin and enter into contracts with agencies of the United States, the State of California, or any political subdivision, municipality, or district thereof, to the extent allowed under the applicable federal or state statutes. Any cooperative agreement between the Watermaster and EPA shall require the approval of the appropriate Agency(s) of the State of California. (Amended 1/29/91)

(d) For the regulation and control of pumping activity in the Basin, Watermaster shall adopt Rules and Regulations and programs to promote, manage and accomplish

clean up of the Basin and its waters, including, but not limited to, measures to confine, move, and remove contaminants and pollutants. Such Rules and Regulations and programs shall be adopted only after a duly Noticed Public Hearing by Watermaster and shall be subject to Court review pursuant to Section 37 of the Amended Judgment herein. (Amended 1/29/91)

(e) Watermaster shall determine whether funds from local, regional, state or federal agencies are available for regulating pumping and the various costs associated with, or arising from such activities. If no public funds are available from local, regional, state, or federal agencies, the costs shall be obtained and paid by way of an In-Lieu Assessment by Watermaster pursuant to Section 10(j) of the Amended Judgment herein. Provided such In-Lieu Assessments become necessary, the costs shall be borne by all Basin Producers. (Amended 1/29/91)

(f) Watermaster is a Court empowered entity with limited powers, created pursuant to the Court's Physical Solution Jurisdiction under Article X, Section 2 of the California Constitution. None of the powers granted herein to Watermaster shall be construed as designating Watermaster a political subdivision of the State of California or authorizing Watermaster to act as "lead agency" to administer the federal Superfund for clean up of the Basin. (Amended 1/29/91)

41. General Pattern of Contemplated Operations. (Prior Judgment Section 33) In general outline (subject to the specific provisions hereafter and to Watermaster Operating Criteria set forth in Exhibit "H"), Watermaster will determine annually the Operating Safe Yield of the Basin and will notify each Pumper of his share thereof, stated in acre feet per Fiscal Year. Thereafter, no party may Produce in any Fiscal Year an amount in excess of the sum of his Diversion Right, if any, plus his Pumper's Share of such Operating Safe Yield, or his Integrated Production Right, or the terms of any Cyclic Storage Agreement, without being subject to Assessment for the purpose of purchasing Replacement Water. In establishing the Operating Safe Yield, Watermaster shall follow all physical, economic, and other relevant parameters provided in the Watermaster Operating Criteria. Watermaster shall have Assessment powers to

raise funds essential to implement the management plan in any of the several special circumstances herein described in more detail.

42. Basin Operating Criteria. (Prior Judgment Section 34) Until further order of the Court, Watermaster shall recharge Replacement Water in accordance with the Watermaster Operating Criteria and, insofar as practicable, to maintain the water level at the Key Well above Elevation two hundred (200). (Amended 6/21/12)

43. Determination of Operating Safe Yield. (Prior Judgment Section 35) Watermaster shall annually determine the Operating Safe Yield applicable to the succeeding Fiscal Year and estimate the same for the next succeeding four (4) Fiscal Years. In making such determination, Watermaster shall be governed in the exercise of its discretion by the Watermaster Operating Criteria. The procedures with reference to said determination shall be as follows:

(a) Preliminary Determination. On or before Watermaster's first meeting in April of each year, Watermaster shall make a Preliminary Determination of the Operating Safe Yield of the Basin for each of the succeeding five Fiscal Years. Said determination shall be made in the form of a report containing a summary statement of the considerations, calculations and factors used by Watermaster in arriving at said Operating Safe Yield.

(b) Notice and Hearing. A copy of said Preliminary Determination and report shall be mailed to each Pumper and Integrated Producer at least ten (10) days prior to a hearing to be held at Watermaster's regular meeting in May, of each year, at which time objections or suggested corrections or modifications of said determinations shall be considered. Said hearing shall be held pursuant to procedures adopted by Watermaster.

(c) Watermaster Determination and Review Thereof. Within thirty (30) days after completion of said hearing, Watermaster shall mail to each Pumper and Integrated Producer a final report and determination of said Operating Safe Yield for each such Fiscal Year, together with a statement of the Producer's entitlement in each such Fiscal Year stated in acre-feet. Any affected party, within thirty (30) days of mailing of notice

of said Watermaster determination, may, by a regularly noticed motion, petition the Court for an Order to Show Cause for review of said Watermaster finding, and thereupon the Court shall hear such objections and settle such dispute. Unless so ordered by the Court, such petition shall not operate to stay the effect of said report and determination. In the absence of such review proceedings, the Watermaster determination shall be final.

44. Reports of Pumping and Diversion. (Prior Judgment Section 36) Each party shall file with the Watermaster quarterly, on or before the last day of January, April, July and October, a report on a form to be prescribed by Watermaster showing the total Pumping and Diversion (separately for Direct Use and for non-consumptive use, if any) of such party during the preceding calendar quarter.

45. Assessments – Purpose. (Prior Judgment Section 37)

(a) Statement of Authority and Need for Flexibility: Watermaster shall have the power to levy and collect Assessments from the parties (other than non-consumptive users, or Production under Special Category Rights or Cyclic Storage Agreements) based upon Production during the preceding Fiscal Year. Assessments on Minimal Producers will apply only to (1) existing parties who become Minimal Producers in the future; and (2) Minimal Producers who intervene after June 21, 2012. Because Supplemental Water may not be available for extended periods of time, Watermaster requires flexibility with respect to the procedures for purchasing Supplemental Water supplies, as and when those supplies become available. This Judgment is a Physical Solution entered pursuant to California Constitution Article X, Section 2, which recognizes that the timing and amount of Watermaster Assessments for Replacement Water costs must be determined in light of this uncertainty. This Judgment therefore grants Watermaster the flexibility and discretion necessary to purchase and pre-purchase Supplemental Water and levy assessments in an appropriate and equitable manner and amount to maximize the opportunities to secure necessary Supplemental Waters in the best interest of the parties and the long-term sustainability of the Basin. In accordance with Rules and Regulations adopted by Watermaster, to further enhance flexibility, Watermaster may borrow money

from any available fund maintained by it for purposes other than Replacement Water purchases, or use accrued funds, to purchase Supplemental Water. (Amended 6/21/12)

(b) Authorized Assessments: Said Assessments may be for one or more of the following purposes:

(1) Watermaster Administration Costs. (Former Section 45(a)) Within thirty (30) days after completion of the hearing on the Preliminary Determination of the Operating Safe Yield of the Basin and Watermaster's determination thereof, pursuant to Section 43 hereof, Watermaster shall adopt a proposed budget for the succeeding Fiscal Year and shall mail a copy thereof to each party, together with a statement of the level of Administration Assessment levied by Watermaster which will be collected for purposes of raising funds for said budget. Said Assessment shall be uniformly applicable to each acre-foot of Production. (Amended 6/21/12)

(2) Replacement Water Costs. (Former Section 45(b)) Replacement Water Assessments shall be collected from each party on account of such party's Production in excess of its Diversion Rights, Pumper's Share or Integrated Production Right, and on account of the consumptive use portion of Overlying Rights, computed at the applicable rate established by Watermaster consistent with the Watermaster Operating Criteria, and other relevant factors, including the projected cost and availability of Supplemental Water supplies. Subject to Rules and Regulations adopted by Watermaster, Watermaster Replacement Water Assessment rates may be in an amount calculated to allow Watermaster to purchase more than one acre-foot of Supplemental Water for each acre-foot of excess Production to which such Assessment applies, when such purchases are necessary to secure Supplemental Water supplies for the benefit of the Basin and parties. (Amended 6/21/12)

(3) Make-Up Obligation. (Former Section 45(c)) An Assessment shall be collected equally on account of each acre-foot of Production, which does not

bear a Replacement Assessment hereunder, to pay all necessary costs of Administration and satisfaction of the Make-Up Obligation. Such Assessment shall not be applicable to water Production for an Overlying Right.

(4) In-Lieu Water Cost. (Former Section 45(d)) Watermaster may levy an Assessment against all Pumping to pay reimbursement for In-Lieu Water Costs except that such Assessment shall not be applicable to the non-consumptive use portion of an Overlying Right.

(5) Basin Water Quality Improvement. (Former Section 45(e)) For purposes of testing, protecting or improving the water quality in the Basin, Watermaster may, after a noticed hearing thereon, fix terms and conditions under which it may waive all or any part of its Assessments on such ground water Production and if such Production, in addition to his other Production, does not exceed such Producer's Share or entitlement for that Fiscal Year, such stated Production shall be allowed to be carried over for a part of such Producer's next Fiscal Year's Producer's Share or entitlement. In connection therewith, Watermaster may also waive the provisions of Section 25, 26 and 57 hereof, relating to Injunction Against Unauthorized Recharge, Injunction Against Transportation From Basin or Relevant Watershed, and Intervention After Judgment, respectively. Nothing in this Judgment is intended to allow an increase in any Producer's annual entitlement nor to prevent Watermaster, after hearing thereon, from entering into contracts to encourage, assist and accomplish the clean up and improvement of degraded water quality in the Basin by non-parties herein. Such contracts may include the exemption of the Production of such Basin water therefor from Watermaster Assessments and, in connection therewith, the waiver of the provisions of Judgment Sections 25, 26, and 57 hereof.

(6) Export and Storage. Watermaster shall levy an assessment to account for costs, burdens or losses incurred in connection with such exported or stored

water, including a fee for storage administration. Such storage or export shall be subject to (1) a determination by Watermaster that no material injury to the Basin or parties will result therefrom; (2) execution of an agreement with Watermaster setting forth the terms and conditions upon which water may be stored in or exported from the Basin; and (3) compliance with Watermaster Rules and Regulations respecting Basin storage and export. (Amended 6/21/12)

(7) Water Resource Development Assessment. Watermaster may levy an Assessment on all Pumping, as determined through Rules and Regulations to be adopted by the Watermaster, to support the purchase, financing, and/or development of new or additional Supplemental Water sources, in cooperation with one or more Responsible Agencies as appropriate. (Amended 6/21/12)

46. Assessments – Procedure. (Prior Judgment Section 38) Assessments herein provided for shall be levied and collected as follows:

(a) Levy and Notice of Assessment. Within thirty (30) days of Watermaster's annual determination of Operating Safe Yield of the Basin for each Fiscal Year and succeeding four (4) Fiscal Years, and at such other time[s] of the year as determined by Watermaster, Watermaster shall levy applicable Administration Assessments, Replacement Water Assessments, Make-Up Water Assessments, In-Lieu Water Assessments, and Water Resource Development Assessments, if any. Watermaster shall give written notice of all applicable Assessments to each party on or before August 15, of each year, and at such other time[s] as determined by Watermaster. To provide flexibility and maximize the opportunity to secure Replacement Water supplies when available, in accordance with criteria set forth in the Watermaster Rules and Regulations, Watermaster may levy supplemental assessments as necessary to create sufficient funds to purchase and pre-purchase such Replacement Water supplies for the benefit of the Basin and parties. (Amended 6/21/12)

(b) Payment. Each Assessment shall be payable, and each party is Ordered to pay the same, on or before September 20, following such Assessment, subject to the

rights reserved in Section 37 hereof.

(c) Delinquency. Any Assessment which becomes delinquent after January 1, 1980, shall bear interest at the annual prime rate plus one percent (1%) in effect on the first business day of August of each year. Said prime interest rate shall be that fixed by the Bank of America NT&SA for its preferred borrowing customers on said date. Said prime interest rate plus one percent (1%) shall be applicable to any said delinquent Assessment from the due date thereof until paid. Provided, however, in no event shall any said delinquent Assessment bear interest at a rate of less than ten percent (10%) per annum. Such delinquent Assessment and interest may be collected in a Show Cause proceeding herein or any other legal proceeding instituted by Watermaster, and in such proceeding the Court may allow Watermaster its reasonable costs of collection, including attorney's fees.

47. Availability of Supplemental Water from Responsible Agencies. (Prior Judgment Section 39) If any Responsible Agency shall, for any reason, be unable to deliver Supplemental Water to Watermaster in a timely fashion when needed, Watermaster may (1) collect funds at an appropriate level and hold them in trust, together with interest accrued thereon, for purchase of such water when available; (2) purchase water from the remaining Responsible Agencies which are the most beneficial and appropriate sources observing all legal and contractual constraints on the availability of such water; or (3) purchase Supplemental Water from any other available source. Watermaster shall consult with the Responsible Agencies involved and in good faith shall determine the appropriate source of Supplemental Water under such circumstances. Should Watermaster arrange to purchase Supplemental Water from a source not involving a Responsible Agency, Watermaster shall provide the Responsible Agencies an opportunity to provide said Supplemental Water or comparable water supplies on comparable terms. (Amended 6/21/12)

48. Accumulation of Replacement Water Assessment Proceeds. (Prior Judgment Section 40) In order to minimize fluctuation in Assessments and to give Watermaster flexibility in Basin management, Watermaster may make reasonable accumulations of Replacement Water

Assessments. Such moneys and any interest accrued thereon shall only be used for the purchase of Replacement Water.

49. Carry-over of Unused Rights. (Prior Judgment Section 41) Any Pumper's Share of Operating Safe Yield, and the Production right of any Integrated Producer, which is not Produced in a given Fiscal Year may be carried over and accumulated for one Fiscal Year, pursuant to reasonable rules and procedures for notice and accounting which shall be adopted by Watermaster. The first water Produced in the succeeding Fiscal Year shall be deemed Produced pursuant to such Carry-over Rights.

50. Minimal Producers. (Prior Judgment Section 42) In the interest of Justice, Minimal Producers who initiated production on or before June 21, 2012, are exempted from the operation of this Physical Solution, so long as such party's annual Production does not exceed five (5) acre-feet. Watermaster may require, and Minimal Producers shall furnish, specific periodic reports. In addition, Watermaster may conduct such investigation of future operations of any Minimal Producer as may be appropriate. As of June 21, 2012, there shall be no new Minimal Producers, and any new Producer shall be subject to all provisions of the Judgment. (Amended 6/21/12)

51. Effective Date. (Prior Judgment Section 43) The effective date for commencing accounting and operation under this Physical Solution, other than for Replacement Water Assessments, shall be July 1, 1972. The first Assessment for Replacement Water shall be payable on September 20, 1974, on account of Fiscal Year 1973-74 Production.

G. MISCELLANEOUS PROVISIONS

52. Puente Narrows Flow. (Prior Judgment Section 44) The Puente Basin is tributary to the Main San Gabriel Basin. All Producers within said Puente Basin have been dismissed herein, based upon the Puente Narrows Agreement (Exhibit "J"), whereby Puente Basin Water Agency agreed not to interfere with surface inflow and to assure continuance of historic subsurface contribution of water to Main San Gabriel Basin. The Court declares said Agreement to be reasonable and fair and in full satisfaction of claims by Main San Gabriel Basin for natural water from Puente Basin.

53. Deleted Section (Amended 6/21/12)

54. Service Upon and Delivery to Parties of Various Papers. (Prior Judgment Section 46) Service of the Judgment on those parties who have executed the Stipulation for Judgment shall be made by first class mail, postage prepaid, addressed to the Designee and at the address designated for that purpose in the executed and filed counterpart of the Stipulation for Judgment, or in any substitute designation filed with the Court.

Each party who has not heretofore made such a designation shall, within thirty (30) days after the Judgment shall have been served upon that party, file with the Court, with proof of service of a copy thereof upon Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that party or delivered to that party are to be so served or delivered.

A later substitute designation filed and served in the same manner by any party shall be effective from the date of filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that party.

Delivery to or service upon any party by Watermaster, by any other party, or by the Court, of any item required to be served upon or delivered to a party under or pursuant to the Judgment may be 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. In lieu of mailing any item required to be served under this Judgment, Watermaster may serve such item by electronic service, which may include posting the document to Watermaster's website, sending an e-mail of the document to that party, or sending a notice of availability to that party indicating the document's availability for viewing on the Watermaster website. If a party does not have a valid e-mail address or internet access, that party shall identify an alternative method of service to be approved by Watermaster in its sole discretion.

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. Thereafter such party shall be

removed from the active party service list and not receive any notices required under this Judgment. The parties have a duty to keep Watermaster informed of their current e-mail and mailing addresses. If mail or e-mail is returned undeliverable to Watermaster for an incorrect address, Watermaster in its sole discretion may remove that party from the active party service list. (Amended 6/21/12)

55. Assignment, Transfer, etc., of Rights. (Prior Judgment Section 47) Any rights Adjudicated herein except Overlying Rights, may be assigned, transferred, licensed or leased by the owners thereof; provided however, that no such assignment shall be complete until the appropriate notice procedures established by Watermaster have been complied with. No water Produced pursuant to rights assigned, transferred, licensed, or leased may be transported outside the Relevant Watershed except by:

(1) a Transporting Party, or

(2) a successor in interest immediate or mediate to a water system on lands or portion thereof, theretofore served by such a Transporting Party, for use by such successor in accordance with limitations applicable to Transporting Parties, or

(3) a successor in interest to the Special Category rights of MWD.

The transfer and use of Overlying Rights shall be limited, as provided in Section 21 hereof, as exercisable only on the specifically defined Overlying Lands and they cannot be separately conveyed or transferred apart therefrom.

56. Abandonment of Rights. (Prior Judgment Section 48) It is in the interest of reasonable beneficial use of the Basin and its water supply that no party be encouraged to take and use more water in any Fiscal Year than is actually required. Failure to Produce all of the water to which a party is entitled hereunder shall not, in and of itself, be deemed or constitute an abandonment of such party's right, in whole or in part. Abandonment and extinction of any right herein Adjudicated shall be accomplished only by:

(1) a written election by the party, filed in this case, or

(2) upon noticed motion of Watermaster, and after hearing.

In either case, such abandonment shall be confirmed by express subsequent order of this

Court.

57. Intervention After Judgment. (Prior Judgment Section 49) Any person who is not a party or successor to a party and who proposes to Produce water from the Basin or Relevant Watershed, may seek to become a party to this Judgment through a Stipulation For Intervention entered into with Watermaster. 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. Said 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.

58. Judgment Binding on Successors, etc. (Prior Judgment Section 50) 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 as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such persons.

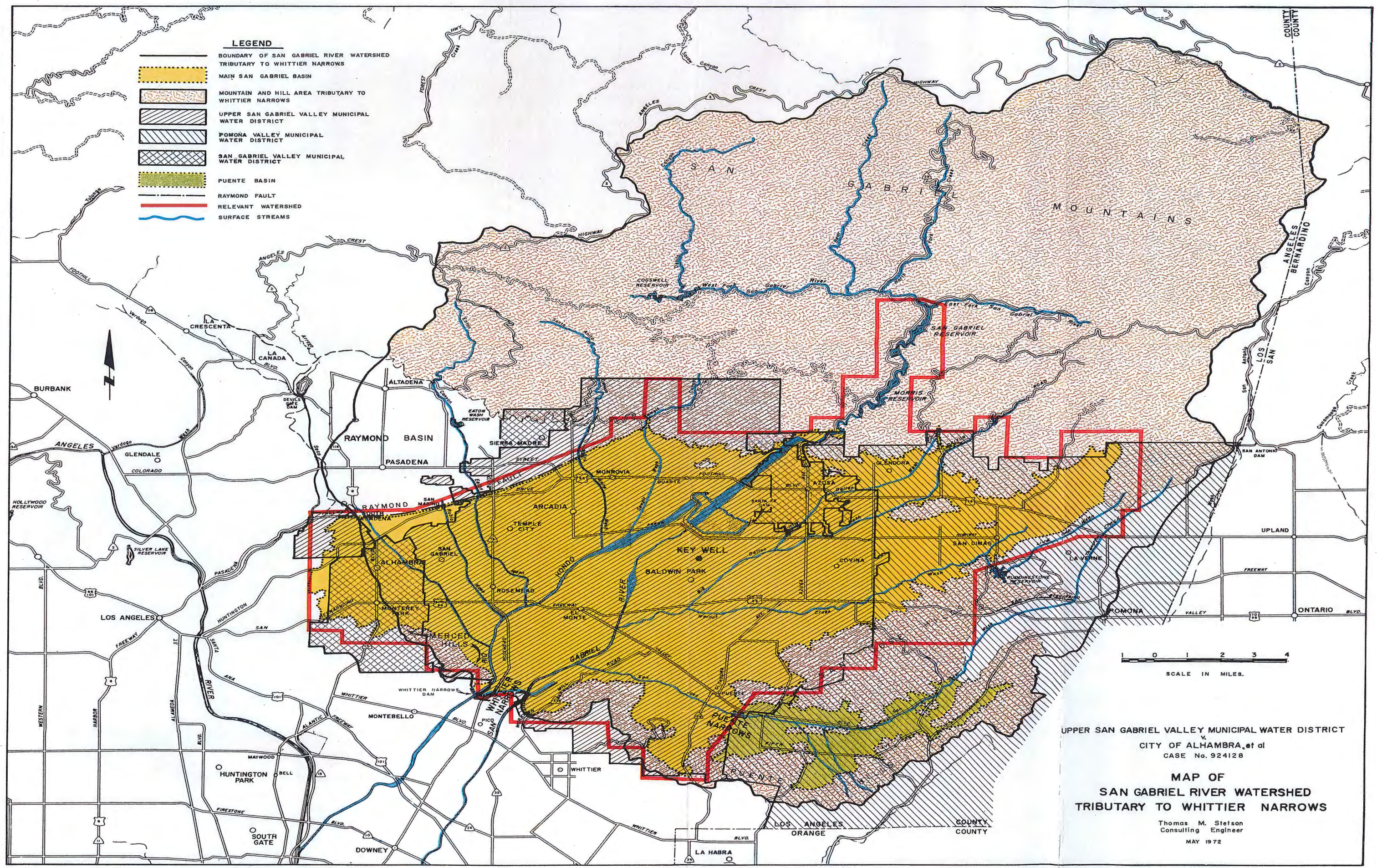
59. Water Rights Permits. (Prior Judgment Section 51) Nothing herein shall be construed as affecting the relative rights and priorities between MWD and San Gabriel Valley Protective Association under State Water Rights Permits Nos. 7174 and 7175, respectively.

60. Costs. (Prior Judgment Section 52) No party shall recover any costs in this proceeding from any other party.

61. Entry of Judgment. (New) The Clerk shall enter this Judgment.

DATED: June 21, 2012

s/ Maureen Duffy-Lewis
Maureen Duffy-Lewis, Judge
Specially Assigned



UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
v.
CITY OF ALHAMBRA, et al
CASE No. 924128

MAP OF SAN GABRIEL RIVER WATERSHED TRIBUTARY TO WHITTIER NARROWS

Thomas M. Stetson
Consulting Engineer

MAY 1972

EXHIBIT "A"

EXHIBIT "B"

BOUNDARIES OF RELEVANT WATERSHED

The following described property is located in Los Angeles County, State of California:

Beginning at the Southwest corner of Section 14, Township 1 North, Range 11 West, San Bernardino Base and Meridian;

Thence Northerly along the West line of said Section 14 to the Northwest corner of the South half of said Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said Section 14;

Thence Northerly along the East line of said Section 14, Township 1 North, Range 11 West and continuing Northerly along the East line of Section 11 to the Northeast corner of said Section 11;

Thence Easterly along the North line of Section 12 to the Northeast corner of said Section 12;

Thence Southerly along the East line of said Section 12 and continuing Southerly along the East line of Section 13 to the Southeast corner of said Section 13, said corner being also the Southwest corner of Section 18, Township 1 North, Range 10 West;

Thence Easterly along the South line of Sections 18, 17, 16 and 15 of said Township 1 North, Range 10 West to the Southwest corner of Section 14;

Thence Northerly along the West line of Section 14 to the Northwest corner of the South half of Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said section;

Thence Northerly along the East line of said Section 14, and continuing Northerly along the West line of Section 12 of said Township 1 North, Range 10 West to the North line of said Section 12;

Thence Easterly along the North line of said Section 12, to the Northeast corner of said Section 12, said corner being also the Southwest corner of Section 6, Township 1 North, Range 9 West;

Thence Northerly along the West line of said Section 6 and continuing Northerly along West line of Sections 31 and 30, Township 2 North, Range 9 West to the Westerly prolongation of the North line of said Section 30;

Thence Easterly along said Westerly prolongation of the North line of said Section 30 and continuing Easterly along the North line of Section 29 to the Northeast corner of said Section 29;

Thence Southerly along the East line of said Section 29 and continuing Southerly along the East line of Section 32, Township 2 North, Range 9 West, and thence continuing Southerly along the East line of Section 5, Township 1 North, Range 9 West to the Southeast corner of said Section 5;

Thence Westerly along the South line of said Section 5 to the Southwest corner of said Section 5, said point being also the Northwest corner of Section 8;

Thence Southerly along the West line of said Section 8 and continuing Southerly along the West line of Section 17, to the Southwest corner of said Section 17, said corner being also the Northwest corner of Section 20;

Thence Easterly along the North line of Sections 20 and 21 to the Northwest corner of Section 22, said corner being also the Southwest corner of Section 15;

Thence Northerly along the West line of said Section 15 to the Northwest corner of the South half of said Section 15;

Thence Easterly along the North line of said South half of Section 15 to the Northeast corner of said South half of Section 15;

Thence Southerly along the East line of Section 15 and continuing Southerly along the East line of Section 22 to the Southeast corner of said Section 22, said point being also the Southwest corner of Section 23;

Thence Easterly along the South line of Sections 23 and 24 to the East line of the West half of said Section 24;

Thence Northerly along said East line of the West half of Section 24 to the North line thereof;

Thence Easterly along said North line of Section 24 to the Northeast corner thereof, said point also being the Northwest corner of Section 19, Township 1 North, Range 8 West;

Thence continuing Easterly along the North line of Section 19 and Section 20 of said Township 1 North, Range 8 West to the Northeast corner of said Section 20;

Thence Southerly along the East line of Sections 20, 29 and 32 of said Township 1 North, Range 8 West to the Southeast corner of said Section 32;

Thence Westerly along the South line of Section 32 to the Northwest corner of the East half of Section 5, Township 1 South, Range 8 West;

Thence Southerly along the West line of the East half of said Section 5 to the South line of said Section 5;

Thence West to the East line of the Northerly prolongation of Range 9 West;

EXHIBIT "C"

TABLE SHOWING BASE ANNUAL DIVERSION RIGHTS OF CERTAIN DIVERTERS AS OF JUNE 21, 2012

DIVERTER	BASE ANNUAL DIVERSION RIGHT (ACRE-FEET)
Covell, Ralph	2.12
(Successor to Rittenhouse, Catherine and Rittenhouse, James)[1]	
(Transferred to Aqua Capital Management LP)[2]	-2.12
	0.00
Maddock, A. G.	3.40
(Transferred to San Gabriel Valley Water Company)[2]	-3.40
	0.00
Rittenhouse, Catherine	**0.00**
(Transferred to Covell, Ralph)[1]	
Rittenhouse, James	**0.00**
(Transferred to Covell, Ralph)[1]	
Ruebhausen, Arline	18.34
(Held in common with Ruebhausen, Victor)	
(Transferred to City of Glendora)[2]	-18.34
	0.00
Ruebhausen, Victor	--
(See Ruebhausen, Arline)	
TOTAL	**0.00**

1/ Permanent transfer of rights as recorded at entry of Judgment.
2/ Permanent transfer of rights after entry of Judgment.
3/ Intervenor after Judgment.

EXHIBIT "D"

TABLE SHOWING RIGHTS AND PUMPER'S SHARE OF EACH PUMPER AS OF JUNE 21, 2012

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
6W Farms, Inc.	1,217.40	0.61599
(Formerly Woodland Farms, Inc.)		
(Transferred to:		
Miller Brewing Company	-919.50	-0.46526
Richard J. Woodland)[2]	-297.90	-0.15073
	0.00	**0.00000**
Adams Ranch Mutual Water Company	**100.00**	**0.05060**
A & E Plastik Pak Co., Inc.	**0.00**	**0.00000**
(Transferred to Industry Properties, Ltd.)[1]		
Alhambra, City of	**8,812.05**	**4.45876**
Amarillo Mutual Water Company	**709.00**	**0.35874**
American Sheds, Inc.[3]		
(Successor to Southwestern Portland Cement Company)[2]	742.00	0.37544
(Transferred to USA Waste of California, Inc.)[2]	-742.00	-0.37544
	0.00	**0.00000**
Anchor Plating Co., Inc.[3]		
(Successor to Bodger & Sons, DBA Bodger Seeds Ltd.)[2]	10.00	0.00506
(Transferred to Crown City Plating Co.)[2]	-10.00	-0.00506
	0.00	**0.00000**
Anderson Family Marital Trust[3]		
(Successor to Anderson, Ray L. and Helen T.)[2]	50.16	0.02538
(Transferred to:		
Brondino, Jeanne	-25.08	-0.01269
Heinrich, Carolyn)[2]	-25.08	-0.01269
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Anderson, Ray[3]		
(Successor to Covina Valley Unified School District)[2]	50.16	0.02538
(Transferred to Anderson, Ray L. and Helen T.)[2]	-50.16	-0.02538
	0.00	**0.00000**
Anderson, Ray L. and Helen T.[3]		
(Successor to Anderson, Ray)[2]	50.16	0.02538
(Transferred to Anderson Family Marital Trust)[2]	-50.16	-0.02538
	0.00	**0.00000**
Andrade, Macario and Consuelo; and Andrade, Robert and Jayne[3]		
(Successor to J. F. Isbell Estate, Inc.)[2]	8.36	0.00423
(Transferred to Susan Andrade)[2]	-8.36	-0.00423
	0.00	**0.00000**
Andrade, Susan[3]		
(Successor to Andrade, Macario and Consuelo; and Andrade, Robert and Jayne)[2]	8.36	0.00423
	8.36	**0.00423**
Arcadia, City of	9,252.00	4.68137
(Successor to First National Finance Corporation)[2]	60.90	0.03081
(Transferred to City of Monrovia)[2]	-951.00	-0.48119
	8,361.90	**4.23099**
Associated Southern Investment Company	16.50	0.00335
(Transferred to Southern California Edison Company)[2]	-16.50	-0.00335
	0.00	**0.00000**
AZ-Two, Inc.[3]	--	--
(See Southdown, Inc.)		
Azusa Associates, LLC[3]		
(Successor to Snyder, Esther)[2]	18.51	0.00937
(Transferred to Aqua Capital Management LP)[2]	-18.51	-0.00937
	0.00	**0.00000**
Azusa-Western Inc.	742.00	0.37544
(Transferred to Southwestern Portland Cement Co.)[2]	-742.00	-0.37544
	0.00	**0.00000**
Bahnsen & Beckman Ind., Inc.	840.50	0.42528
(Transferred to Woodland, Richard)[2]	-840.50	-0.42528
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Bahnsen, Betty M.	441.90	0.22359
(Transferred to Dawes, Mary Kay)[2]	-441.90	-0.22359
	0.00	**0.00000**
Baldwin Park County Water District	--	--
(See Valley County Water District)		
Bandel Family Trust[3]		
(Successor to Garnier, Camille A, Deceased,	16.70	0.00845
Estate of)[2]	**16.70**	**0.00845**
Banks, Gale C. and Vicki Lynn[3]		
(Successor to Doyle, Mr. and Mrs.; and	50.00	0.02530
Madruga, Mr. and Mrs.)[2]	**50.00**	**0.02530**
Base Line Water Company	430.20	0.21767
(Transferred to Hughes Development Corporation)[2]	-430.20	-0.21767
	0.00	**0.00000**
Beverly Acres Mutual Water Company	--	--
(See Beverly Acres Mutual Water Users Association)		
Beverly Acres Mutual Water Users Association	93.00	0.04706
(Formerly Beverly Acres Mutual Water Company)		
(Transferred to:		
San Gabriel Valley Water Company;	-50.00	-0.02530
Nicholson Trust)[2]	-43.00	-0.02176
	0.00	**0.00000**
Birenbaum, Max	6.00	0.00304
(Held in common with Birenbaum, Sylvia; Schneiderman, Alan; Schneiderman, Lydia; Wigodsky, Bernard; Wigodsky, Estera)		
(Transferred to City of Whittier)[2]	-6.00	-0.00304
	0.00	**0.00000**
Birenbaum, Sylvia	--	--
(See Birenbaum, Max)		
Blue Diamond Concrete Materials Div., The Flintkote Company	1,399.33	0.70804
(Transferred to Sully-Miller Contracting Co.)[2]	-1,399.33	-0.70804
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Bodger & Sons DBA Bodger Seeds Ltd.	10.00	0.00506
(Transferred to Anchor Plating Co., Inc.)[2]	-10.00	-0.00506
	0.00	**0.00000**
Botello Water Company	**0.00**	**0.00000**
Brezina, Raymond W. and Susan W. Trust 2001[3]	**0.00**	**0.00000**
Brondino, Jeanne[3]		
(Successor to Anderson Family Marital Trust)[2]	25.08	0.01269
	25.08	**0.01269**
Burbank Development Company	50.85	0.02563
(Transferred to Wright, Darrell A., Wright, Merle M. &	-50.85	-0.02563
Carlson, Jeanne W.)[2]	**0.00**	**0.00000**
Cadway, Inc.[3]		
(Successor to:		
Corcoran, Jack S. and R. L.	100.00	0.05060
Corcoran, Jack S. and R. L.	100.00	0.05060
Corcoran, Jack S. and R. L.	273.50	0.13839
Corcoran, Jack S. and R. L.	30.00	0.01518
Garnier, Janus	203.00	0.10272
Sloan Ranches	129.60	0.06558
Corcoran, Jack S. and R.L.)[2]	243.50	0.12320
(Transferred to:		
California Domestic Water Company	-243.50	-0.12321
California Domestic Water Company	-129.60	-0.06558
California Domestic Water Company)[2]	-63.30	-0.03203
	643.20	**0.32545**
Cal Fin	118.10	0.05976
(Transferred to Suburban Water Systems)[2]	-118.10	-0.05976
	0.00	**0.00000**
California-American Water Company	**7,868.70**	**3.98144**
(San Marino System)		
California Country Club[3]	**0.00**	**0.00000**
(Formerly CCC Management)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
California Domestic Water Company	11,024.82	5.57839
(Successor to:		
Cantrill Mutual Water Company[1]	42.50	0.02150
Industry Properties, Ltd.[2]	73.50	0.03719
Modern Accent Corporation[2]	256.86	0.12997
Fisher, Russell[2]	19.00	0.00961
Graveline, George Wayne and Alexis June, Trust[2]	216.60	0.10959
Cadway, Inc.[2]	243.50	0.12321
Cadway, Inc.[2]	129.60	0.06558
Cadway, Inc.[2])	63.30	0.03203
	12,069.68	**6.10707**
California Materials Company	**0.00**	**0.00000**
CalMat	--	--
(Formerly Conrock Company)		
(See Vulcan Materials Company)		
Cantrill Mutual Water Company	**0.00**	**0.00000**
(Transferred to California Domestic Water Company)[1]		
Canyon Water Company[3]		
(Successor to McIntyre, William)[2]	1.00	0.00051
	1.00	**0.00051**
Canyon Water & Development Corporation[3]	**0.00**	**0.00000**
CCC Management[3]	--	--
(See California Country Club)		
Cedar Avenue Mutual Water Company	121.10	0.06127
(Transferred to San Gabriel Valley Water Company)[2]	-121.10	-0.06127
	0.00	**0.00000**
CEMEX California Aggregates, Inc.[3]	--	--
(Formerly Southdown)		
Champion Mutual Water Company	**147.68**	**0.07472**
Chevron U.S.A.	**2.00**	**0.00101**
(Formerly Standard Oil of California)		
Chronis, Christine[3]	--	--
(See Polopolus, et al.)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Clayton Manufacturing Company	511.80	0.25896
(Transferred to City of Glendora)[2]	-511.80	-0.25896
	0.00	**0.00000**
Coiner, James W., dba Coiner Nursery[3]	--	--
Collison, E. O.	**0.00**	**0.00000**
Comby, Erma M.	--	--
(See Wilmott, Erma M.)		
Conrock Company	--	--
(See CalMat)		
(Formerly Consolidated Rock Products Co.)		
Consolidated Rock Products Co.	--	--
(See Conrock Company)		
Corcoran, Jack S.	747.00	0.37797
(Held in common with Corcoran, R. L.)		
(Transferred to:		
Cadway, Inc.	-100.00	-0.05060
Cadway, Inc.	-100.00	-0.05060
Cadway, Inc.	-273.50	-0.13839
Cadway, Inc.	-30.00	-0.01518
Cadway, Inc.)[2]	-243.50	-0.12320
	0.00	**0.00000**
Corcoran, R. L.	--	--
(See Corcoran, Jack S.)		
County Sanitation District No. 18 of Los Angeles County	**4.50**	**0.00228**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Covell, et al.	111.05	0.05619
(Successor to Rittenhouse, Catherine and Rittenhouse, James)[1]		
(Held in common with Tate, Phillip G. and Sieglinde A.; Goedert, Lillian E.; Goedert, Marion W.; Lakin, Kendall R.; Lakin, Kelly R.; Snyder, Harry; Snyder, Esther)		
(Transferred to:		
Lakin, Kelly R.	-9.26	-0.00468
Goedert, Lillian E.	-9.26	-0.00468
Tate, Phillip G. and Sieglinde A.	-57.83	-0.02926
Snyder, Esther	-18.51	-0.00937
Aqua Capital Management LP)[2]	-16.19	-0.00820
	0.00	**0.00000**
Covina, City of	2,507.89	1.26895
(Transferred to:		
Covina Irrigating Company	-1,734.00	-0.87737
Covina Irrigating Company)[2]	-300.00	-0.15179
	473.89	**0.23979**
Covina-Valley Unified School District	50.16	0.02538
(Transferred to Anderson, Ray)[2]	-50.16	-0.02538
	0.00	**0.00000**
Crevolin, A. J.	**2.25**	**0.00114**
Crocker National Bank, Executor of the Estate of A. V. Handorf	**0.00**	**0.00000**
(Transferred to Modern Accent Corp.)[1]		
Cross Water Company	1,103.00	0.05581
(Transferred to Industry Waterworks System, City of)[2]	-1,103.00	-0.05581
	0.00	**0.00000**
Crown City Plating Company	190.00	0.09614
(Successor to Anchor Plating Co., Inc.)[2]	10.00	0.00506
(Transferred to Valencia Heights Water Company)[2]	-200.00	-0.10120
	0.00	**0.00000**
Davidson Optronics, Inc.	22.00	0.01113
(Transferred to Covina Irrigating Company)[2]	-22.00	-0.01113
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Dawes, Mary Kay[3] (Successor to Bahnsen, Betty M.)[2]	**441.90**	**0.22359**
Del Rio Mutual Water Company	**199.00**	**0.10069**
Denton, Kathryn W., Trustee for San Jose Ranch Company	185.50	0.09386
(Transferred to White, June G., Trustee of the June G. White share of the Garnier Trust)[2]	-185.50	-0.09386
	0.00	**0.00000**
Doyle, Mr. and Mrs.; and Madruga, Mr. and Mrs.[3]		
(Successor to Sawpit Farms, Limited)[2]	50.00	0.02530
(Transferred to Banks, Gale C. and Vicki Lynn)[2]	-50.00	-0.02530
	0.00	**0.00000**
Driftwood Dairy	**163.80**	**0.08288**
Duhalde, L. (Transferred to El Monte Union High School District)[1]	**0.00**	**0.00000**
Dunning, George (Held in common with Dunning, Vera H.)		
(Successor to Vera H. Dunning)[2]	324.00	0.16394
(Transferred to Dunning Trust, George A. V.)[2]	-324.00	-0.16394
	0.00	**0.00000**
Dunning Trust, George A. V.[3]		
(Successor to Dunning, George)[2]	324.00	0.16394
(Transferred to Loyola Marymount University)[2]	-324.00	-0.16394
	0.00	**0.00000**
Dunning, Vera H.	324.00	0.16394
(See Dunning, George)		
(Transferred to Dunning, George)[2]	-324.00	-0.16394
	0.00	**0.00000**
Durfee Property, LLC[3]		
(Successor to Texaco, Inc.)[2]	50.00	0.02530
(Transferred to San Gabriel Valley Water Company)[2]	-50.00	-0.02530
	0.00	**0.00000**
East Pasadena Water Company, Ltd.	**1,407.69**	**0.71227**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Eckis, Rollin[3]		
(Successor to Sawpit Farms, Limited)[2]	123.00	0.06224
(Transferred to City of Monrovia)[2]	-123.00	-0.06224
	0.00	**0.00000**
El Encanto Properties	33.40	0.01690
(Transferred to La Puente Valley	-33.40	-0.01690
County Water District)[2]	**0.00**	**0.00000**
El Monte, City of	2,784.23	1.40878
(Successor to W. E. Hall Company)[2]	0.20	0.00010
	2,784.43	**1.40888**
El Monte Cemetery Association	**18.50**	**0.00936**
El Monte Union High School District	9.80	0.00496
(Successor to Duhalde, L.)[1]	6.40	0.00324
(Transferred to City of Whittier)[2]	-16.20	-0.00820
	0.00	**0.00000**
Everett, Mrs. Alda B.	**0.00**	**0.00000**
(Held in common with Everett, W.B., Executor of the Estate of I. Worth Everett)		
Everett, W.B., Executor of the Estate of I. Worth Everett	--	--
(See Everett, Mrs. Alda B.)		
Faix, Incorporated	**0.00**	**0.00000**
(Successor to Frank F. Pellissier & Sons, Inc.)[1]		
(Transferred to Faix, Ltd.)[1]		
Faix, Ltd.	6,490.00	3.28384
(Successor to Faix, Incorporated)[1]		
(Transferred to Pellissier Irrevocable QTIP Trust, et al,	-6,490.00	-3.28384
Laurence R., Co-tenancy of)[2]	**0.00**	**0.00000**
First National Finance Corporation	60.90	0.03081
(Transferred to City of Arcadia)[2]	-60.90	-0.03081
	0.00	**0.00000**
Fisher, Russell	19.00	0.00961
(Held in common with Hauch, Edward and Warren, Clyde)		
(Transferred to California Domestic Water Company)[2]	-19.00	-0.00961
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Fox Family Trust Michael Edward Fox and Crystal Marie Fox, Trustees[3]		
(Successor to Maggiore, Valarie; Fox, Crystal; and Kirklen, Jeffery)[2]	**145.83**	**0.07378**
Frank F. Pellissier & Sons, Inc.	**0.00**	**0.00000**
(Transferred to Faix, Incorporated)[1]		
Fruit Street Water Company	207.00	0.10474
(Transferred to:		
Gifford, Brooks, Jr.,	-101.29	-0.05125
City of La Verne)[2]	-105.71	-0.05349
	0.00	**0.00000**
Garnier, Anton C. and Anita, Family Trust[3]		
(Successor to:		
South Covina Water Service	203.00	0.10271
Garnier, Camille A., Deceased, Estate of	8.30	0.00420
Garnier, Janus)[2]	3.00	0.00152
	214.30	**0.10843**
Garnier, Camille A., Deceased, Estate of[3]		
(Successor to South Covina Water Service)[2]	83.30	0.04215
(Transferred to:		
The Ruth Elaine Ailor Garnier Trust	-41.70	-0.02110
The George Wayne and Alexis June Graveline Trust	-8.30	-0.00420
The Anton C. and Anita Garnier Family Trust	-8.30	-0.00420
Janus Garnier	-8.30	-0.00420
The Bandel Family Trust)[2]	-16.70	-0.00845
	0.00	**0.00000**
Garnier, Janus[3]		
(Successor to :		
Garnier, Camille A. Deceased, Estate of	8.30	0.00420
South Covina Water Service)[2]	203.00	0.10272
(Transferred to:		
George Wayne and Alexis June Graveline Trust	-5.30	-0.00268
The Anton C. and Anita Garnier Family Trust	-3.00	-0.00152
Cadway, Inc.)[2]	-203.00	-0.10272
	0.00	**0.00000**
Garnier, Ruth Elaine Ailor, Trust[3]		
(Successor to Garnier, Camille A. Deceased,	41.70	0.02110
Estate of)[2]	**41.70**	**0.02110**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Gates, James Richard[3]	**0.00**	**0.00000**
Gifford, Brooks, Jr.[3]		
(Successor to:		
Fruit Street Water Company,	101.29	0.05125
Mission Gardens Mutual Water Company)[2]	96.96	0.04906
(Transferred to City of Whittier)[2]	-198.25	-0.10031
	0.00	**0.00000**
Gilkerson, Frank B.	--	--
(Formerly part of Covell, et al.)		
(Transferred interest in Covell, et al. to Jobe, Darr)[2]		
Glendora Unified High School District	99.00	0.05009
(Transferred to City of Glendora)[2]	-99.00	-0.05009
	0.00	**0.00000**
Goedert, Lillian E.		
(See Covell, et al.)		
(Successor to Covell, et al.)[2]	9.26	0.00468
(Transferred to Covina Irrigating Co.)[2]	-7.00	-0.00354
	2.26	**0.00114**
Goedert, Marion W.	--	--
(See Covell, et al.)		
Golden State Water Company,	**5,773.00**	**2.92105**
San Gabriel Valley District		
(Formerly Southern California Water Company)		
Graham, William	--	--
(Formerly part of Covell, et al.)		
(Transferred interest in Covell et al. to Jobe, Darr)[2]		
Graveline, George Wayne and Alexis June, Trust[3]		
(Successor to:		
South Covina Water Service	203.00	0.10271
Garnier, Camille A., Deceased, Estate of	8.30	0.00420
Garnier, Janus)[2]	5.30	0.00268
(Transferred to California Domestic Water Company)[2]	-216.60	-0.10959
	0.00	**0.00000**
Green, Walter	**71.70**	**0.03628**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Grizzle, Lissa B.	184.00	0.09310
(Held in common with Grizzle, Mervin A.; Wilson, Harold R.; Wilson, Sarah C.)		
(Transferred to City of Whittier)[2]	-184.00	-0.09310
	0.00	**0.00000**
Grizzle, Mervin A.	--	--
(See Grizzle, Lissa B.)		
Hansen, Alice	**0.75**	**0.00038**
Hanson Aggregates West, Inc. [3]		
(Successor to:		
Livingston-Graham, Inc.	1,824.40	0.92312
Sully-Miller Contracting Company)[2]	489.77	0.24782
	2,314.17	**1.17094**
Hartley, David[3]	**0.00**	**0.00000**
Hauch, Edward	--	--
(See Fisher, Russell)		
Heinrich, Carolyn[3]		
(Successor to Anderson Family Marital Trust)[2]	25.08	0.01269
	25.08	**0.01269**
Hemlock Mutual Water Company	**166.00**	**0.08399**
Hollenbeck Street Water Company	**0.00**	**0.00000**
(Transferred to Suburban Water Systems)[1]		
Hughes Development Corporation[3]		
(Successor to Base Line Water Company)[2]	430.20	0.21767
(Transferred to:		
San Gabriel County Water District	-400.00	-0.20239
San Gabriel County Water District)[2]	-30.20	-0.01528
	0.00	**0.00000**
Hunter, Lloyd F.[3]		
(Successor to Wade, R.)[2]	4.40	0.00223
(Transferred to Covina Irrigating Company)[2]	-4.40	-0.00223
	0.00	**0.00000**
Hydro-Conduit Corporation	**0.00**	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Industry Waterworks System, City of[3]		
(Successor to Cross Water Company)[2]	1,103.00	0.55810
	1,103.00	**0.55810**
Industry Properties, Ltd.		
(Successor to A & E Plastik Pak Co., Inc.)[1]	73.50	0.03719
(Transferred to California Domestic Water Co.)[2]	-73.50	-0.03719
	0.00	**0.00000**
Irwindale, City of[3]		
(Successor to United Concrete Pipe Corporation)[2]	376.00	0.19025
	376.00	**0.19025**
J. F. Isbell Estate, Inc.	8.36	0.00423
(Transferred to Andrade, Macario and	-8.36	-0.00423
Consuelo; and Andrade, Robert and Jayne)[2]	**0.00**	**0.00000**
Jerris, Helen[3]	--	--
(See Polopolus, et al.)		
Jobe, Darr[3]	--	--
(Formerly part of Covell, et al.)		
(Successor to:		
Gilkerson, Frank B. interest in Covell et al.		
Graham, William interest in Covell et al.)[2]		
(Transferred interest in Covell et al. to Tate, Phillip G. and Sieglinde A.)[2]		
Kirklen Family Trust[3]	375.00	0.18974
(Formerly Kirklen, Dawn L.)		
(Held in common with Kirklen, William R.)		
(Successor to San Dimas-La Verne	62.50	0.03162
Recreational Facilities Authority)[2]		
(Transferred to		
Maggiore, Valarie; Fox, Crystal; and Kirklen, Jeffery)[2]	-437.50	-0.22136
	0.00	**0.00000**
Kirklen, Dawn L.	--	--
(See Kirklen Family Trust)		
Kirklen, Jeffery[3]	**145.84**	**0.07379**
(Successor to Maggiore, Valarie; Fox, Crystal; and Kirklen, Jeffery)[2]		
Kirklen, William R.	--	--
(See Kirklen, Dawn L.)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Kiyan Farms	30.00	0.01518
(Formerly Kiyan, Hideo)		
(Transferred to West Covina Venture, Ltd.)[2]	-30.00	-0.01518
	0.00	**0.00000**
Kiyan, Hideo	--	--
(See Kiyan Farms)		
(Held in common with Kiyan, Hiro)		
Kiyan, Hiro	--	--
(See Kiyan, Hideo)		
Knight, Kathryn M.[3]		
(Successor to Knight, William)[2]	227.88	0.11530
(Transferred to Knight, William)[2]	-227.88	-0.11530
	0.00	**0.00000**
Knight, William	227.88	0.11530
(Transferred to Knight, Kathryn M.)[2]	-227.88	-0.11530
(Successor to Knight, Kathryn M.)[2]	227.88	0.11530
	227.88	**0.11530**
Lakin, Kelly R.[3]		
(See Covell, et al.)		
(Successor to Covell, et al.)[2]	9.26	0.00468
(Transferred to:		
Covina Irrigating Co.	-6.03	-0.00305
Covina Irrigating Co.)[2]	-3.23	-0.00163
	0.00	**0.00000**
Lakin, Kendall R.[3]	--	--
(See Covell, et al.)		
Landeros, John	**0.75**	**0.00038**
La Grande Source Water Company	**0.00**	**0.00000**
(Transferred to Suburban Water Systems)[1]		
Lang, Frank	**0.00**	**0.00000**
(Transferred to San Dimas-La Verne Recreational Facilities Authority)[1]		
La Puente Cooperative Water Co.	**0.00**	**0.00000**
(Transferred to Suburban Water Systems)[1]		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
La Puente Valley County Water District	1,097.00	0.55507
(Successor to El Encanto Properties)[2]	33.40	0.01690
	1,130.40	**0.57197**
La Verne, City of	250.00	0.12650
(Successor to Fruit Street Water Co.)[2]	105.71	0.05349
(Transferred to Covina Irrigating Co.)[2]	-355.71	-0.17999
	0.00	**0.00000**
Lee, Paul M. and Ruth A.; Nasmyth, Virginia; Nasmyth, John[3]	**0.00**	**0.00000**
Little John Dairy	**0.00**	**0.00000**
Livingston-Graham, Inc.	1,824.40	0.92312
(Transferred to Hanson Aggregates West, Inc.)[2]	-1,824.40	-0.92312
	0.00	**0.00000**
Los Flores Mutual Water Company	26.60	0.01346
(Transferred to City of Monterey Park)[2]	-26.60	-0.01346
	0.00	**0.00000**
Loucks, David	**3.00**	**0.00152**
Lovelady, June G., Trustee[3]		
(Successor to White, June G., Trustee of the June G. White Share of the Garnier Trust)[2]	185.50	0.09386
	185.50	**0.09386**
Loyola Marymount University[3]		
(Successor to George A.V. Dunning Trust)[2]	324.00	0.16394
(Transferred to City of Glendora)[2]	-324.00	-0.16394
	0.00	**0.00000**
Maggiore, Valarie[3]		
(Successor to Maggiore, Valarie; Fox, Crystal; and Kirklen, Jeffrey)[2]	**145.83**	**0.07379**
Maggiore, Valarie; Fox, Crystal; and Kirklen, Jeffery[3]		
(Successor to Kirklen Family Trust)[2]	437.50	0.22136
(Transferred to:		
(Maggiore, Valarie;	-145.83	-0.07379
Kirklen, Jeffrey;	-145.84	-0.07379
Fox Family Trust, Michael Edward Fox and Crystal Marie Fox, Trustees)[2]	-145.83	-0.07378
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Manning Bros. Rock & Sand Co.	328.00	0.16596
(Transferred to Conrock Company)[2]	-328.00	-0.16596
	0.00	**0.00000**
Maple Water Company	118.50	0.05996
(Transferred to Southwest Water Co.)[2]	-118.50	-0.05996
	0.00	**0.00000**
Martinez, Frances Mercy	**0.75**	**0.00038**
(Held in common with Martinez, Jaime)		
Martinez, Jaime	--	--
(See Martinez, Frances Mercy)		
Massey-Ferguson Company	**0.00**	**0.00000**
McIntyre, William[3]		
(Successor to West Covina Venture, Ltd.)[2]	30.00	0.01518
(Transferred to Canyon Water Company)[2]	-1.00	-0.00051
	29.00	**0.01467**
Miller Brewing Company	111.01	0.05617
(Successor to:		
Maechtlen, Estate of J.J.	151.50	0.07666
Phillips, Alice B., et al.	50.00	0.02530
South Covina Water Service	300.00	0.15180
Woodland Farms	919.50	0.46526
Woodland, Richard)[2]	840.50	0.42528
(Transferred to Miller Breweries West, L.P.)[2]	-2,372.51	-1.20047
	0.00	**0.00000**
Miller Breweries West, L.P.[3]		
(Successor to Miller Brewing Company)[2]	2,372.51	1.20047
(Transferred to MillerCoors LLC)[2]	-2,372.51	-1.20047
	0.00	**0.00000**
MillerCoors LLC[3]		
(Successor to Miller Breweries West, L.P.)[2]	**2,372.51**	**1.20047**
Mission Gardens Mutual Water Company	96.96	0.04906
(Transferred to Gifford, Brooks, Jr.)[2]	-96.96	-0.04906
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Modern Accent Corporation		
(Successor to Crocker National Bank,	256.86	0.12997
Executor of the Estate of A. V. Handorf)[1]		
(Transferred to California Domestic Water Co.)[2]	-256.86	-0.12997
	0.00	**0.00000**
Monterey Park, City of	6,677.48	3.37870
(Successor to Los Flores Mutual Water Co.)[2]	26.60	0.01346
	6,704.08	**3.39216**
Munoz, Ralph E.[3]	**0.00**	**0.00000**
Murphy Ranch Mutual Water Company	223.23	0.11295
(Transferred to Southwest Suburban Water)[2]	-223.23	-0.11295
	0.00	**0.00000**
Namimatsu Farms	196.00	0.09917
(Transferred to California Cities Water Co.)[2]	-196.00	-0.09917
	0.00	**0.00000**
Nick Tomovich & Sons	**0.02**	**0.00001**
Nicholson Trust[3]		
(Successor to Beverly Acres	43.00	0.02176
Mutual Water Users Association)[2]		
(Transferred to:		
Nicholson Family Trust	-7.00	-0.00354
Nicholson Trust, Helene S.)[2]	-12.00	-0.00607
	24.00	**0.01215**
Nicholson Family Trust[3]		
(Successor to Nicholson Trust)[2]	7.00	0.00354
	7.00	**0.00354**
Nicholson Trust, Helene S.[3]		
(Successor to Nicholson Trust)[2]	12.00	0.00607
(Transferred to San Gabriel Valley Water Co.)[2]	-12.00	-0.00607
	0.00	**0.00000**
New Owl Rock Products[3]		
(Successor to Owl Rock Products Co.)[2]	715.60	0.36208
(Transferred to Robertson's Ready Mix, Ltd.)[2]	-715.60	-0.36208
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
No. 17 Walnut Place Mutual Water Co.	21.50	0.01088
(Transferred to San Gabriel Valley Water Co.)[2]	-21.50	-0.01088
	0.00	**0.00000**
Orange Production Credit Association[3]	**0.00**	**0.00000**
Owl Rock Products Co.	715.60	0.36208
(Transferred to New Owl Rock Products)[2]	-715.60	-0.36208
	0.00	**0.00000**
Pacific Rock & Gravel Co.	408.00	0.20644
(Transferred to:	-208.00	-0.10524
City of Whittier,	-200.00	-0.10120
Rose Hills Memorial Park Association)[2]	**0.00**	**0.00000**
Park Water Company	184.01	0.09311
(Transferred to Valley County Water District)[2]	-184.01	-0.09311
	0.00	**0.00000**
Parton Family Trust[3]	46.20	0.02338
(Formerly Via, H., Trust of)[2]		
(Transferred to San Gabriel Valley Water Company)[2]	-46.20	-0.02338
	0.00	**0.00000**
Pellissier Irrevocable QTIP Trust, et al, Laurence R., Co-tenancy of[3]		
(Successor to Faix, Ltd)[2]	6,490.00	3.28384
	6,490.00	**3.28384**
Penn, Margaret[3]	--	--
(See Polopolus, et al.)		
Pico County Water District	**0.75**	**0.00038**
Polopolus, John[3]	--	--
(See Polopolus, et al.)		
Polopolus, et al.[3]		
(Successor to Polopolus, Steve)[2]	22.50	0.01138
(Held in common with Chronis, Christine;	**22.50**	**0.01138**
Jerris, Helen; Penn, Margaret; Polopolus, John)		
Polopolus, Steve	22.50	0.01138
(Transferred to Polopolus, et al.)[2]	-22.50	-0.01138
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Rados, Alexander (Held in common with Rados, Stephen and Rados, Walter)	**43.00**	**0.02176**
Rados, Stephen (See Rados, Alexander)	--	--
Rados, Walter (See Rados, Alexander)	--	--
Richwood Mutual Water Company	192.60	0.09745
(Transferred to San Gabriel Valley Water Company)[2]	-192.60	-0.09745
	0.00	**0.00000**
Rincon Ditch Company	628.00	0.31776
(Transferred to Workman Mill Investment Company)[2]	-628.00	-0.31776
	0.00	**0.00000**
Rincon Irrigation Company	314.00	0.15888
(Transferred to Workman Mill Investment Company)[2]	-314.00	-0.15888
	0.00	**0.00000**
Rio Hondo Memorial Foundation, The[3] (Formerly Rose Hills Foundation, The) (See Rose Hills Foundation, The)	--	--
Rittenhouse, Catherine (Transferred to Covell, Ralph)[1]	**0.00**	**0.00000**
Rittenhouse, James (Transferred to Covell, Ralph)[1]	**0.00**	**0.00000**
Robertson's Ready Mix, Ltd.[3]		
(Successor to New Owl Rock Products)[2]	715.60	0.36208
(Transferred to San Gabriel County Water District)[2]	-715.60	-0.36208
	0.00	**0.00000**
Rose Hills Memorial Park Association (See Rose Hills Foundation, The)	--	--

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Rose Hills Foundation, The[3]		
(Formerly Rose Hills Memorial Park Association)		
(See Rio Hondo Memorial Foundation, The)		
(Formerly Rio Hondo Memorial Foundation, The)	594.00	0.30055
(Successor to Pacific Rock & Gravel Co.)[2]	200.00	0.10120
(Transferred to:		
Workman Mill Investment Co.	-594.00	-0.30055
Workman Mill Investment Co.)[2]	-200.00	-0.10120
	0.00	**0.00000**
Rosemead Development, Ltd.[3]		
(Successor to Thompson, Earl W.)[2]	1.00	0.00051
	1.00	**0.00051**
Rurban Homes Mutual Water Company	**217.76**	**0.11018**
Ruth, Roy	**0.75**	**0.00038**
San Dimas Golf Inc. DBA Via Verde County Club[3]	**0.00**	**0.00000**
San Dimas-La Verne Recreational Facilities Authority		
(Successor to Lang, Frank)[1]	62.50	0.03162
(Transferred to Kirklen, Dawn L. and William R.)[2]	-62.50	-0.03162
	0.00	**0.00000**
San Gabriel Country Club	**286.10**	**0.14476**
San Gabriel County Water District	4,250.00	2.15044
(Successor to:		
Hughes Development Corporation	400.00	0.20239
Hughes Development Corporation	30.20	0.01528
Robertson's Ready Mix, Ltd.)[2]	715.60	0.36208
	5,395.80	**2.73019**
San Gabriel Valley Municipal Water District	**0.00**	**0.00000**
Sawpit Farms, Limited	173.00	0.08754
(Transferred to:		
Eckis, Rolin	-123.00	-0.06224
Doyle and Madruga)[2]	-50.00	-0.02530
	0.00	**0.00000**
Schneiderman, Alan	--	--
(See Birenbaum, Max)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Schneiderman, Lydia	--	--
(See Birenbaum, Max)		
Security Pacific National Bank,	38.70	0.01958
Co-trustee for the Estate of Winston F. Stoody		
(See Stoody, Virginia A.)		
(Transferred to City of Whittier)[2]	-38.70	-0.01958
	0.00	**0.00000**
Sierra La Verne Country Club[3]	**0.00**	**0.00000**
Sierra Madre, City of	**0.00**	**0.00000**
Sloan Ranches	129.60	0.06558
(Transferred to Cadway, Inc.)[2]	-129.60	-0.06558
	0.00	**0.00000**
Smith, Charles[3]	**0.00**	**0.00000**
Snyder, Esther[3]		
(Successor to Covell, et al)[2]	18.51	0.00937
(Transfered to Azusa Associates, LLC)[2]	-18.51	-0.00937
	0.00	**0.00000**
Snyder, Harry	--	--
(See Covell, et al.)		
Sonoco Products Company	**311.60**	**0.15766**
South Covina Water Service	992.30	0.50209
(Transferred to:		
Miller Brewing Company	-300.00	-0.15180
Anton C. and Anita Garnier Family Trust	-203.00	-0.10271
The George Wayne and Alexis June Graveline Trust	-203.00	-0.10271
The Estate of Camille A. Garnier, Deceased	-83.30	-0.04215
Garnier, Janus)[2]	-203.00	-0.10272
	0.00	**0.00000**
Southdown, Inc.[3]	--	--
(Formerly AZ-Two, Inc.)		
(See CEMEX California Aggregates, Inc.)		
Southern California Edison Company	155.25	0.07855
(Successor to Associated		
Southern Investment Company)[2]	16.50	0.00835
	171.75	**0.08690**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Southern California Water Company, San Gabriel Valley District (See Golden State Water Company, San Gabriel Valley District)	--	--
South Pasadena, City of	**3,567.70**	**1.80520**
Southwest Suburban Water (See Suburban Water Systems)	--	--
Southwest Water Company [3] (Successor to Maple Water Company)[2]	118.50	0.05996
	118.50	**0.05996**
Southwestern Portland Cement Company[3] (Successor to Azusa Western, Inc.)[2]	742.00	0.37544
(Transferred to American Sheds, Inc.)[2]	-742.00	-0.37544
	0.00	**0.00000**
Speedway 605, Inc.[3]	**0.00**	**0.00000**
Standard Oil Company of California (See Chevron U.S.A.)	--	--
Sterling Mutual Water Company	**120.00**	**0.06072**
Stoody, Virginia A., Co-trustee for the	--	--
Stoody, Winston F., Estate of (See Security Pacific National Bank, Co-trustee)	--	--
Suburban Water Systems (Formerly Southwest Suburban Water)	20,462.47	10.35370
(Successor to:		
Hollenbeck Street Water Company[1]	646.39	0.32706
La Grande Source Water Company[1]	1,078.00	0.54545
La Puente Cooperative Water Co.[1]	1,210.90	0.61270
Valencia Valley Water Company[1]	651.50	0.32965
Victoria Mutual Water Company[1]	469.60	0.23761
Cal Fin[2]	118.10	0.05976
Murphy Ranch Mutual Water Co.[2])	223.23	0.11295
	24,860.19	**12.57888**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Sully-Miller Contracting Company[3]		
(Successor to Blue Diamond Concrete	1,399.33	0.70804
Materials Div., The Flintkote Company)[2]		
(Transferred to:		
United Rock Products Corporation	-909.56	-0.46022
Hanson Aggregates West, Inc.)[2]	-489.77	-0.24782
	0.00	**0.00000**
Sunny Slope Water Company	**2,228.72**	**1.12770**
Tate, Phillip G. and Sieglinde A.[3]	**57.83**	**0.02926**
(See Covell,et al.)		
(Successor to Jobe, Darr interest in Covell, et al.)[2]		
(Successor to Covell, et al.)[2]		
Taylor Herb Garden	6.00	0.00304
(Transferred to Covina Irrigating Company)[2]	-6.00	-0.00304
	0.00	**0.00000**
Texaco, Inc. (Chevron U.S.A., Inc.)	50.00	0.02530
(Transferred to Durfee Property, LLC)[2]	-50.00	-0.02530
	0.00	**0.00000**
Thompson, Earl W.	1.00	0.00051
(Held in common with Thompson, Mary)		
(Transferred to Rosemead Development, Ltd.)[2]	-1.00	-0.00051
	0.00	**0.00000**
Thompson, Mary	--	--
(See Thompson, Earl W.)		
Tran, Hieu[3]	**0.00**	**0.00000**
Tyler Nursery	**3.21**	**0.00162**
United Concrete Pipe Corporation	376.00	0.19025
(Transferred to Irwindale, City of)[2]	-376.00	-0.19025
	0.00	**0.00000**
United Rock Products Corporation[3]		
(Successor to:		
Sully Miller Contracting Company)[2]	909.56	0.46022
	909.56	**0.46022**
USA Waste of California, Inc.[3]		
(Successor to American Sheds, Inc.)[2]	742.00	0.37544
(Transferred to Aqua Capital Management LP)[2]	-742.00	-0.37544
	0.00	**0.00000**

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
U.S. Pipe & Foundry Company[3]	--	--
(See United Concrete Pipe Corporation)		
Valencia Heights Water Company	861.00	0.43565
(Successor to Crown City Plating Company)[2]	200.00	0.10120
	1,061.00	**0.53685**
Valencia Valley Water Company	**0.00**	**0.00000**
(Transferred to Suburban Water Systems)[1]		
Vallecito Water Company	2,867.00	1.45066
(Transferred to San Gabriel Valley	-2,867.00	-1.45066
Water Company)[2]	**0.00**	**0.00000**
Valley County Water District	5,775.00	2.92206
(Formerly Baldwin Park County Water District)		
(Successor to Park Water Company)[2]	184.01	0.09311
	5,959.01	**3.01517**
Valley Crating Company	**0.00**	**0.00000**
Valley View Mutual Water Company	**616.00**	**0.31169**
Via, H.	--	--
(See Via, H., Trust of)		
Via, H., Trust of	--	--
(Formerly Via, H.)		
(See Parton Family Trust)		
Victoria Mutual Water Company		
(Transferred to Suburban Water Systems)[1]	**0.00**	**0.00000**
Vietnamese American Buddhist Temple Congregation[3]	**0.00**	**0.00000**
Vulcan Materials Company		
(Formerly CalMat)		
(Successor to Manning Bros. Rock & Sand Co.)[2]	1,793.35	0.90740
	1,793.35	**0.90740**
Wade, R.	4.40	0.00223
(Transferred to Hunter, Lloyd F.)[2]	-4.40	-0.00223
	0.00	**0.00000**
Ward Duck Company	--	--
(See Woodland Farms, Inc.)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Warren, Clyde	--	--
(See Fisher, Russell)		
W. E. Hall Company	0.20	0.00010
(Transferred to City of El Monte)[2]	-0.20	-0.00010
	0.00	**0.00000**
West Covina Venture, Ltd.[3]		
(Successor to Kiyan Farms)[2]	30.00	0.01518
(Transferred to McIntyre, William)[2]	-30.00	-0.01518
	0.00	**0.00000**
White, June G., Trustee of the		
June G. White Share of the Garnier Trust[3]		
(Successor to Denton, Kathryn W.,	185.50	0.09386
Trustee for the San Jose Ranch Company)[2]		
(Transferred to Lovelady, June G., Trustee)[2]	-185.50	-0.09386
	0.00	**0.00000**
Whittier, City of	7,620.23	3.85572
(Successor to:		
Grizzle, Lissa B.	184.00	0.09310
Pacific Rock and Gravel Co.	208.00	0.10524
Security Pacific National Bank,		
Co-trustee for the Estate of Winston F. Stoody	38.70	0.01958
El Monte Union High School District	16.20	0.00820
Gifford, Brooks, Jr.	198.25	0.10031
Birenbaum, Max)[2]	6.00	0.00304
	8,271.38	**4.18519**
Wigodsky, Bernard	--	--
(See Birenbaum, Max)		
Wigodsky, Estera	--	--
(See Birenbaum, Max)		
Wilmott, Erma M.	**0.75**	**0.00038**
(Formerly Comby, Erma M.)		
Wilson, Harold R.	--	--
(See Grizzle, Lissa B.)		
Wilson, Sarah C.	--	--
(See Grizzle, Lissa B.)		

PUMPER	PRESCRIPTIVE PUMPING ACRE-FEET	PUMPER'S SHARE %
Woodland Farms, Inc.	--	--
(See 6W Farms, Inc.)		
(Formerly Ward Duck Company)		
Woodland, Frederick G.[3]	--	--
Woodland, Richard[3]		
(Successor to Bahnsen & Beckman Ind., Inc.)[2]	840.50	0.42528
(Transferred to Miller Brewing Company)[2]	-840.50	-0.42528
(Successor to 6W Farms, Inc.)[2]	297.90	0.15073
(Transferred to Aqua Capital Management LP)[2]	-297.90	-0.15073
	0.00	**0.00000**
Workman Mill Investment Company[3]		
(Successor to:		
Rincon Ditch Company	628.00	0.31776
Rincon Irrigation Company	314.00	0.15888
Rose Hills Memorial Park Association	594.00	0.30055
Rose Hills Foundation, The)[2]	200.00	0.10120
	1,736.00	**0.87839**
Wright, Darrell A., Wright, Merle M. & Carlson, Jeanne W.[3]		
(Successor to Burbank Development Co.)[2]	50.65	0.02563
(Transferred to San Gabriel Valley Water Company)[2]	-50.65	-0.02563
	0.00	**0.00000**
Totals for Exhibit "D"	**129,765.87**	**65.65953**
Totals for Exhibit "E"	**67,868.56**	**34.34047**
GRAND TOTALS	**197,634.43**	**100.00000**

1/ Permanent transfer of rights as recorded at entry of Judgment.
2/ Permanent transfer of rights after entry of Judgment.
3/ Intervenor after Judgment.

EXHIBIT "E"

TABLE SHOWING PRODUCTION RIGHT OF EACH INTEGRATED PRODUCER AS OF JUNE 21, 2012

INTEGRATED PRODUCER	DIVERSION COMPONENT ACRE-FEET	PRESCRIPTIVE PUMPING COMPONENT ACRE-FEET	PUMPING COMPONENT SHARE %
Aqua Capital Management LP[3]			
(Successor to:			
Covell, Ralph	2.12	0.00	0.00000
Covell et al.	0.00	16.19	0.00820
Azusa Associates, LLC	0.00	18.51	0.00937
USA Waste of California, Inc.	0.00	742.00	0.37544
Richard Woodland)[2]	0.00	297.90	0.15073
	2.12	**1,074.60**	**0.54374**
Azusa, City of	0.00	3,655.99	1.84988
(Successor to Monrovia Nursery Company)[2]	363.00	0.00	0.00000
	363.00	**3,655.99**	**1.84988**
Azusa Agricultural Water Company	1,000.00	1,732.20	0.87647
(Transferred to:			
Azusa Valley Water Company	-830.00	-1,437.73	-0.72747
Azusa Valley Water Company)[2]	-170.00	-294.47	-0.14900
	0.00	**0.00**	**0.00000**
Azusa Foot-Hill Citrus Company	718.50	0.00	0.00000
(Transferred to Monrovia Nursery Company)[2]	-718.50		
	0.00	**0.00**	**0.00000**
Azusa Valley Water Company	2,422.00	8,274.00	4.18652
(Successor to:			
Azusa Agricultural Water Company	830.00	1,437.73	0.72747
Azusa Agricultural Water Company)[2]	170.00	294.47	0.14900
	3,422.00	**10,006.20**	**5.06299**
Brierly, Susan K.[3]			
(Successor to Monrovia Nursery Company)[2]	24.00	0.00	0.00000
(Transferred to Miles R. Rosedale)[2]	-8.00		
	16.00	**0.00**	**0.00000**
California-American Water Company (Duarte System)	**1,672.00**	**3,649.00**	**1.84634**

INTEGRATED PRODUCER	DIVERSION COMPONENT ACRE-FEET	PRESCRIPTIVE PUMPING COMPONENT ACRE-FEET	PUMPING COMPONENT SHARE %
California Cities Water Company (See Southern California Water Company, San Dimas District)	--	--	--
Covina Irrigating Company	2,514.00	4,140.00	2.09478
(Successor to:			
City of Covina		1,734.00	0.87737
City of Covina		300.00	0.15179
Taylor Herb Garden		6.00	0.00304
La Verne, City of		355.71	0.17999
Davidson Optronics, Inc.		22.00	0.01113
Goedert, Lillian		7.00	0.00354
Lakin, Kelly R.		6.03	0.00305
Hunter, Lloyd F.		4.40	0.00223
Lakin, Kelly R.)[2]		3.23	0.00163
	2,514.00	**6,578.37**	**3.32855**
CV Glendora 3 Site, LLC)[3]			
(Successor to:			
Rosedale, Miles R.	184.00	0.00	0.00000
Monrovia Nursery Company)[2]	10.00	0.00	0.00000
	194.00	**0.00**	**0.00000**
DeFalco, John and Carole[3]			
(Successor to Nickowitz, at al.)[2]	1.49	0.00	0.00000
	1.49	**0.00**	**0.00000**
Glendora, City of	17.00	8,258.00	4.17842
(Successor to:			
Maechtlen, Estate of J. J.		150.00	0.07590
Maechtlen, Trust of P. A.		50.00	0.02530
Ruebhausen, Arline	18.34		
Glendora Unified High School District		99.00	0.05009
Loyola Marymount University		324.00	0.16394
Clayton Manufacturing Company)[2]		511.80	0.25896
	35.34	**9,392.80**	**4.75261**
Golden State Water Company, San Dimas District[3]	500.00	3,242.53	1.64067
(Formerly California Cities Water Company)			
(Successor to Namimatsu Farms)[2]		196.00	0.09917
	500.00	**3,438.53**	**1.73984**

INTEGRATED PRODUCER	DIVERSION COMPONENT ACRE-FEET	PRESCRIPTIVE PUMPING COMPONENT ACRE-FEET	PUMPING COMPONENT SHARE %
JUH#1[3]			
(Successor to Monrovia Nursery Company)[2]	48.00	0.00	0.00000
(Transferred to Miles R. Rosedale)[2]	-16.00		
	32.00	**0.00**	**0.00000**
Los Angeles, County of	**310.00**	**3,721.30**	**1.88292**
Maechtlen, Estate of J. J., Trustee for the Estate of P.A. Maechtlen	0.00	301.50	0.15256
(Transferred to:			
City of Glendora		-150.00	-0.07590
Miller Brewing Company)[2]		-151.50	-0.07666
	0.00	**0.00**	**0.00000**
Maechtlen, Trust of J. J.[3]	1.49	0.00	0.00000
(Transferred to Otting, David;	-1.49	0.00	0.00000
Otting, Larry; and Webster, Scott)[2]			
(Successor to Otting, David;	1.49	0.00	0.00000
Otting, Larry; and Webster, Scott)[2]			
(Transferred to Nikowitz, et al)[2]	-1.49	0.00	0.00000
	0.00	**0.00**	**0.00000**
Maechtlen, Trust of P. A.[3]	0.50	100.50	0.05085
(Transferred to:			
City of Glendora		-50.00	-0.02530
Alice B. Phillips, et al.)[2]	-0.50	-50.50	-0.02555
	0.00	**0.00**	**0.00000**
The Metropolitan Water District of of Southern California	**9.59**	**165.00**	**0.08349**
Monrovia, City of	1,098.00	5,042.22	2.55129
(Successor to:			
Eckis, Rollin		123.00	0.06224
City of Arcadia)[2]		951.00	0.48119
	1,098.00	**6,116.22**	**3.09472**

INTEGRATED PRODUCER	DIVERSION COMPONENT ACRE-FEET	PRESCRIPTIVE PUMPING COMPONENT ACRE-FEET	PUMPING COMPONENT SHARE %
Monrovia Nursery Company	239.50	0.00	0.00000
(Successor to Azusa Foothill	718.50	0.00	0.00000
Citrus Company)[2]			
(Transferred:			
City of Azusa	-363.00	0.00	0.00000
Brierly, Susan K.	-24.00	0.00	0.00000
Rosedale, Miles R.	-191.00	0.00	0.00000
VanLandingham, Richard	-21.00	0.00	0.00000
JUH#1	-48.00	0.00	0.00000
Rosedale, Lance	-32.00	0.00	0.00000
CV Glendora 3 Site, LLC)[2]	-10.00	0.00	0.00000
	269.00	**0.00**	**0.00000**
Nikowitz, et al[3]			
(Successor to Maechtlen, Trust of J. J.)[2]	1.49	0.00	0.00000
(Held in common with Nikowitz, Sheryl M. and Walter P.; Pellegrino, Mark and Roxanne; Verdegem, Thomas and Sandra B.)			
(Transferred to DeFalco, John and Carole)[2]	-1.49	0.00	0.00000
	0.00	**0.00**	**0.00000**
Otting, David; Otting, Larry; and Webster, Scott[3]			
(Successor to Maechtlen, Trust of J. J.)[2]	1.49	0.00	0.00000
(Transferred to Maechtlen, Trust of J. J.)[2]	-1.49	0.00	0.00000
	0.00	**0.00**	**0.00000**
Phillips, Alice B., et al.[3]			
(Successor to Maechtlen, Trust of P. A.)[2]	0.50	50.50	0.02555
(Transferred to Miller Brewing Co.)[2]		-50.00	-0.02530
	0.50	**0.50**	**0.00025**
Rosedale, Lance[3]			
(Successor to Monrovia Nursery Company)[2]	**32.00**	**0.00**	**0.00000**
Rosedale, Miles R.[3]			
(Successor to Monrovia Nursery Company)[2]	191.00	0.00	0.00000
(Transferred to CV Glendora 3 Site, LLC)[2]	-184.00	0.00	0.00000
(Successor to:			
Susan K. Brierly	8.00	0.00	0.00000
JUH#1)[2]	16.00	0.00	0.00000
	31.00	**0.00**	**0.00000**

INTEGRATED PRODUCER	DIVERSION COMPONENT ACRE-FEET	PRESCRIPTIVE PUMPING COMPONENT ACRE-FEET	PUMPING COMPONENT SHARE %
San Gabriel Valley Water Company	0.00	16,659.00	8.42920
(Successor to:			
Vallecito Water Co.		2,867.00	1.45066
No. 17 Walnut Place Mutual Water Co.		21.50	0.01088
Cedar Avenue Mutual Water Company		121.10	0.06127
Beverly Acres Mutual Water Users Association		50.00	0.02530
Richwood Mutual Water Company		192.60	0.09745
Nicholson Trust, Helene S.		12.00	0.00607
Durfee Property, LLC		50.00	0.02530
Wright, Darrell A., Wright, Merle M. and Carlson, Jeanne W.		50.65	0.02563
Parton Family Trust		46.20	0.02338
Maddock, A.G.)[2]	3.40		
	3.40	**20,070.05**	**10.15514**
VanLandingham, Richard[3]			
(Successor to Monrovia Nursery Company)[2]	**21.00**	**0.00**	**0.00000**
TOTAL	**10,526.44**	**67,868.56**	**34.34047**

1/ Permanent transfer of rights as recorded at entry of Judgment.
2/ Permanent transfer of rights after entry of Judgment.
3/ Intervenor after Judgment.

EXHIBIT "F"

TABLE SHOWING
SPECIAL CATEGORY RIGHTS

PARTY	NATURE OF RIGHT
*The Metropolitan Water District of Southern California *Transferred to the San Gabriel Valley Protective Association 05/07/1996.	Morris Reservoir Storage and Withdrawal (a) A right to divert, store and use San Gabriel River Water, pursuant to Permit No. 7174. (b) Prior and paramount right to divert 72 acre-feet annually to offset Morris Reservoir evaporation and seepage losses and to provide the water supply necessary for presently existing incidental Morris Dam facilities.
Los Angeles County Flood Control District (now Los Angeles County Department of Public Works)	Puddingstone Reservoir Prior Prescriptive right to divert water from San Dimas Wash for storage in Puddingstone Reservoir in quantities sufficient to offset annual evaporation and seepage losses of the reservoir at approximate elevation 942.

EXHIBIT "G"

TABLE SHOWING
NON-CONSUMPTIVE USERS

PARTY	NATURE OF RIGHT
Covina Irrigating Company Azusa Valley Water Company Azusa Agricultural Water Co. Azusa Foot-Hill Citrus Co. Monrovia Nursery	"Committee-of-Nine" Spreading Right To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to spread in spreading grounds within the Basin all water thus diverted without the right to recapture water in excess of said parties' rights as adjudicated in exhibit "E".
California-American Water Company (Duarte System)	Spreading Right To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to continue to divert water from Fish Canyon and to spread said waters in its spreading grounds in the Basin without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
City of Glendora	Spreading Right To continue to spread the water of Big and Little Dalton Washes, pursuant to License No. 2592 without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
San Gabriel Valley Protective Association	Spreading Right To continue to spread San Gabriel River water pursuant to License Nos. 9991 and 12,209, without the right to recapture said water.
Golden State Water Company (formerly *California Cities Water Company*)	Spreading Right To continue to spread waters from San Dimas Wash without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
Los Angeles County Flood Control District	Temporary storage of storm flow for regulatory purposes; Spreading and conservation for general benefit in streambeds, reservoirs and spreading grounds without the right to recapture said water. Maintenance and operation of dams and other flood control works.

EXHIBIT "H"

WATERMASTER OPERATING CRITERIA

1. **Basin Storage Capacity.** The highest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1944 (elevation 316). The State of California, Department of Water Resources, estimates that as of that date, the quantity of fresh water in storage in the Basin was approximately 8,600,000 acre-feet. It is also estimated by said Department that by September 30, 1960, the quantity of fresh water in storage had decreased to approximately 7,900,000 acre-feet (elevation 237 at the Key Well).

The lowest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1965 (elevation 209). It is estimated that the quantity of fresh water in storage in the Basin on that date was approximately 7,700,000 acre-feet.

Thus, the maximum utilization of Basin storage was approximately 900,000 acre-feet, occurring between September 30, 1944, and September 30, 1965 (between elevations 316 and 209 at the Key Well). This is not to say that more than 900,000 acre-feet of storage space below the September 30, 1944 water levels cannot be utilized. However, it demonstrates that pumpers have deepened their wells and lowered their pumps so that such 900,000 acre-feet of storage can be safely and economically utilized.

The storage capacity of the Basin between elevations of 200 and 250 at the Key Well represents a usable volume of approximately 400,000 acre-feet of water.

2. **Operating Safe Yield and Spreading.** Watermaster in determining Operating Safe Yield and the importation of Replacement Water shall be guided by water level elevations in the Basin. He shall give recognition to, and base his operations on, the following general objectives insofar as practicable and subject to Section 47 of the Judgment (Amended 6/21/12):

(a) The replenishment of ground water from sources of supplemental water should not cause excessively high levels of ground water and such replenishment should not cause undue waste of local water supplies.

(b) Certain areas within the Basin are not at the present time capable of being recharged with supplemental water. Efforts should be made to provide protection to such areas from excessive ground water lowering either through the "in lieu" provisions of the

Judgment or by other means.

(c) Watermaster shall consider and evaluate the long-term consequences on ground water quality, as well as quantity, in determining and establishing Operating Safe Yield. Recognition shall be given to the enhancement of ground water quality insofar as practicable, especially in the area immediately upstream of Whittier Narrows where degradation of water quality may occur when water levels at the Key Well are maintained at or below elevation 200.

(d) Watermaster shall take into consideration the comparative costs of supplemental and Make-up Water in determining the savings on a present value basis of temporary or permanent lowering or raising of water levels and other economic data and analyses indicating both the short-term and long-term propriety of adjusting Operating Safe Yield in order to derive optimum water levels during any period. Watermaster shall utilize the provisions in the Long Beach Judgment which will result in the least cost of delivering Make-up Water.

3. **Replacement Water -- Sources and Recharge Criteria.** The following criteria shall control purchase of Replacement Water and Recharge of the Basin by Watermaster.

(a) **Responsible Agency From Which to Purchase.** Watermaster, in determining the Responsible Agency from which to purchase supplemental water for replacement purposes, shall be governed by the following:

(1) **Place of Use of Water** which is used primarily within the Basin or by cities within San Gabriel District in areas within or outside the Basin shall control in determining the Responsible Agency. For purposes of this subparagraph, water supplied through a municipal water system which lies chiefly within the Basin shall be deemed entirely used within the Basin; and

(2) **Place of production of water** shall control in determining the Responsible Agency as to water exported from the Basin, except as to use within San Gabriel District.

Any Responsible Agency may, at the request of Watermaster, waive its right to act as the source for such supplemental water, in which case Watermaster shall be free to purchase such water from the

remaining Responsible Agencies which are the most beneficial and appropriate sources; provided, however, that a Responsible Agency shall not authorize any sale of water in violation of the California Constitution.

(b) **Water Quality.** Watermaster shall purchase the best quality of supplemental water available for replenishment of the Basin, pursuant to subsection (a) hereof.

(c) **Reclaimed Water.** It is recognized that the technology and economic and physical necessity for utilization of reclaimed water is increasing. The purchase of reclaimed water in accordance with the Long Beach Judgment to satisfy the Make-up Obligation is expressly authorized. At the same time, water quality problems involved in the reuse of water within the Basin pose serious questions of increased costs and other problems to the pumpers, their customers and all water users. Accordingly, Watermaster is authorized to gather information, make and review studies, and make recommendations on the feasibility of the use of reclaimed water for replacement purposes; provided that no reclaimed water shall be recharged in the Basin by Watermaster without the prior approval of the court, after notice to all parties and hearing thereon.

(d) **Purchased Water Plan.** On or before November 1 of each year, Watermaster shall prepare and distribute to the Responsible Agencies a three-year projection of its Supplemental Water purchases from each agency. Watermaster shall, to the extent feasible, coordinate the tentative schedule for delivery and payment of those purchases with each agency. (Amended 6/21/12)

4. **Replacement Assessment Rates.** The Replacement Assessment rates may be in an amount calculated to allow Watermaster to purchase more than one acre-foot of Supplemental Water for each acre-foot of excess Production to which such Assessment applies, when such purchases are prudent in order to secure necessary Supplemental Water supplies for the benefit of the Basin and parties. In accordance with Rules and Regulations adopted by Watermaster, to the extent Watermaster purchases more than one acre-foot of Supplemental Water for each acre-foot of excess Production to which such Assessment applies, a credit shall be issued to the affected Producers at the time such excess water is purchased. (Amended 6/21/12)

EXHIBIT "J"

PUENTE NARROWS AGREEMENT

THIS AGREEMENT is made and entered into as of the 8th day of May, 1972, by and between PUENTE BASIN WATER AGENCY, herein called "Puente Agency", and UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, herein called "Upper District".

A. RECITALS

1. Puente Agency. Puente Agency is a joint powers agency composed of Walnut Valley Water District, herein called "Walnut District", and Rowland Area County Water District, herein called "Rowland District". Puente Agency is formed for the purpose of developing and implementing a ground water basin management program for Puente Basin. Pursuant to said purpose, said Agency is acting as a representative of its member districts and of the water users and water right claimants therein in the defense and maintenance of their water rights within Puente Basin.

2. Upper District. Upper District is a municipal water district overlying a major portion of the Main San Gabriel Basin. Upper District is plaintiff in the San Gabriel Basin Case, wherein it seeks to adjudicate rights and implement a basin management plan for the Main San Gabriel Basin.

3. Puente Basin is a ground water basin tributary to the Main San Gabriel Basin. Said area was included within the scope of the San Gabriel Basin Case and substantially

all water rights claimants within Puente Basin were joined as defendants therein. The surface contribution to the Main San Gabriel Basin from Puente Basin is by way of the paved flood control channel of San Jose Creek, which passes through Puente Basin from the Pomona Valley area. Subsurface outflow is relatively limited and moves from the Puente Basin to the Main San Gabriel Basin through Puente Narrows.

4. Intent of Agreement. Puente Agency is prepared to assure Upper District that no activity within Puente Basin will hereafter be undertaken which will (1) interfere with surface flows in San Jose Creek, or (2) impair the subsurface flow from Puente Basin to the Main San Gabriel Basin. Walnut District and Rowland District, by operation of law and by express assumption endorsed hereon, assume the covenants of this agreement as a joint and several obligation. Based upon such assurances and the covenants hereinafter contained in support thereof, Upper District consents to the dismissal of all Puente Basin parties from the San Gabriel Basin Case. By reason of said dismissals, Puente Agency will be free to formulate a separate water management program for Puente Basin.

B. DEFINITIONS AND EXHIBITS

5. Definitions. As used in this Agreement, the following terms shall have the meanings herein set forth:

(a) Annual or Year refers to the fiscal year July 1 through June 30.

(b) Base Underflow. The underflow through

Puente Narrows which Puente Agency agrees to maintain, and on which accrued debits and credits shall be calculated.

(c) Make-up Payment. Make-up payments shall be an amount of money payable to the Watermaster appointed in the San Gabriel Basin Case, sufficient to allow said Watermaster to purchase replacement water on account of any accumulated deficit as provided in Paragraph 9 hereof.

(d) Puente Narrows. The subsurface geologic constriction at the downstream boundary of Puente Basin, located as shown on Appendix "B".

(e) Main San Gabriel Basin, the ground water basin shown and defined as such in Exhibit "A" to the Judgment in the San Gabriel Basin Case.

(f) San Gabriel Basin Case. Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., L. A. Sup. Ct. No. 924128, filed January 2, 1968.

6. Appendices. Attached hereto and by this reference made a part hereof are the following appendices:

"A" -- Location Map of Puente Basin, showing major geographic, geologic, and hydrologic features.

"B" -- Map of Cross-Section Through Puente Narrows, showing major physical features and location of key wells.

"C" -- Engineering Criteria, being a description of a method of measurement of subsurface outflow to be utilized for Watermaster purposes.

C. COVENANTS

7. Watermaster. There is hereby created a two member Watermaster service to which each of the parties to this agreement shall select one consulting engineer. The respective representatives on said Watermaster shall serve at the pleasure of the governing body of each appointing party and each party shall bear its own Watermaster expense.

a. Organization. Watermaster shall perform the duties specified herein on an informal basis, by unanimous agreement. In the event the two representatives are unable to agree upon any finding or decision, they shall select a third member to act, pursuant to the applicable laws of the State of California. Thereafter, until said issue is resolved, said three shall sit formally as a board of arbitration. Upon resolution of the issue in dispute, the third member shall cease to function further.

b. Availability of Information. Each party hereto shall, for itself and its residents and water users, use its best efforts to furnish all appropriate information to the Watermaster in order that the required determination can be made.

c. Cooperation With Other Watermasters. Watermaster hereunder shall cooperate and coordinate activities with the Watermasters appointed in the San Gabriel Basin Case and in Long Beach v. San Gabriel Valley Water Company, et al.

d. Determination of Underflow. Watermaster shall annually determine the amount of underflow from Puente Basin to the San Gabriel Basin, pursuant to Engineering Criteria.

e. Perpetual Accounting. Watermaster shall maintain a perpetual account of accumulated base underflow, accumulated subsurface flow, any deficiencies by reason of interference with surface flows, and the offsetting credit for any make-up payments. Said account shall annually show the accumulated credit or debit in the obligation of Puente Agency to Upper District.

f. Report. Watermaster findings shall be incorporated in a brief written report to be filed with the parties and with the Watermaster in the San Gabriel Basin Case. Said report shall contain a statement of the perpetual account heretofore specified.

8. Base Underflow. On the basis of a study and review of historic underflow from Puente Basin to the Main San Gabriel Basin, adjusted for the effect of the paved flood control channel and other relevant considerations, it is

mutually agreed by the parties that the base underflow is and shall be 580 acre feet per year, calculated pursuant to Engineering Criteria.

9. Puente Agency's Obligation. Puente Agency covenants, agrees and assumes the following obligation hereunder:

a. Noninterference with Surface Flow. Neither Puente Agency nor any persons or entities within the corporate boundaries of Walnut District or Rowland District will divert or otherwise interfere with or utilize natural surface runoff now or hereafter flowing in the storm channel of San Jose Creek; provided, however, that this covenant shall not prevent the use, under Watermaster supervision, of said storm channel by the Puente Agency or Walnut District or Rowland District for transmission within Puente Agency of supplemental or reclaimed water owned by said entities and introduced into said channel solely for transmission purposes. In the event any unauthorized use of surface flow in said channel is made contrary to the covenant herein provided, Puente Agency shall compensate Upper District by utilizing any accumulated credit or by make-up payment in the same manner as is provided for deficiencies in subsurface outflow from Puente Basin.

b. Subsurface Outflow. To the extent that

the accumulated subsurface outflow falls below the accumulated base underflow and the result thereof is an accumulated deficit in the Watermaster's annual accounting, Puente Agency agrees to provide make-up payments during the next year in an amount not less than one-third of the accumulated deficit.

c. Purchase of Reclaimed Water. To the extent that Puente Agency or Walnut District or Rowland District may hereafter purchase reclaimed water from the facilities of Sanitation District 21 of Los Angeles County, such purchaser shall use its best efforts to obtain waters originating within San Gabriel River Watershed.

10. Puente Basin Parties Dismissal. In consideration of the assumption of the obligation hereinabove provided by Puente Agency, Upper District consents to entry of dismissals as to all Puente Basin parties in San Gabriel Basin Case. This agreement shall be submitted for specific approval by the Court and a finding that it shall operate as full satisfaction of any and all claims by the parties within Main San Gabriel Basin against Puente Basin parties by reason of historic surface and subsurface flow.

Exhibit "J"

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed as of the day and date first above written.

Approved as to form:
CLAYSON, STARK, ROTHROCK & MANN

By _____
Attorneys for Puente Agency

PUENTE BASIN AGENCY

By _____
EDMOND M. BIEDERMAN
President

Approved as to form:

By _____
Attorney for Upper District

UPPER SAN GABRIEL VALLEY
MUNICIPAL WATER DISTRICT

By _____
Howard H. Hawkins
President

The foregoing agreement is approved and accepted, and the same is acknowledged as the joint and several obligation of the undersigned.

Approved as to form:

_____
Attorney for Walnut District

WALNUT VALLEY WATER DISTRICT

By _____
J. P. BOURDET
Vice President

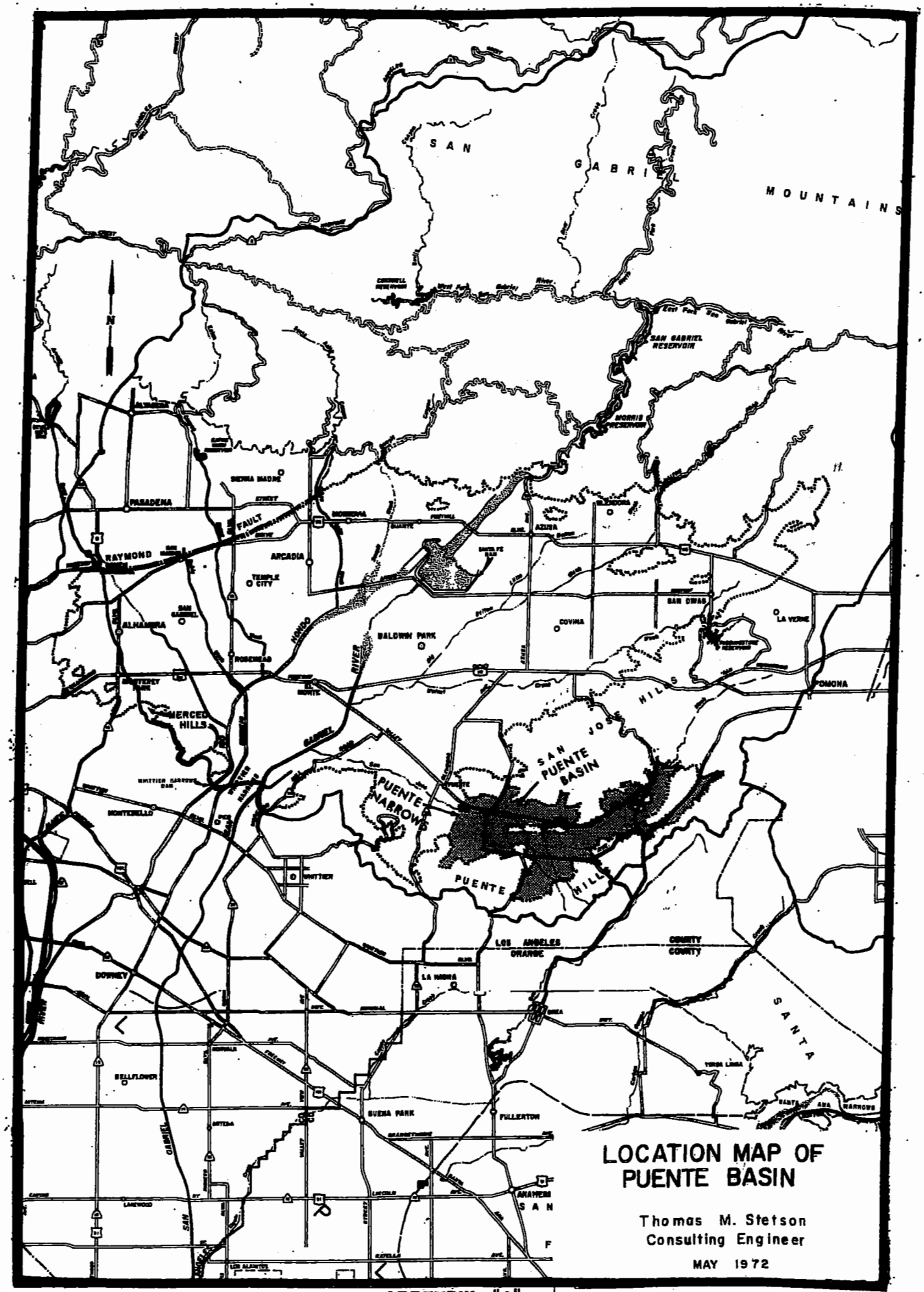
Approved as to form:

_____
Attorneys for Rowland District

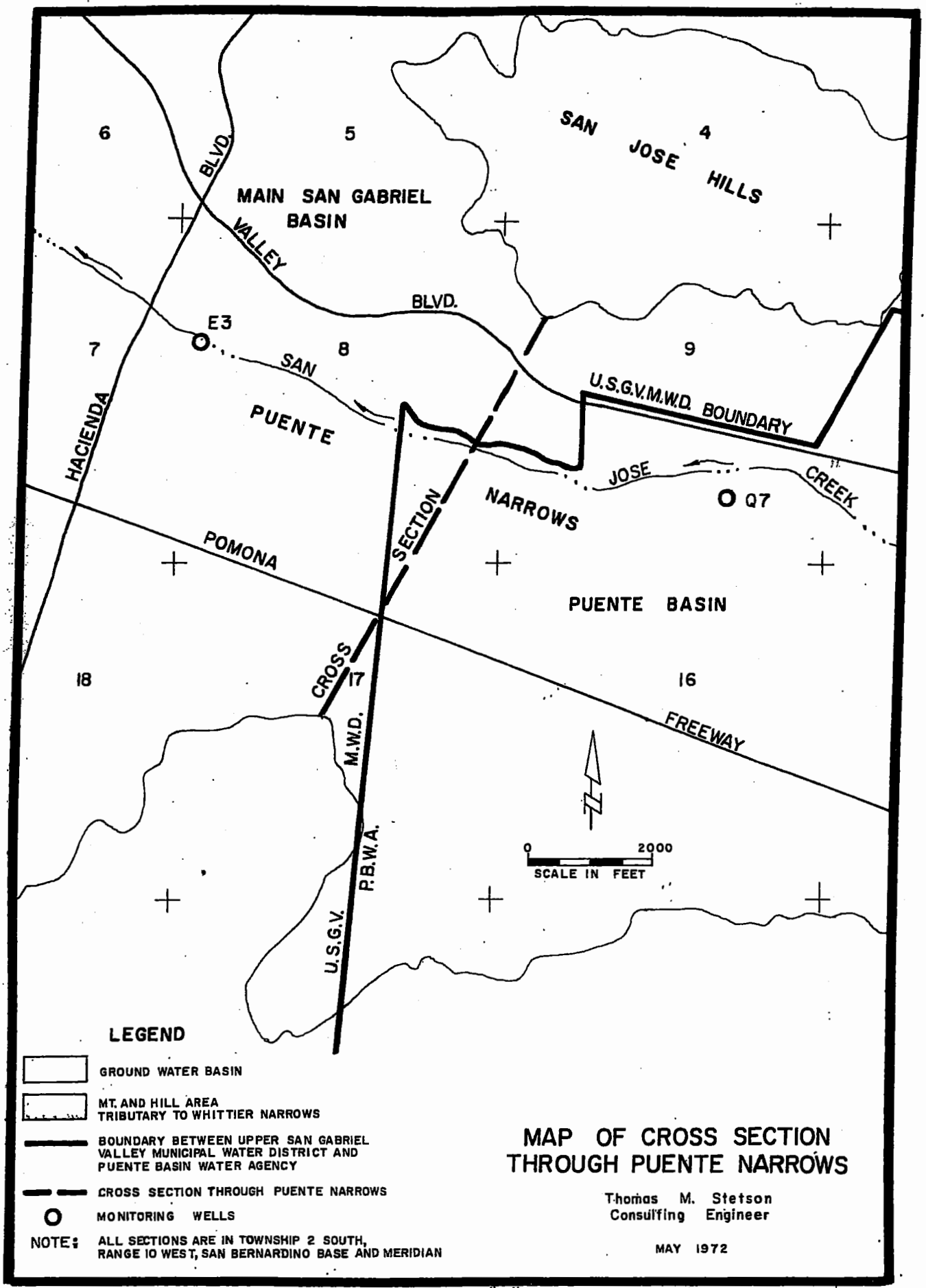
ROWLAND AREA COUNTY WATER DISTRICT

By _____
President
Wm. A. Simmons

Exhibit "J"



APPENDIX "A"
EXHIBIT "J"



MAP OF CROSS SECTION THROUGH PUENTE NARROWS

Thomas M. Stetson
Consulting Engineer

MAY 1972

APPENDIX "B"
EXHIBIT "J"

ENGINEERING CRITERIA

APPENDIX "C"

1. Monitoring Wells. The wells designated as State Wells No. 2S/10W-9Q7 and 2S/10W-8E3 and Los Angeles County Flood Control District Nos. 3079M and 3048B, respectively, shall be used to measure applicable ground water elevations. In the event either monitoring well should fail or become unrepresentative, a substitute well shall be selected or drilled by Watermaster. The cost of drilling a replacement well shall be the obligation of the Puente Agency.

2. Measurement. Each monitoring well shall be measured and the ground water elevation determined semi-annually on or about April 1 and October 1 of each year. Prior to each measurement, the pump shall be turned off for a sufficient period to insure that the water table has recovered to a static or near equilibrium condition.

3. Hydraulic Gradient. The hydraulic gradient, or slope of the water surface through Puente Narrows, shall be calculated between the monitoring wells as the difference in water surface elevation divided by the distance, approximately 9,000 feet, between the wells. The hydraulic gradient shall be determined for the spring and fall and the average hydraulic gradient calculated for the year.

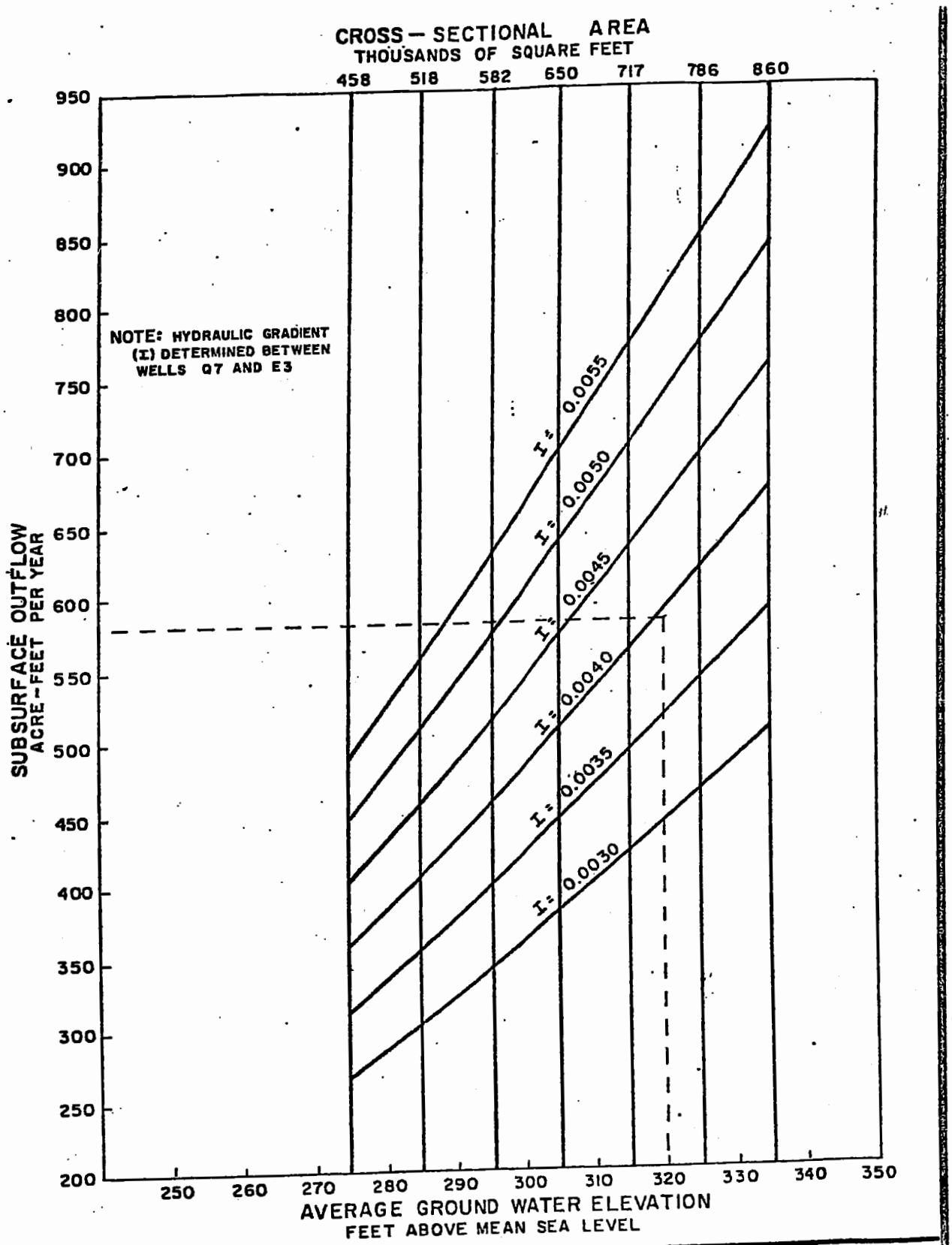
4. Ground Water Elevation at Puente Narrows Cross Section. The ground water elevation at the Puente Narrows

cross section midway between the monitoring wells shall be the average of the ground water elevation at the two wells. This shall be determined for the spring and fall and the average annual ground water elevation calculated for the year.

5. Determination of Underflow. The chart attached is a photo-reduction of a full scale chart on file with the Watermaster. By applying the appropriate average annual hydraulic gradient (I) to the average annual ground water elevation at the Puente Narrows cross section (involving the appropriate cross-sectional area [A]), it is possible to read on the vertical scale the annual acre feet of underflow.

APPENDIX "C"

Exhibit "J"



RELATIONSHIP OF AVERAGE GROUND WATER ELEVATION AT PUENTE NARROWS AND APPLICABLE CROSS-SECTIONAL AREA WITH SUBSURFACE OUTFLOW THROUGH PUENTE NARROWS FOR VARIOUS HYDRAULIC GRADIENTS

Thomas M. Stetson
Consulting Engineer
MAY 1972

EXHIBIT "J"

EXHIBIT "K"

OVERLYING RIGHTS

I. NATURE OF OVERLYING RIGHT

An "Overlying Right" is the right to Produce water from the Main San Gabriel Basin for use on the overlying lands hereinafter described. Such rights are exercisable without quantitative limit only on said overlying land and cannot be separately conveyed or transferred apart therefrom. The exerciser of such right is assessable by Watermaster as provided in Paragraph 21 of the Amended Judgment herein (prior Paragraph 14.5 of the Judgment herein) and is subject to the other provisions of said Paragraph.

II. OVERLYING LANDS (Description)

The overlying lands to which Overlying Rights are appurtenant are described as follows:

> "Those portions of Lots 1 and 2 of the lands formerly owned by W.A. Church, in the Rancho San Francisquito, in the City of Irwindale, County of Los Angeles, State of California, as shown on recorder's filed map No. 509, in the office of the County Recorder of said County, lying northeasterly of the northeasterly line and its southeasterly prolongation of Tract 1888, as shown on map recorded in Book 21 page 183 of Maps, in the office of the County Recorder of said County.
>
> "EXCEPT the portions thereof lying northerly and northwesterly of the center line of Arrow Highway described 'Sixth' and the center line of Live Oak Avenue described 'Third' in a final decree of condemnation, a certified copy of which was recorded August 18, 1933 as Instrument No. 354, in Book 12289, Page 277, Official Records.
>
> "ALSO EXCEPT that portion of said land described in the final decree of condemnation entered in Los Angeles County Superior Court Case No. 805008, a certified copy of which was recorded September 21, 1964, as Instrument No. 3730 in Book D-2634, Page 648, Official Records."

III. PRODUCERS ENTITLED TO EXERCISE OVERLYING RIGHTS AND THEIR RESPECTIVE CONSUMPTIVE USE PORTIONS

The persons entitled to exercise Overlying Rights are both the owners of Overlying Rights and persons and entities licensed by such owners to exercise such Overlying Rights. The persons entitled to exercise Overlying Rights and their respective Consumptive Use portions are as follows:

OWNER PRODUCERS	**CONSUMPTIVE USE PORTION**
BROOKS GIFFORD, SR. BROOKS GIFFORD, JR. PAUL MNOIAN JOHN MGRDICHIAN J. EARL GARRETT	3.5 acre-feet per year
Present User: Nu-Way Industries	

PRODUCERS UNDER LICENSE

A.	WILLIAM C. THOMAS and EVELYN F. THOMAS, husband and wife, and MALCOLM K. GATHERER and JACQUELINE GATHERER, husband and wife, doing business by and through B & B REDI-I-MIX CONCRETE, INC., a corporation	45.6 acre-feet per year
B.	PRE-STRESS CRANE RIGGING & TRUCK CO., INC., a corporation	1.0 acre-foot per year
	Present Users: Pre-Stress Crane Rigging & Truck Co., Inc., a corporation	
	TOTAL	50.1 acre-feet per year

IV. ANNUAL GROSS AMOUNT OF PRODUCTION FROM WHICH CONSUMPTIVE USE PORTIONS WERE DERIVED 183.65 acre-feet

EXHIBIT "K"

CONSUMPTIVE USE PORTIONS OF PRODUCERS WITH OVERLYING RIGHTS AS OF JUNE 30, 2013

OVERLYING PRODUCER	CONSUMPTIVE USE PORTION (ACRE-FEET)
1. Mnoian-Gifford Interests	
Owner Producers	
Paul Mnoian[3]	
Brooks Gifford, Sr.[3]	
Brooks Gifford, Jr.[3]	
John Mgrdichian[3]	
J. Earl Garrett[3]	
Present User: Nu-Way Industries	**3.5**
Producers Under License	
William C. Thomas[3]	
Evelyn F. Thomas[3]	
Malcolm K. Gatherer[3]	
Jacqueline Gatherer[3]	
Present User: B & B Red-I-Mix Concrete, Inc.	45.6
Pre-Stress Crane Rigging and Truck, Co., Inc.[3]	1.0
	50.1
2. Attalla, Phillip Y. and Mary L.[3]	**29.9**
3. Citrus Valley Medical Center, Queen of the Valley Campus.[3] (Formerly Queen of the Valley Hospital.[3])	**4.5**
4. S.L.S & N. Inc.[3]	--
TOTAL	**84.5**

1/ Permanent transfer of rights as recorded within Exhibits "C", "D", and "E" of Judgment.

2/ Permanent transfer of rights after entry of Judgment.

3/ Intervenor after Judgment.

EXHIBIT "L"

LIST OF PRODUCERS AND THEIR DESIGNEES
June 21, 2012

PRODUCER	DESIGNEE
Adams Ranch Mutual Water Company	Domenic T. Cimarusti
Alhambra, City of	Mary Chavez
Amarillo Mutual Water Company	John Holzinger
Anderson Family Marital Trust	Carolyn Heinrich
Andrade, Susan	Susan Andrade
Aqua Capital Management LP	David L. Penrice
Arcadia, City of	Tom Tait
Azusa, City of	Chet Anderson
Azusa Agricultural Water Company	Chet Anderson
Azusa Valley Water Company	Chet Anderson
Bandel Family Trust	Candace Garnier Bandel
Banks, Gale C. and Vicki L.	Gale and Vicki Banks
Brezina Trust 2001, Raymond W. and Susan W.	Raymond W. Brezina
Brierly, Susan K.	Reiner Kruger
Brondino, Jeanne	Jeanne Brondino
Cadway, Inc.	James M. Byerrum
California-American Water Company (Duarte System)	Todd Brown
California-American Water Company (San Marino System)	Todd Brown
California Domestic Water Company	James M. Byerrum
Canyon Water Company	William McIntyre
Canyon Water & Development Corporation	Chet Anderson
Champion Mutual Water Company	Bryan P. Hellein
Chevron U.S.A.	Leon F. Drozd, Esq.
Citrus Valley Medical Center, Queen of the Valley Campus	Gregory J. Landers
Coiner, James W., dba Coiner Nursery	James W. Coiner
County Sanitation District No. 18	Raymond Tremblay
Covina, City of	Daryl Parrish
Covina Irrigating Company	David D. De Jesus
Crevolin, A. J.	A. J. Crevolin
CV Glendora 3 Site, LLC	Bill McReynolds
Dawes, Mary Kay	Mary Kay Partridge
DeFalco, John and Carole	John and Carole DeFalco
Del Rio Mutual Water Company	Dario Herrera
Driftwood Dairy	David Trenkenschuh

PRODUCER	DESIGNEE
East Pasadena Water Company	Lawrence M. Morales
El Monte, City of	Rene Bobadilla
El Monte Cemetery Association	Todd Brown
Fox Family Trust Michael Edward Fox and Crystal Marie Fox, Trustees	Michael and Crystal Fox
Garnier Family Trust, Anton C. and Anita	Anton C. and Anita Garnier
Garnier, Ruth Elaine Ailor Trust	Renee Garnier Poivre
Gates, James Richard	James Richard Gates
Glendora, City of	Steve Patton
Golden State Water Company - San Dimas District	Patrick Scanlon
Golden State Water Company - San Gabriel Valley District	Benjamin Lewis, Jr.
Green, Walter	Dr. Walter Green
Hanson Aggregates West, Inc.	Michael Rogers
Heinrich, Carolyn	Carolyn Heinrich
Hemlock Mutual Water Company	Robert McClung
Industry Waterworks Systems, City of	Gregory B. Galindo
Irwindale, City of	Sol Benudiz
JUH #1	Reiner Kruger
Kirklen, Jeffery B.	Jeffery B. Kirklen
Knight, William J.	William J. Knight
Landeros, John	John Landeros
La Puente Valley County Water District	Gregory B. Galindo
Lovelady, June G., Trustee	June G. Lovelady
Los Angeles, County of	Robert Maycumber
Loucks, David	David Loucks
Maddock, A.G.	S. Joellen Maddock
Maggiore, Valarie	Valarie Maggiore
McIntyre, William	William McIntyre
Metropolitan Water District of Southern California	Lorraine Aoys
Miller Coors LLC	Jeffrey D. Arbour
Monrovia, City of	Ron Bow
Monrovia Nursery	Reiner Kruger
Monterey Park, City of	Elias Saykali
Munoz, Ralph	Ralph Munoz
Nicholson Trust, The	M. L. Whitehead
Nicholson Family Trust, The	M. L. Whitehead

PRODUCER	DESIGNEE
Parton Family Trust	Vernal O. and Marverna Parton
Pellissier Irrevocable QTIP Trust, et al, Laurence R., Co-tenancy of	James M. Byerrum
Pico County Water District	Mark Grajeda
Polopolus, et. Al	Helen Gaskins
Rados Brothers	Alexander S. Rados
Rosedale, Lance	Reiner Kruger
Rosedale, Miles R.	Reiner Kruger
Rosemead Development LTD.	John W. Lloyd
Rurban Homes Mutual Water Company	George W. Bucey
Ruth, Roy	Roy Ruth
San Gabriel Country Club	Eddie Villanueva
San Gabriel County Water District	Barbara A. Carrera
San Gabriel Valley Municipal Water District	Darin Kasamoto
San Gabriel Valley Water Company	Michael L. Whitehead
Sierra La Verne Country Club	Donald Johnson
Sierra Madre, City of	Bruce Inman
Sonoco Products Company	Khaleda Hamid
South Pasadena, City of	Marcelino Aguilar
Southern California Edison Company	Jorge A. Rosa, Jr.
Southwest Water Company	Richard J. Rich
Sterling Mutual Water Company	Joy Ann Burt
Suburban Water Systems	Michael Quinn
Sunny Slope Water Company	Ken Tcheng
Tate, Phillip G. and Sieglinde A.	Phillip Tate
Three Valleys Municipal Water District	Richard W. Hansen
Tomovich, Nick and Sons	Nick Tomovich
Hieu Tran	Hieu Tran
Tyler Nursery	Fumiko Kishi
USA Waste of California, Inc.	Joseph J. Cassin
United Rock Products Corporation	Russ Caruso
Upper San Gabriel Valley Municipal Water District	Steven P. O'Neill
Valencia Heights Water Company	P. David Michalko
Valley County Water District	Lynda A. Noriega
Valley View Mutual Water Company	Sukie Madrid
VanLandingham, Richard	Reiner Kruger
Vietnamese American Buddhist Temple Congregation	Thích Viên Ly
Vulcan Materials Company	Robert W. Bowcock

PRODUCER	DESIGNEE
Whittier, City of	Daniel Wall
Wilmott, Erma M.	Erma M. Wilmott
Woodland, Richard	Richard J. Woodland
Workman Mill Investment Company	Bruce A. Lazenby

EXHIBIT "M"

WATERMASTER MEMBERS

FOR CALENDAR YEAR 1973

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
RICHARD L. ROWLAND (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
HOWARD H. HAWKINS (Public Member)
M.E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)
HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1974

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
RICHARD L. ROWLAND (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
BURTON E. JONES (Public Member)
M.E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)
HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1975

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

D.J. LAUGHLIN (Producer Member)

M.E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1976

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

D.J. LAUGHLIN (Producer Member)

M.E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1977

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

BOYD KERN (Public Member)

D.J. LAUGHLIN (Producer Member)

R.H. NICHOLSON, JR. (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1978

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

D.J. LAUGHLIN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

L.E. MOELLER (Producer Member)

R.H. NICHOLSON, JR. (Producer Member)

WILLIAM M. WHITESIDE (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1979

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

ROBERT G. BERLIEN (Producer Member)*

ANTON C. GARNIER (Producer Member)

D.J. LAUGHLIN (Producer Member)**

TRAVIS L. MANNING (Public Member)

L.E. MOELLER (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

* Elected March 1979 to replace D.J. Laughlin, following his resignation.
** Resigned from Watermaster in February 1979.

FOR CALENDAR YEAR 1980

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

ROBERT G. BERLIEN (Producer Member)

ANTON C. GARNIER (Producer Member)

TRAVIS L. MANNING (Public Member)

L.E. MOELLER (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1981

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

ROBERT G. BERLIEN (Producer Member)

ANTON C. GARNIER (Producer Member)

TRAVIS L. MANNING (Public Member)

L.E. MOELLER (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1982

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

ROBERT G. BERLIEN (Producer Member)

ANTON C. GARNIER (Producer Member)

L.E. MOELLER (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1983

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

DONALD F. CLARK (Public Member)

ANTON C. GARNIER (Producer Member)

L.E. MOELLER (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1984

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

DONALD F. CLARK (Public Member)

ANTON C. GARNIER (Producer Member)

L.E. MOELLER (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1985

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

DONALD F. CLARK (Public Member)

ANTON C. GARNIER (Producer Member)

L.E. MOELLER (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1986

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

DONALD F. CLARK (Public Member)

L.E. MOELLER (Producer Member)

REGINALD A. STONE (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1987

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

L.E. MOELLER (Producer Member), Secretary

ALFRED F. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

GERALD J. BLACK (Producer Member)

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1988

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

L.E. MOELLER (Producer Member), Secretary

ALFRED F. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

GERALD J. BLACK (Producer Member)

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1989

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

GERALD J. BLACK (Producer Member), Secretary

ALFRED F. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)*

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

BURTON E. JONES (Public Member)

NELS PALM (Producer Member)**

THOMAS E. SHOLLENBERGER (Producer Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

* DECEASED APRIL 25, 1989

** Appointed August 24, 1989, for the balance of the calendar year term, to replace deceased member, Robert T. Balch.

FOR CALENDAR YEAR 1990

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

GERALD J. BLACK (Producer Member), Secretary

ALFRED F. WITTIG (Public Member), Treasurer

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

BURTON E. JONES (Public Member)

NELS PALM (Producer Member)

THOMAS E. SHOLLENBERGER (Producer Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1991

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

GERALD J. BLACK (Producer Member), Secretary

NELS PALM (Producer Member), Treasurer

ROYALL K. BROWN (Public Member)

MARVIN JOE CICHY (Public Member)

EDWARD R. HECK (Producer Member)

C. ROBER KEISER (Public Member)

ANDREW A. KRUEGER (Producer Member)

STAFF

John E. Maulding, Executive Officer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1992

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NELS PALM (Producer Member), Treasurer

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RICHARD W. CANTWELL (Producer Member)

BURTON E. JONES (Public Member)

C. ROBER KEISER (Public Member)

ANDREW A. KRUEGER (Producer Member)

STAFF

John E. Maulding, Executive Officer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1993

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

GERALD J. BLACK (Producer Member), Secretary

NELS PALM (Producer Member), Treasurer

RICHARD W. CANTWELL (Producer Member)

MARVIN JOE CICHY (Public Member)

FRANK F. FORBES (Public Member)

ANDREW A. KRUEGER (Producer Member)

LEROY E. MOELLER (Public Member)

STAFF

John E. Maulding, Executive Officer
Frederic A. Fudacz, Attorney (Effective February 1993)
Ralph B. Helm, Attorney (Retired January 1993)
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1994

LINN E. MAGOFFIN (Producer Member), Chairman******

REGINALD A. STONE (Producer Member), Vice Chairman

RICHARD W. CANTWELL (Producer Member), Secretary***

STANLEY D. YARBROUGH (Producer Member), Treasurer

GERALD J. BLACK (Producer Member)*

MARVIN JOE CICHY (Public Member)

FRANK F. FORBES (Public Member)

MANNY J. MAGANA (Producer Member)

P. GEOFFREY NUNN (Producer Member)*******

LEROY E. MOELLER (Public Member)

MICHAEL L. WHITEHEAD (Producer Member)**

STAFF

John E. Maulding, Executive Officer****
Carol Williams, Executive Officer*****
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

*	Mr. Black resigned from Watermaster on February 4, 1994
**	Mr. Whitehead was nominated to Watermaster on March 2, 1994
***	Mr. Cantwell was elected as Watermaster Secretary on May 4, 1994
****	Mr. Maulding passed away on March 13, 1994
*****	Ms. Williams was appointed Executive Officer on August 3, 1994
******	Mr. Magoffin resigned from Watermaster on August 3, 1994
*******	Mr. Nunn was nominated to Watermaster on August 8, 1994

FOR CALENDAR YEAR 1995

REGINALD A. STONE (Producer Member), Chairman
RICHARD W. CANTWELL (Producer Member), Vice Chairman
MANNY J. MAGANA (Producer Member), Secretary
MICHAEL L. WHITEHEAD (Producer Member), Treasurer
JUDITH L. ALMOND (Producer Member)
ROBERT W. BOWCOCK (Producer Member)
MARVIN JOE CICHY (Public Member)
FRANK F. FORBES (Public Member)
LEROY E. MOELLER (Public Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1996

REGINALD A. STONE (Producer Member), Chairman
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FOR CALENDAR YEAR 1997

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FRANK F. FORBES (Public Member)

LEROY E. MOELLER (Public Member)

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1998

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MANNY J. MAGANA (Producer Member), Secretary

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FRANK F. FORBES (Public Member)

LEROY E. MOELLER (Public Member)

STAFF

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1999

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FRANK F. FORBES (Public Member)

JAMES B. GALLAGHER (Producer Member)

LEROY E. MOELLER (Public Member)

STAFF

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Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2000

REGINALD A. STONE (Producer Member), Chairman

RICHARD W. CANTWELL (Producer Member), Vice Chairman

MANNY J. MAGANA (Producer Member), Secretary

MICHAEL L. WHITEHEAD (Producer Member), Treasurer

ROBERT W. BOWCOCK (Producer Member)

MARVIN JOE CICHY (Public Member)

FRANK F. FORBES (Public Member)

JAMES B. GALLAGHER (Producer Member)

LEROY E. MOELLER (Public Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2001

REGINALD A. STONE (Producer Member), Chairman
RICHARD W. CANTWELL (Producer Member), Vice Chairman
MANNY J. MAGANA (Producer Member), Secretary
MICHAEL L. WHITEHEAD (Producer Member), Treasurer
ROBERT W. BOWCOCK (Producer Member)
MARVIN JOE CICHY (Public Member)
FRANK F. FORBES (Public Member)
JAMES B. GALLAGHER (Producer Member)
LEROY E. MOELLER (Public Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2002

REGINALD A. STONE (Producer Member), Chairman
RICHARD W. CANTWELL (Producer Member), Vice Chairman
MANNY J. MAGANA (Producer Member), Secretary
MICHAEL L. WHITEHEAD (Producer Member), Treasurer
ROBERT W. BOWCOCK (Producer Member)
MARVIN JOE CICHY (Public Member)
FRANK F. FORBES (Public Member)
JAMES B. GALLAGHER (Producer Member)
CAROL A. MONTANO (Public Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2003

REGINALD A. STONE (Producer Member), Chairman
RICHARD W. CANTWELL (Producer Member), Vice Chairman
JAMES B. GALLAGHER (Producer Member), Secretary
ROBERT W. NICHOLSON (Producer Member), Treasurer
ROBERT W. BOWCOCK (Producer Member)
ALFONSO CONTRERAS (Public Member)
FRANK F. FORBES (Public Member)
THOMAS LOVE (Public Member)
CHARLES SHAW (Producer Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2004

PAUL S. CARVER (Producer Member), Chairman
JAMES B. GALLAGHER (Producer Member), Vice Chairman
ROBERT W. BOWCOCK (Producer Member), Secretary
ROBERT W. NICHOLSON (Producer Member), Treasurer
RICHARD W. CANTWELL (Producer Member)
ALFONSO CONTRERAS (Public Member)
FRANK F. FORBES (Public Member)
THOMAS LOVE (Public Member)
CHARLES E. SHAW (Producer Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2005

PAUL S. CARVER (Producer Member), Chairman
JAMES B. GALLAGHER (Producer Member), Vice Chairman
ROBERT W. BOWCOCK (Producer Member), Secretary
ROBERT W. NICHOLSON (Producer Member), Treasurer
RICHARD W. CANTWELL (Producer Member)
ALFONSO CONTRERAS (Public Member)
LEON M.N. GARCIA (Public Member)
THOMAS LOVE (Public Member)
CHARLES E. SHAW (Producer Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2006

PAUL S. CARVER (Producer Member), Chairman
JAMES B. GALLAGHER (Producer Member), Vice Chairman
ROBERT W. BOWCOCK (Producer Member), Secretary
ROBERT W. NICHOLSON (Producer Member), Treasurer
RICHARD W. CANTWELL (Producer Member)
ALFONSO CONTRERAS (Public Member)
LEON M.N. GARCIA (Public Member)
THOMAS LOVE (Public Member)
CHARLES E. SHAW (Producer Member)

STAFF

Carol Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2009

JAMES M. BYERRUM (Producer Member), Chairman

PAT MALLOY (Producer Member), Vice Chairman

DAN ARRIGHI (Producer Member), Secretary

CHARLES E. SHAW (Producer Member), Treasurer

ROBERT W. BOWCOCK (Producer Member)

ED CHAVEZ (Public Member)

ALFONSO CONTRERAS (Public Member)

THOMAS LOVE (Public Member)

MICHAEL O. QUINN (Producer Member)

STAFF

Carol Thomas Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2010

JAMES M. BYERRUM (Producer Member), Chairman

PAT MALLOY (Producer Member), Vice Chairman

DAN ARRIGHI (Producer Member), Secretary

CHARLES E. SHAW (Producer Member), Treasurer

ROBERT W. BOWCOCK (Producer Member)

ED CHAVEZ (Public Member)

ALFONSO CONTRERAS (Public Member)

THOMAS LOVE (Public Member)

MICHAEL O. QUINN (Producer Member)

STAFF

Carol Thomas Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 2011

JAMES M. BYERRUM (Producer Member), Chairman

PAT MALLOY (Producer Member), Vice Chairman

DAN ARRIGHI (Producer Member), Secretary

CHARLES E. SHAW (Producer Member), Treasurer

CHET ANDERSON (Producer Member)

ED CHAVEZ (Public Member)

THOMAS LOVE (Public Member)

MICHAEL O. QUINN (Producer Member)

CHARLES TREVINO (Public Member)

STAFF

Carol Thomas Williams, Executive Officer
Frederic A. Fudacz, Attorney
Thomas M. Stetson, Engineer*
Stephen B. Johnson, Engineer**

* Thomas M. Stetson passed away 4/14/2011
** Stephen B. Johnson replaced Mr. Stetson

FOR CALENDAR YEAR 2012

JAMES M. BYERRUM (Producer Member), Chairman

PAT MALLOY (Producer Member), Vice Chairman

DAN ARRIGHI (Producer Member), Secretary

DAVID MICHALKO (Producer Member), Treasurer

CHET ANDERSON (Producer Member)

ED CHAVEZ (Public Member)

THOMAS LOVE (Public Member)

MICHAEL O. QUINN (Producer Member)

CHARLES TREVINO (Public Member)

STAFF

Carol Thomas Williams, Executive Officer *
Anthony C. Zampiello, Executive Officer**
Frederic A. Fudacz, Attorney
Stephen B. Johnson, Engineer

* Carol Thomas Williams resigned on 5/12/12
** Anthony C. Zampiello appointed to Executive Officer 9/26/12

FOR CALENDAR YEAR 2013

JAMES M. BYERRUM (Producer Member), Chairman

DAVID MICHALKO (Producer Member), Vice Chairman

DAN ARRIGHI (Producer Member), Secretary

RICHARD RICH (Producer Member), Treasurer

CHET ANDERSON (Producer Member)

ANTHONY R. FELLOW (Public Member)

GARRY HOFER (Producer Member)

THOMAS LOVE (Public Member)

CHARLES TREVINO (Public Member)

STAFF

Anthony C. Zampiello, Executive Officer
Frederic A. Fudacz, Attorney
Stephen B. Johnson, Engineer

APPENDIX K

EMERGENCY WATER CONSERVATION REGULATIONS

ORDINANCE NO. 2121

AN ORDINANCE ENACTING WATER CONSERVATION MEASURES AND REQUIREMENTS IN ACCORDANCE WITH EMERGENCY REGULATIONS PROMULGATED BY THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD.

The City Council of the City of Monterey Park does ordain as follows:

SECTION 1: The City Council finds as follows:

A. On January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions;

B. On April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions;

C. On April 1, 2015, the Governor issued an Executive Order that, in part, directs the State Water Resources Control Board (the "Board") to impose restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban usage through February 2016; require commercial, industrial, and institutional users to implement water efficiency measures; prohibit irrigation with potable water of ornamental turf in public street medians; and prohibit irrigation with potable water outside newly constructed homes and buildings that is not delivered by drip or microspray systems;

D. In response to the Governor's Executive Order, the Board on May 18, 2015 enacted emergency regulations amending 23 California Code of Regulations §§ 863, 864, 865, and 866 ("Emergency Regulations"). Absent additional action taken by the Board, the Emergency Regulations will expire February 13, 2016;

E. The drought conditions that formed the basis of the Governor's emergency proclamations continue to exist;

F. The present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years;

G. The drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary to prevent waste and unreasonable use of water and to further promote

conservation;

H. Recent court decisions have reduced the amount of water supplied through the State Water Project;

I. Rainfall in southern California is below last year's levels and annual averages;

J. Reservoir levels statewide are well below average and below capacity;

K. Water conservation is crucial to the continued delivery of clean, safe water to Monterey Park residents and customers;

L. The City will continue to offer educational materials, to promote best practices for water conservation, and to support the use of water conserving household fixtures to its users and customers in efforts of encouraging water use efficiency practices and preventing the waste of available water resources. This Ordinance sets forth water use efficiency practices and water conservation measures that will be implemented and followed by all applicable users within the service boundaries of the City;

M. Article XI, § 7 of the California Constitution empowers the City to enact and enforce ordinances regulating conditions that may be public nuisances or health hazards, or that promote social, economic, or aesthetic considerations;

N. In accordance with Water Code § 375, the Council finds it is in the public interest to adopt this Ordinance for water conservation purposes; and

SECTION 2: In accordance with the Emergency Regulations and other applicable law, the City Council adopts the following regulations to achieve the conservation standards established by the Board:

H20 1.020 **Title**.

This Ordinance may be referred to as the "Monterey Park Emergency Water Conservation Regulations."

H20 1.030 **Purpose**.

This Ordinance is adopted in accordance with Article XI, § 7 of the California Constitution and Water Code § 375 for the purpose of

complying with 23 California Code of Regulations §§ 863, 864, 865, and 866 as amended May 18, 2015.

H20 1.040 **Monterey Park Municipal Code Chapter 14.08.**

This Ordinance is intended to supplement and enhance Chapter 14.08 of the Monterey Park Municipal Code ("MPMC") and must be used in conjunction with the regulations set forth in the MPMC for all activities associated with potable water within the City's jurisdiction. Any regulation contained in this Ordinance that imposes a more stringent requirement than set forth in the MPMC will prevail.

H20 1.050 **General Prohibition and Enforcement.**

A. It is unlawful for any person to violate, or fail to comply with, any provision of Ordinance. Unless otherwise provided, violations of this Ordinance constitute an infraction.

B. Every person violating this Ordinance is guilty of a separate offense for each and every day during any portion of which any violation of any provision of this Ordinance is committed, continued, or permitted by such person.

C. In addition to these penalties, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a public nuisance and may be abated in accordance with applicable law including, without limitation, the Monterey Park Municipal Code.

D. This Ordinance may also be enforced with administrative citations in accordance with MPMC Chapter 1.09.

H20 1.060 **Penalties.**

A. Each infraction is punishable as follows:

1. A fine not exceeding $100.00 for the first violation;

2. A fine not exceeding $200.00 for a second violation of the same provision within one (1) year;

3. A fine not exceeding $500.00 for each additional violation of the same provision within one (1) year of the first violation.

B. If a person violates the same provision a fourth time within one (1)

year of the first violation, the City Attorney may, but is not required to, prosecute the violation as a misdemeanor in accordance with applicable law.

C. Following a duly noticed public hearing, the City Council may, by resolution, adopt additional penalties in accordance with applicable law for violations of this Ordinance.

H20 1.070 **Exception; defense.**

A. This Ordinance does not apply when an action is needed to address an immediate threat to health and safety or to comply with a term or condition in a permit issued by a State or federal agency.

B. A person may assert such exception as a defense for violations of this Ordinance.

H20 1.080 Definitions.

Unless the contrary is stated or clearly appears from the context, the following definitions govern the construction of the words and phrases used in this Ordinance. Words and phrases not defined by this Ordinance have the meaning set forth in the MPMC, the Water Code, or regulations promulgated by the State Water Resources Control Board in accordance with applicable law.

"Water superintendent" means the City Manager, or designee.

H20 1.090 **Service permits – Application.**

Should the City Council declare a Stage 4 Drought Emergency in accordance with this Ordinance, it may also direct the water superintendent not to accept any applications for new water service.

H20 1.100 **Consumer supplying water.**

It is unlawful for any consumer to allow, maintain, or permit leaks or waste of water. When a consumer's interior water pipes, those water pipes on the customer's side of the water meter, leak to an extent that water is being wasted and the customer does not repair said leaks, the water superintendent may, except in a Drought Emergency, give the customer thirty days' notice to make such repairs to eliminate said wastage of water. If said repairs are not completed within the thirty days' notice, the water service to the

property may be shut off. To have water service restored after such a shutoff, it will be necessary for the customer to furnish proof of said repairs, apply for service to be reinstated, and pay a reconnection fee established by city council resolution. In a Drought Emergency, the water superintendent may provide less time for compliance as required in accordance with applicable law. Customers must be provided with at least 24 hours to repair.

H20 1.110 **Regulations – Generally.**

A. Multiple Parcels. It is unlawful for water to be served to two or more parcels of property separately owned through a common service pipe, unless there is no main contiguous to said premises from which service may be had, and further unless the consumer first in order of service from the main provides a written guarantee to pay water rates for all parcels of property so served. Except in a Drought Emergency, the water superintendent must give thirty days' notice in writing to all consumers served through such service before enforcing MPMC Chapter 14.08 or Chapter 14.12 by discontinuing water service in accordance with this code and Public Utilities Code Sections 10001, *et seq*. In a Drought Emergency, the water superintendent may provide less time for compliance.

B. Hosing Down. To, among other things, comply with the city's national pollutant discharge elimination system ("NPDES") permit requirements, it is unlawful for any person to hose water or wash down any sidewalk, walkway, driveway, parking area or other paved surface, except as is required for the benefit of public health and safety.

C. Lawn/Landscape Watering. To, among other things, comply with the City's NPDES permit requirements:

1. It is unlawful for any person to water or cause to be watered any lawn or landscaping between the hours of 9:00 a.m. and 5:00 p.m. of any one day.

2. It is unlawful for any person to water or cause to be watered any lawn or landscaping more than once a day.

3. It is unlawful for any person to water or cause to be watered any lawn or landscaping within 48 hours after measurable precipitation.

4. It is unlawful for any person to water or cause to be watered

any lawn or landscaping to such an extent that runoff into any adjoining street, parking lot or alley occurs due to incorrectly directed or maintained sprinklers or excessive watering.

5. It is the duty of all persons to inspect all hoses, faucets and sprinkling systems for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable.

D. Indoor Plumbing and Fixtures. It is the duty of all persons to inspect all accessible indoor plumbing and faucets for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable, but not later than seven days after receiving a notice of violation from the water superintendent.

E. Washing Vehicles. It is unlawful for any person to wash any motor vehicle, boat, trailer, or other type of mobile equipment unless such vehicle is washed:

1. At a commercial carwash;

2. Using only reclaimed water; or

3. By using a hand-held bucket or a water hose equipped with an automatic shutoff nozzle.

F. Running Hose Prohibited. It is unlawful for any person to leave a water hose running while washing a vehicle or at any other time.

G. Public Eating Places. It is unlawful for any restaurant, hotel, cafeteria, café, or other public place where food is sold or served to serve drinking water to any customer unless specifically requested to do so by such customer.

H. Linen Services. Commercial lodging establishments, including hotels and motels, must offer guests the option of declining daily bed linen and towel laundry services. Each commercial lodging establishment must prominently display notice of this option in each room.

I. Decorative Fountains. It is unlawful for any person to use water to clean, fill, or maintain levels in any decorative fountain, pond, lake, or other similar aesthetic structure unless such water flows through a recycling system.

J. It is unlawful to install non re-circulating water systems at new commercial car washes and new commercial laundromat facilities.

K. Single Pass Cooling Systems. It is unlawful to install single pass cooling systems in new commercial buildings requesting new water utility service.

L. A written warning must be provided to persons upon the first violation of this section.

H20 1.120 **Determination of Drought Emergency.**

The water superintendent must monitor and evaluate projected available water supplies and estimated water demand of the city's users. Upon the water superintendent determining, whether through an independent evaluation or as directed by the State Water Resources Control Board, that a Drought Emergency exists, the City Council must consider declaring a Stage 1, Stage 2, Stage 3 or Stage 4 Drought Emergency by resolution.

H20 1.130 **Stage 1 Drought Emergency.**

A. Declaring a Stage 1 Drought Emergency demonstrates the need to reduce the City's water demand by a maximum of 10%.

B. The resolution declaring a Stage 1 Drought Emergency must direct the water superintendent to provide public notice regarding appropriate voluntary water use restrictions including, without limitation:

1. Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system should be limited to three (3) times per week. Residents may water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday, Wednesday, and Friday.

H20 1.140 **Stage 2 Drought Emergency.**

A. Declaring a Stage 2 Drought Emergency demonstrates the need to reduce the City's water demand between 10% and 25%.

B. The resolution declaring a Stage 2 Drought Emergency must, in addition to the general prohibitions of this Ordinance, direct the water superintendent to impose the following mandatory water use

restrictions:

1. Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system is limited to two (2) times per week. Residents may water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday and Thursday.

2. Installing non drip irrigation or micro-spray systems used in watering outdoors for purposes of irrigating landscape, lawns, vegetated areas, and plant material in new commercial and residential developments requesting new water utility service is unlawful.

3. It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

H20 1.150 **Stage 3 Drought Emergency**.

A. Declaring a Stage 3 Drought Emergency demonstrates the need to reduce the City's water demand between 25% and 35%.

B. The resolution declaring a Stage 3 Drought Emergency must, in addition to the general prohibitions of this Ordinance, direct the water superintendent to impose the following mandatory water use restrictions:

1. Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system is limited to one (1) time per week. Residents are permitted to water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday.

2. Filling swimming pools, spas, hot tubs, Jacuzzis, or children's wading pools is limited to not more than one (1) time per week on Mondays.

3. Installing non drip irrigation or micro-spray systems used in watering outdoors for purposes of irrigating landscape, lawns, vegetated areas, and plant material in new commercial and residential developments requesting new water utility service is unlawful.

4. It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

5. It is unlawful to wash any motorized vehicle or non-motorized equipment including, without limitation, automobiles, trucks, vans, buses, motorcycles, boats, or other motorized and non-motorized equipment unless performed at commercial car wash facilities.

6. Using potable water from fire hydrants is limited to firefighting and emergency related activities and/or other activities necessary to maintain public health, safety, and welfare including, without limitation, flushing utility distribution pipelines; constructing water distribution and production facilities; and maintaining street sweeping services. If there is a need for acquiring fire hydrant and flow testing services, the applicant is required to have the test completed by the water superintendent through the water system computer model in-lieu of having an actual real-time field test completed. The expense incurred by the City for completion of a fire hydrant and flow test using the City water system computer model will be paid by the applicant.

H20 1.160 **Stage 4 Drought Emergency**.

A. Declaring a Stage 4 Drought Emergency demonstrates the need to reduce the City's water demand between 35% and 50%, or more.

B. The resolution declaring a Stage 4 Drought Emergency must, in addition to the general prohibitions of this Ordinance, direct the water superintendent to impose the following mandatory water use restrictions:

1. All watering without a drip irrigation or micro-spray system is prohibited.

2. Installing non drip irrigation or micro-spray systems used in watering outdoors for purposes of irrigating landscape, lawns, vegetated areas, and plant material in new commercial and residential developments requesting new water utility service is unlawful.

3. It is unlawful to use potable water to irrigate ornamental turf

on public street medians within the City's service boundaries.

4. It is unlawful to fill swimming pools, spas, hot tubs, and/or jacuzzis of any kind whether in-ground or above-ground structures, including children's wading pools.

5. It is unlawful to wash any motorized vehicle or non-motorized equipment including, without limitation, automobiles, trucks, vans, buses, motorcycles, boats, or other motorized and non-motorized equipment unless performed at commercial car wash facilities.

6. Using potable water from fire hydrants is limited to firefighting and emergency related activities and/or other activities necessary to maintain public health, safety, and welfare including, without limitation, flushing utility distribution pipelines; constructing water distribution and production facilities; and maintaining street sweeping services. If there is a need for acquiring fire hydrant and flow testing services, the applicant is required to have the test completed by the water superintendent through the water system computer model in-lieu of having an actual real-time field test completed. The expense incurred by the City for completion of a fire hydrant and flow test using the City water system computer model will be paid by the applicant.

C. In addition, the resolution declaring a Stage 4 Drought Emergency may direct the water superintendent not to issue new water utility service connections for any development.

H20 1.170 **Sunset Clause**.

This Ordinance is repealed and will become ineffective on February 13, 2016, unless the City Council takes additional action to extend the effectiveness of this Ordinance or adopts new water conservation regulations in accordance with applicable law.

SECTION 3: *Environmental Review.* This ordinance is exempt from review under the California Environmental Quality Act (California Public Resources Code §§ 21000, *et seq.*, "CEQA") and CEQA Guidelines (14 California Code of Regulations §§ 15000, *et seq.*) because it establishes rules and procedures to clarify existing policies and practices related to water service; does not involve any commitment to a specific project which could result in a potentially significant physical impact on the environment; and constitutes an organizational or

administrative activity that will not result in direct or indirect physical changes in the environment. This Ordinance is adopted, in part, for protection of the environment. Accordingly, this Ordinance does not constitute a "project" that requires environmental review (*see specifically* CEQA Guidelines § 15378(b)(2, 5)). Moreover, even if the Ordinance were a project, it constitutes a specific action needed to mitigate an emergency in accordance with CEQA Guidelines § 15269(c) and would be categorically exempt from additional environmental review.

SECTION 4: The City Manager is authorized to promulgate administrative policies and procedures in order to implement the purpose and goals set forth in this Ordinance.

SECTION 5: *Construction*. This Ordinance must be broadly construed in order to achieve the purposes stated in this Ordinance. It is the City Council's intent that the provisions of this Ordinance be interpreted or implemented by the City and others in a manner that facilitates the purposes set forth in this Ordinance.

SECTION 6: *Enforceability*. Repeal or supersession of any provision of the MPMC does not affect any penalty, forfeiture, or liability incurred before, or preclude prosecution and imposition of penalties for any violation occurring before this Ordinance's effective date. Any such repealed or superseded part will remain in full force and effect for sustaining action or prosecuting violations occurring before the effective date of this Ordinance.

SECTION 7: *Validity of Previous Code Sections*. If this entire Ordinance or its application is deemed invalid by a court of competent jurisdiction, any repeal or amendment of the MPMC or other ordinance by this Ordinance will be rendered void and cause such previous MPMC provision or other the city ordinance to remain in full force and effect for all purposes.

SECTION 8: *Severability*. If any part of this Ordinance or its application is deemed invalid by a court of competent jurisdiction, the City Council intends that such invalidity will not affect the effectiveness of the remaining provisions or applications and, to this end, the provisions of this Ordinance are severable.

SECTION 9: *Publication.* The City Clerk is directed to certify the passage and adoption of this Ordinance; cause it to be entered into the City of Monterey Park's book of original ordinances; make a note of the passage and adoption in the records of this meeting; and, within fifteen (15) days after the passage and adoption of this Ordinance, cause it to be published or posted in accordance with California law.

SECTION 10: *Effective Date*. This Ordinance will become effective on the thirty-first (31st) day after its adoption.

PASSED AND ADOPTED this 1st day of July, 2015.

Hans Liang, Mayor

ATTEST:

Vincent D. Chang, City Clerk

APPROVED AS TO FORM:
Mark D. Hensley, City Attorney

By: _____
Karl H. Berger,
Assistant City Attorney

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF MONTEREY PARK)

I, VINCENT D. CHANG, City Clerk of the City of Monterey Park, California, do hereby certify that the foregoing Ordinance No. 2121 was introduced, and placed upon its first reading at a regular meeting of the City Council of the City of Monterey Park, held on the 17th day of June, 2015. That thereafter on the 1st day of July 2015, said Ordinance was duly passed, approved and adopted by the following vote:

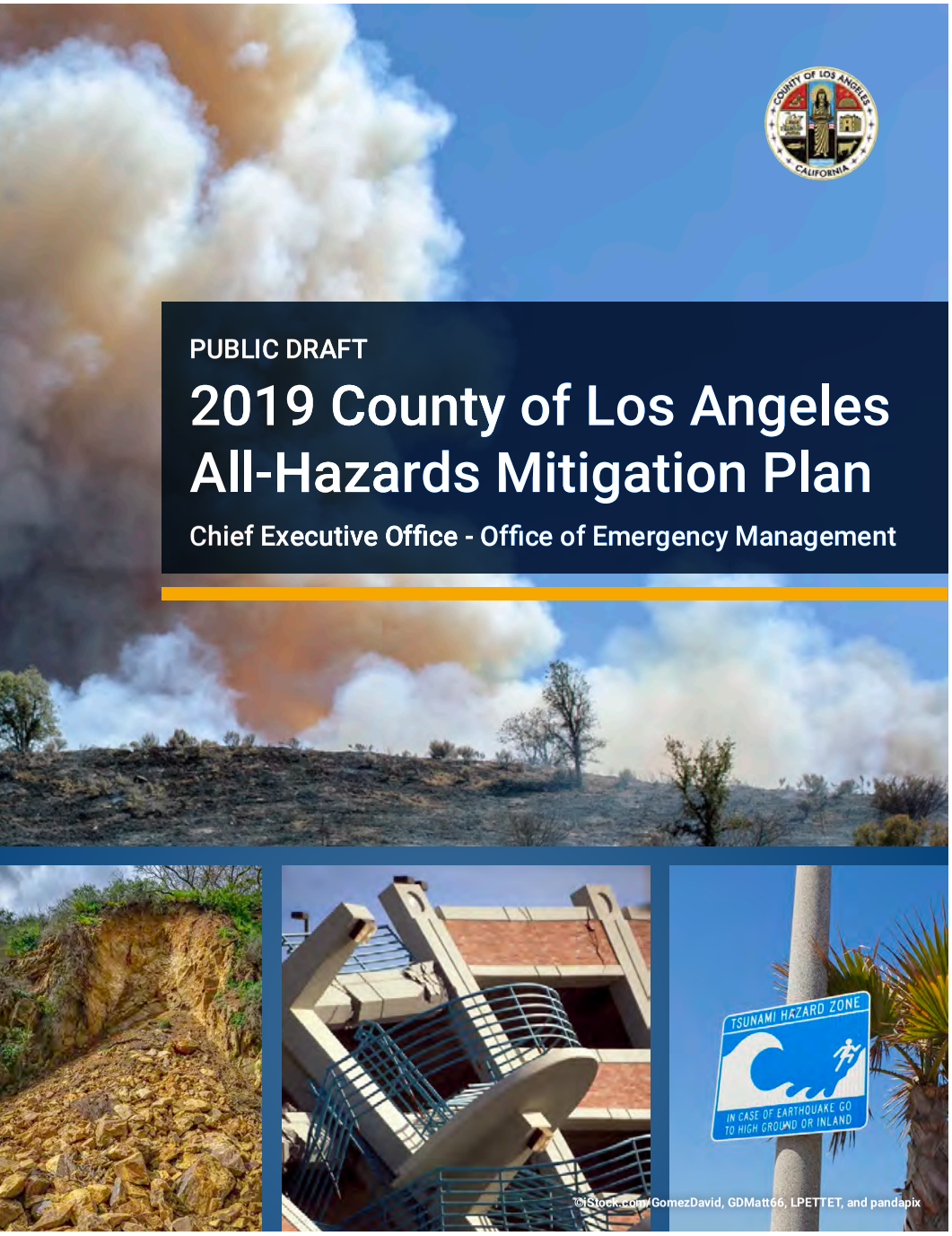
Ayes:	Council Members:	Lam, Real Sebastian, Ing, Chan, Liang
Noes:	Council Members:	None
Absent:	Council Members:	None
Abstain:	Council Members:	None

Dated this 1st day of July, 2015

Vincent D. Chang, City Clerk
City of Monterey Park, California

APPENDIX L

LOS ANGELES COUNTY'S ALL-HAZARDS MITIGATION PLAN



2019 County of Los Angeles
All-Hazards Mitigation Plan

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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

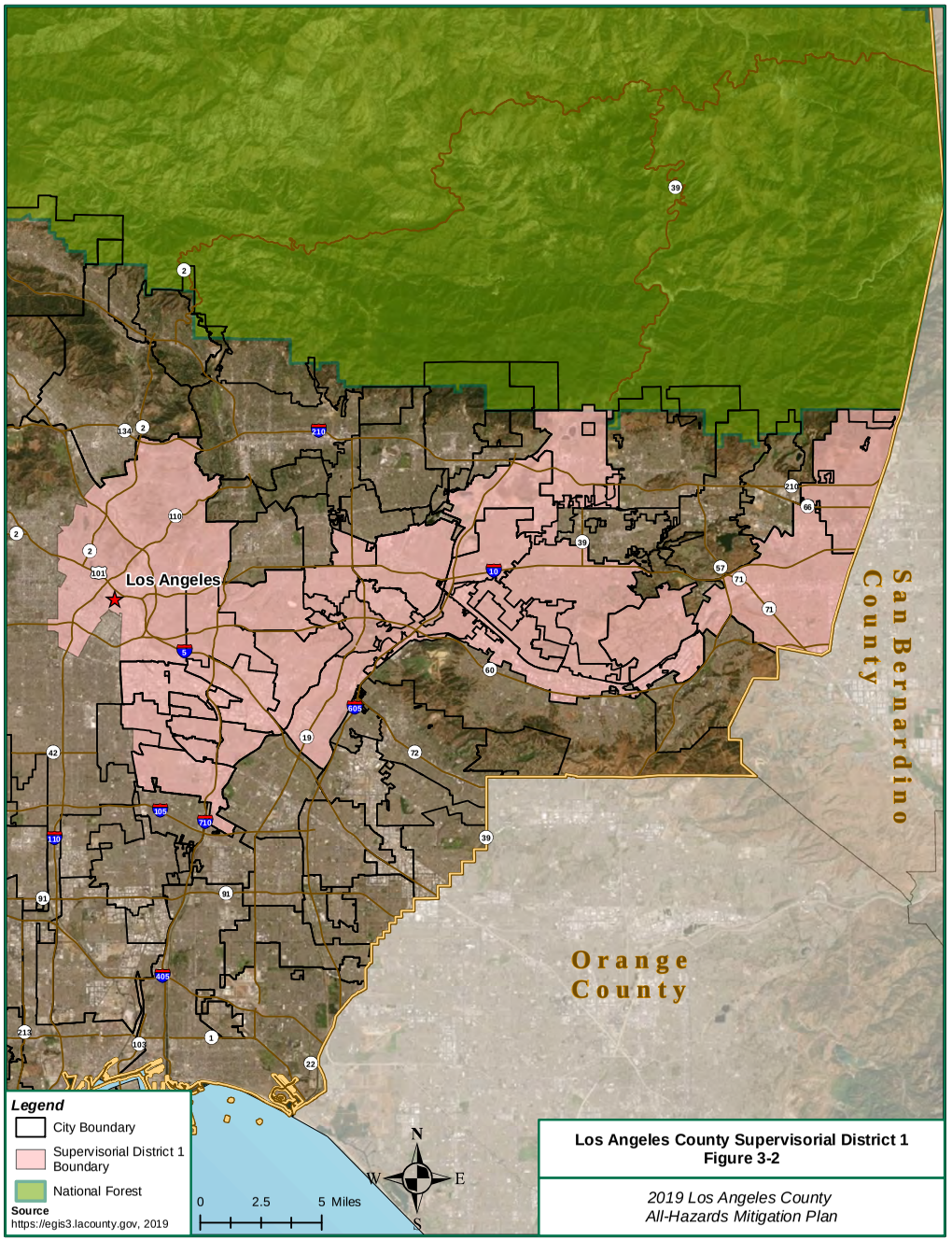
Table 3-6. Supervisorial District 5

City	County-wide Statistical Area
	Val Verde
	Valencia
	West Antelope Valley
	West Chatsworth
	White Fence Farms



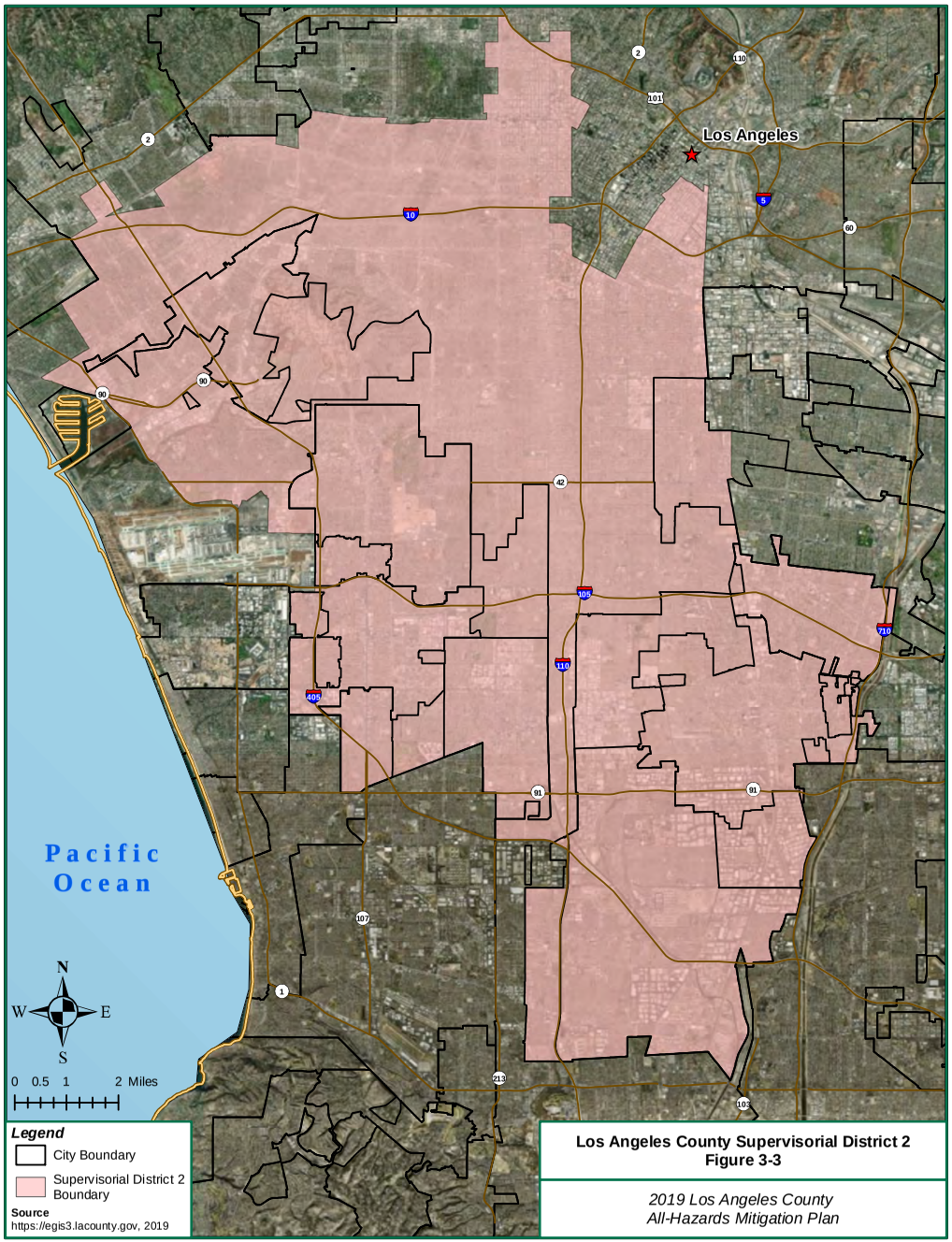
Los Angeles County
Figure 3-1

2019 Los Angeles County
All-Hazards Mitigation Plan



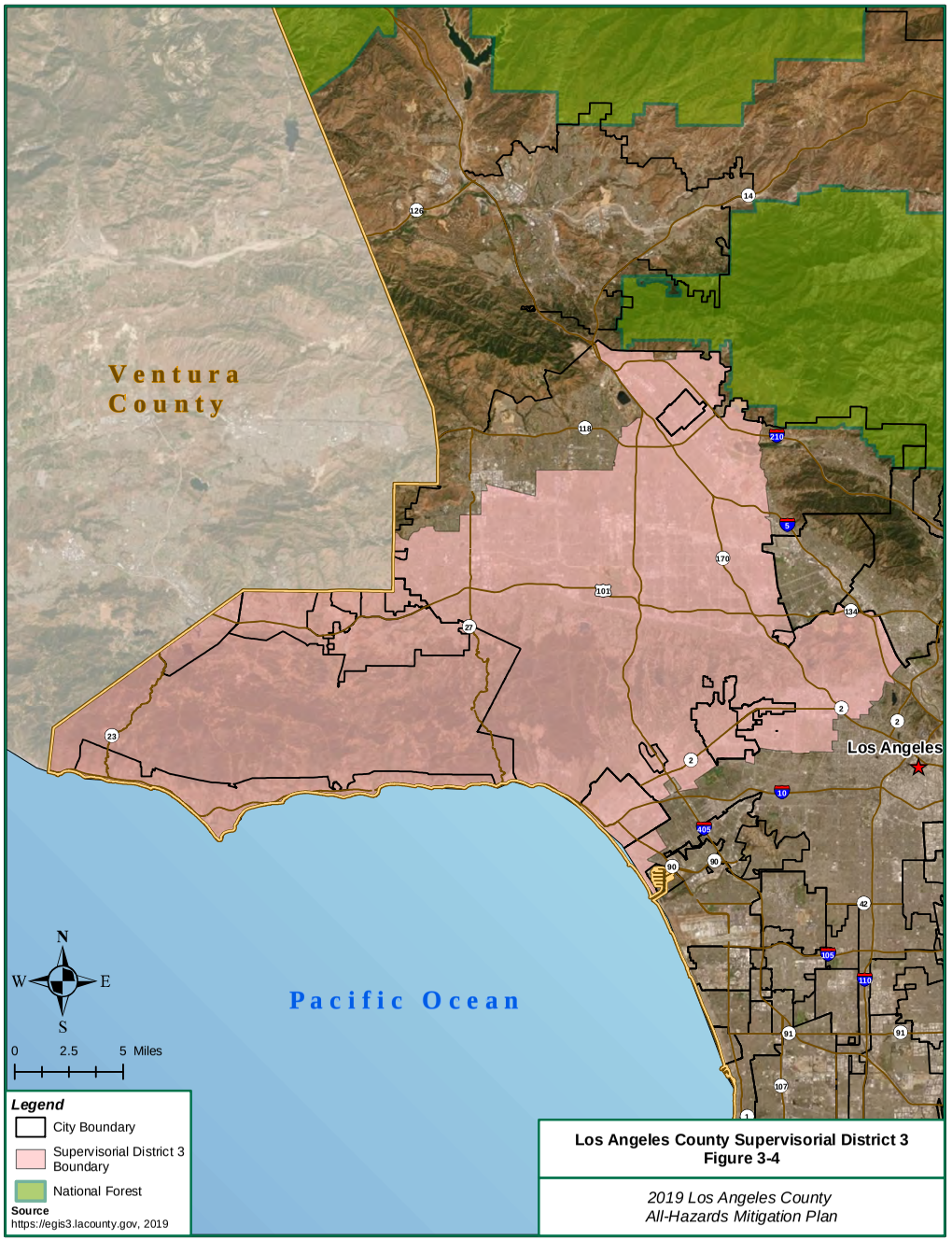
Los Angeles County Supervisorial District 1
Figure 3-2

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



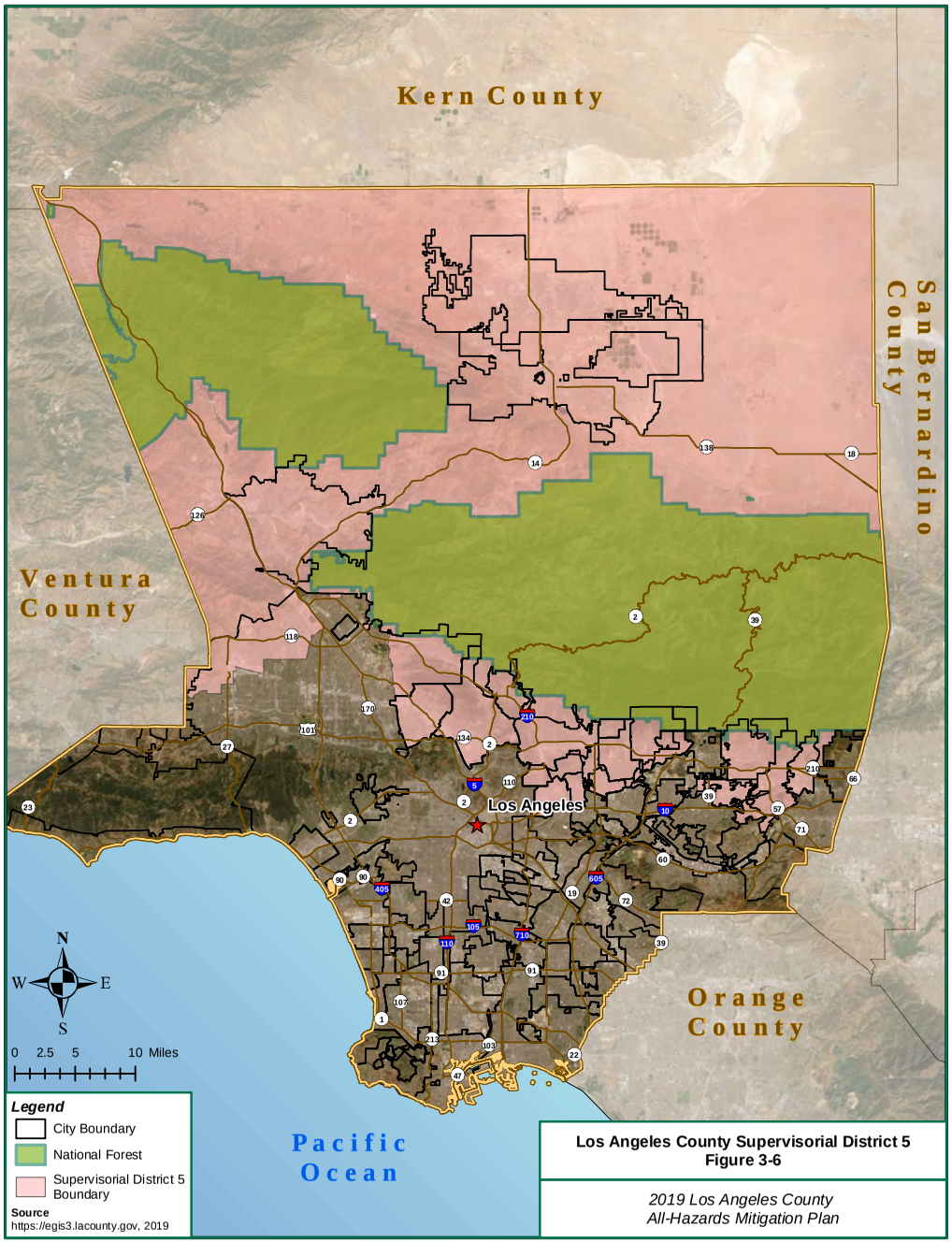
Los Angeles County Supervisorial District 3
Figure 3-4

2019 Los Angeles County
All-Hazards Mitigation Plan



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

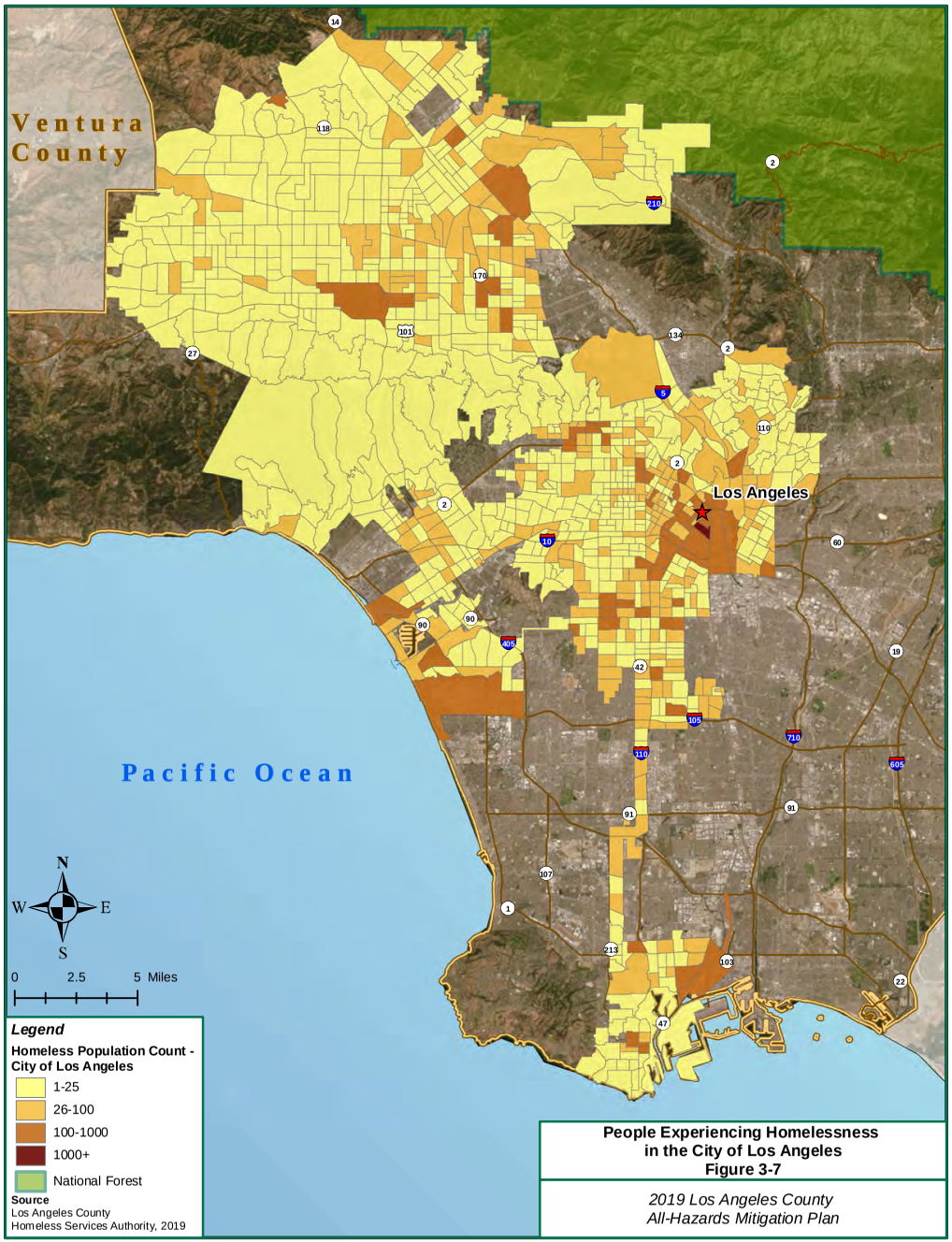
As noted by the Center for Disease Control (CDC), "Everyone must remain safe in an emergency. But for some, it's more difficult." Vulnerable or at-risk groups include people that may have difficulty communicating or accessing medical care, need help maintaining independence, require supervision, and need help accessing transportation.

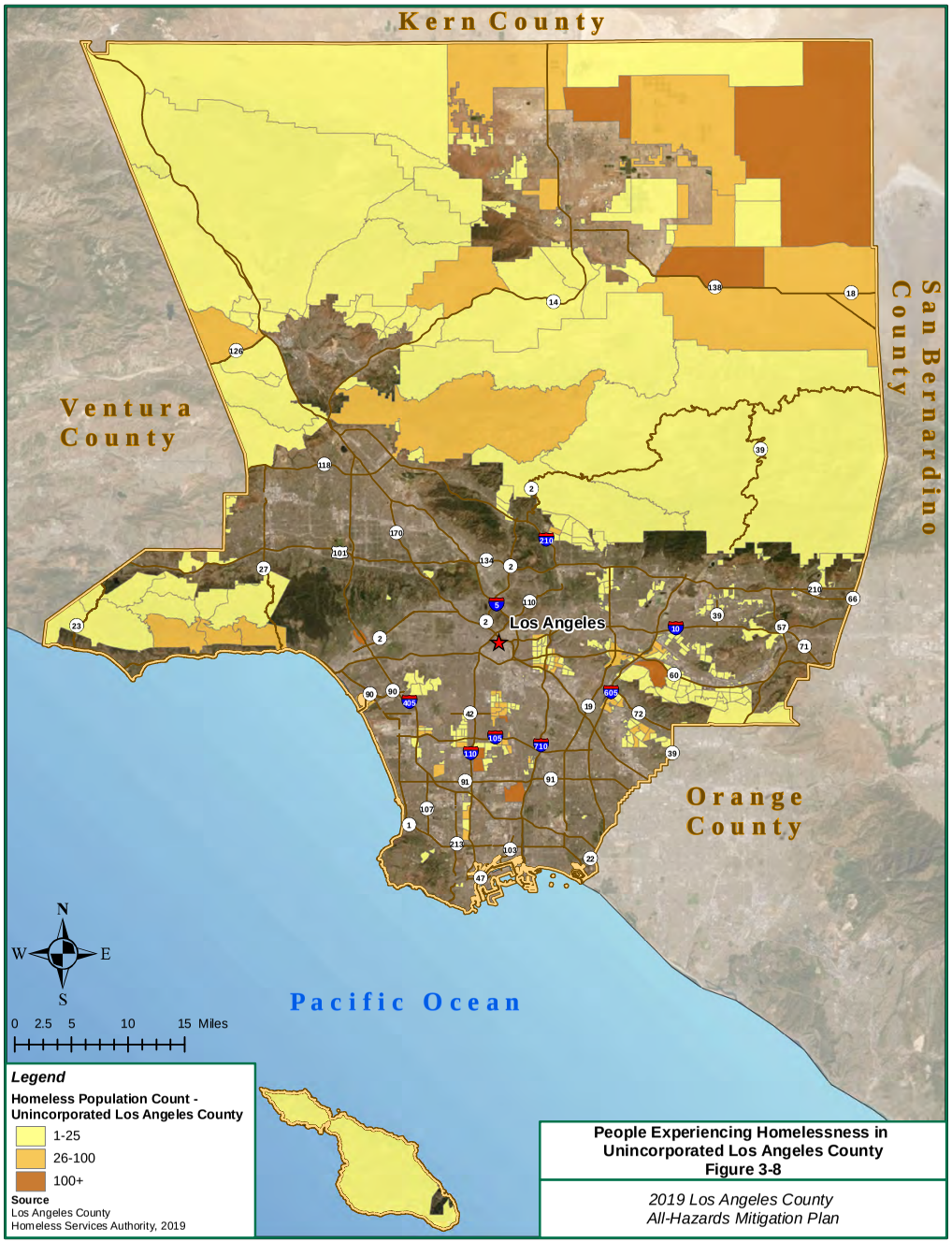
For the 2019 AHMP, vulnerable population groups addressed in the risk assessment include people experiencing homelessness. People experiencing homelessness have become a regional crisis as the number of this vulnerable population group has risen to nearly 60,000 in Los Angeles County alone. **Table 3-7** 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.

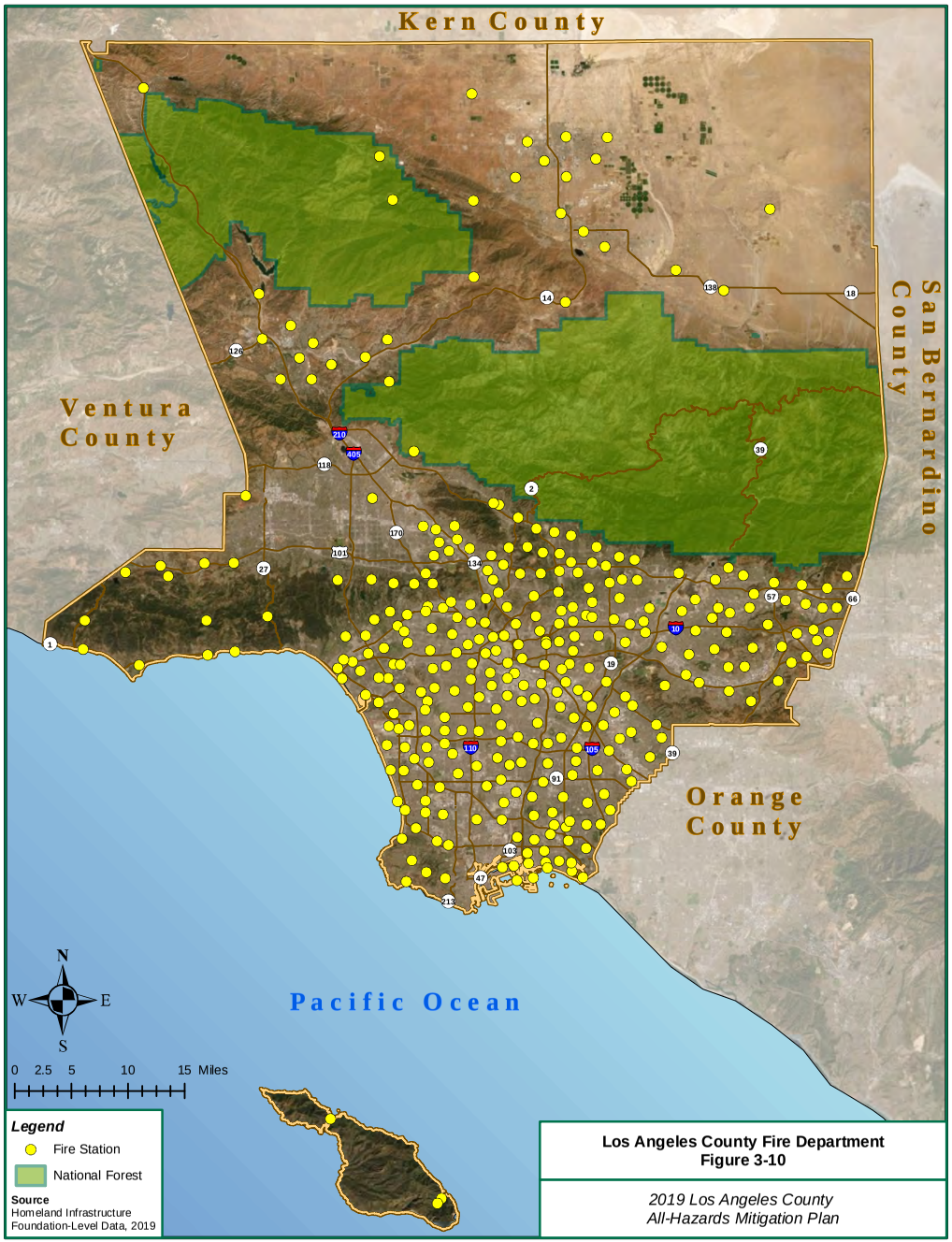
The County hopes to implement a coordinated data collection and database system for critical facilities; as such, future updates to this plan will likely include an expanded critical facilities list.

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.

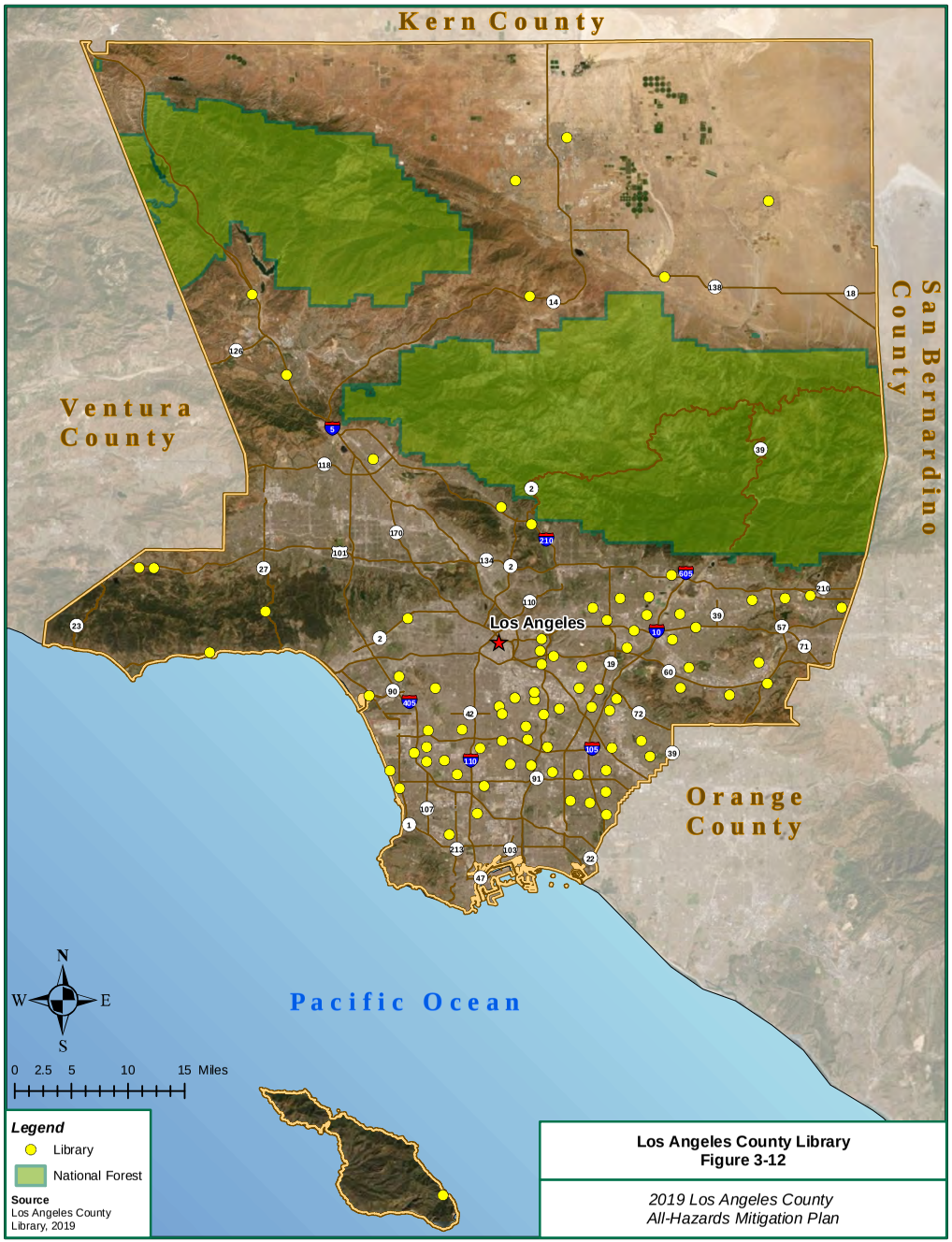

Kern County
San Bernardino County
Ventura County
Orange County
Pacific Ocean
N
W
E
S
0 2.5 5 10 15 Miles
Legend
Animal Shelter
National Forest
Source
Los Angeles County
Animal Care and Control, 2019
Los Angeles County Animal Care & Control
Figure 3-9
2019 Los Angeles County
All-Hazards Mitigation Plan


Kern County
San Bernardino County
Ventura County
Orange County
Pacific Ocean
N
W
E
S
0 2.5 5 10 15 Miles
Legend
Fire Station
National Forest
Source
Homeland Infrastructure
Foundation-Level Data, 2019
Los Angeles County Fire Department
Figure 3-10
2019 Los Angeles County
All-Hazards Mitigation Plan



Los Angeles County Department of Health Services
Figure 3-11

2019 Los Angeles County All-Hazards Mitigation Plan



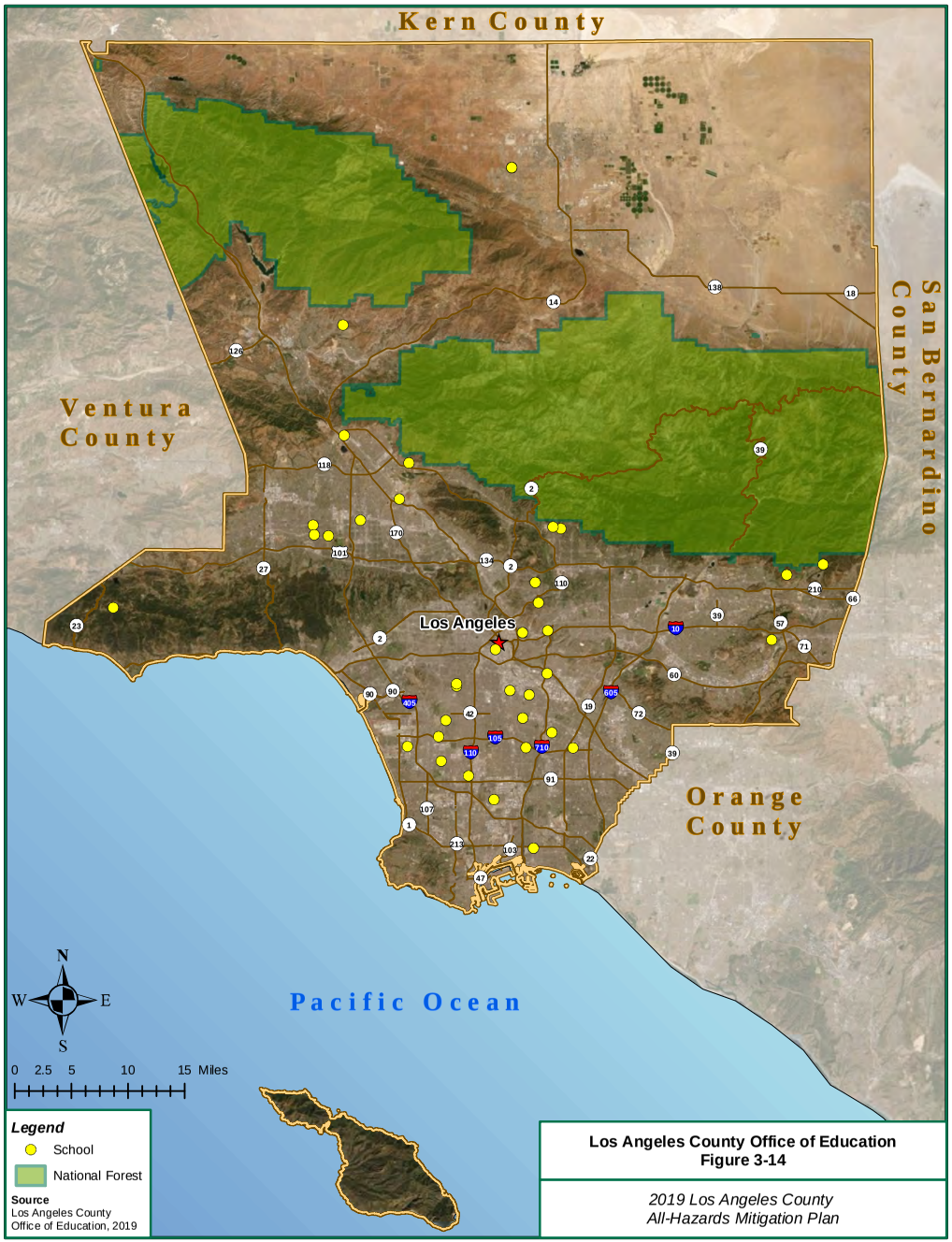
Los Angeles County Library
Figure 3-12

2019 Los Angeles County All-Hazards Mitigation Plan



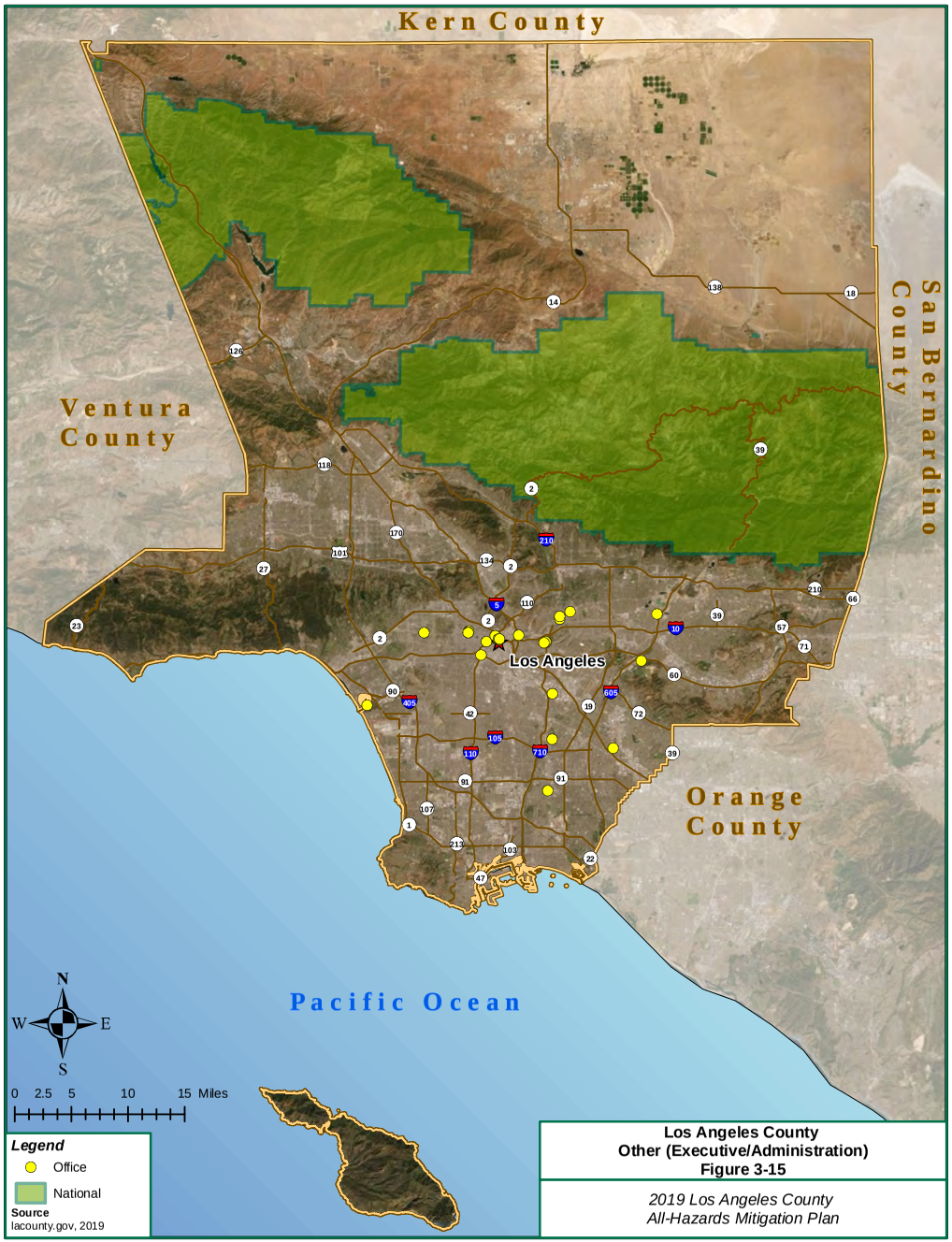
Los Angeles County Museum of Art and Museum of Natural History
Figure 3-13

2019 Los Angeles County All-Hazards Mitigation Plan



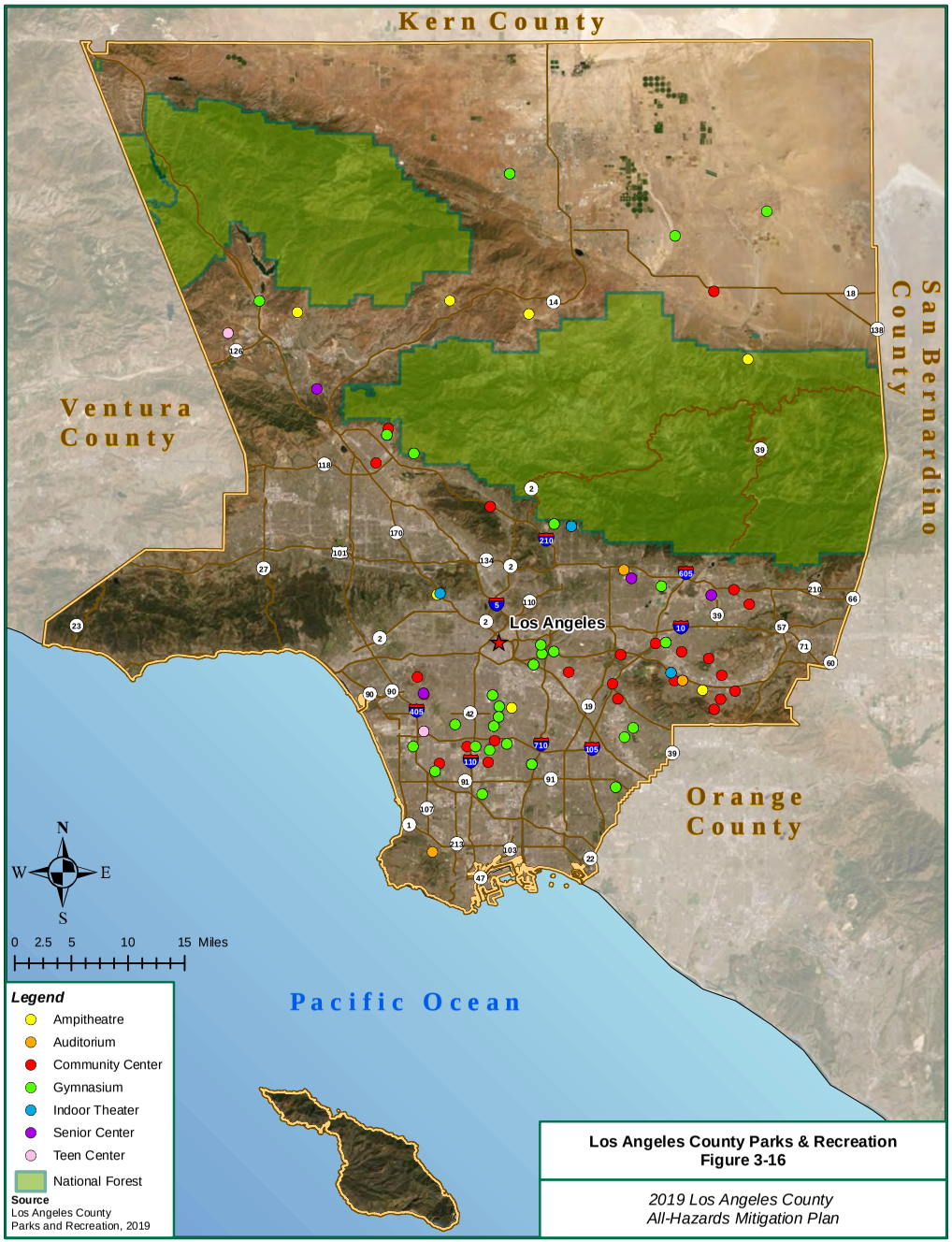
Los Angeles County Office of Education
Figure 3-14

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



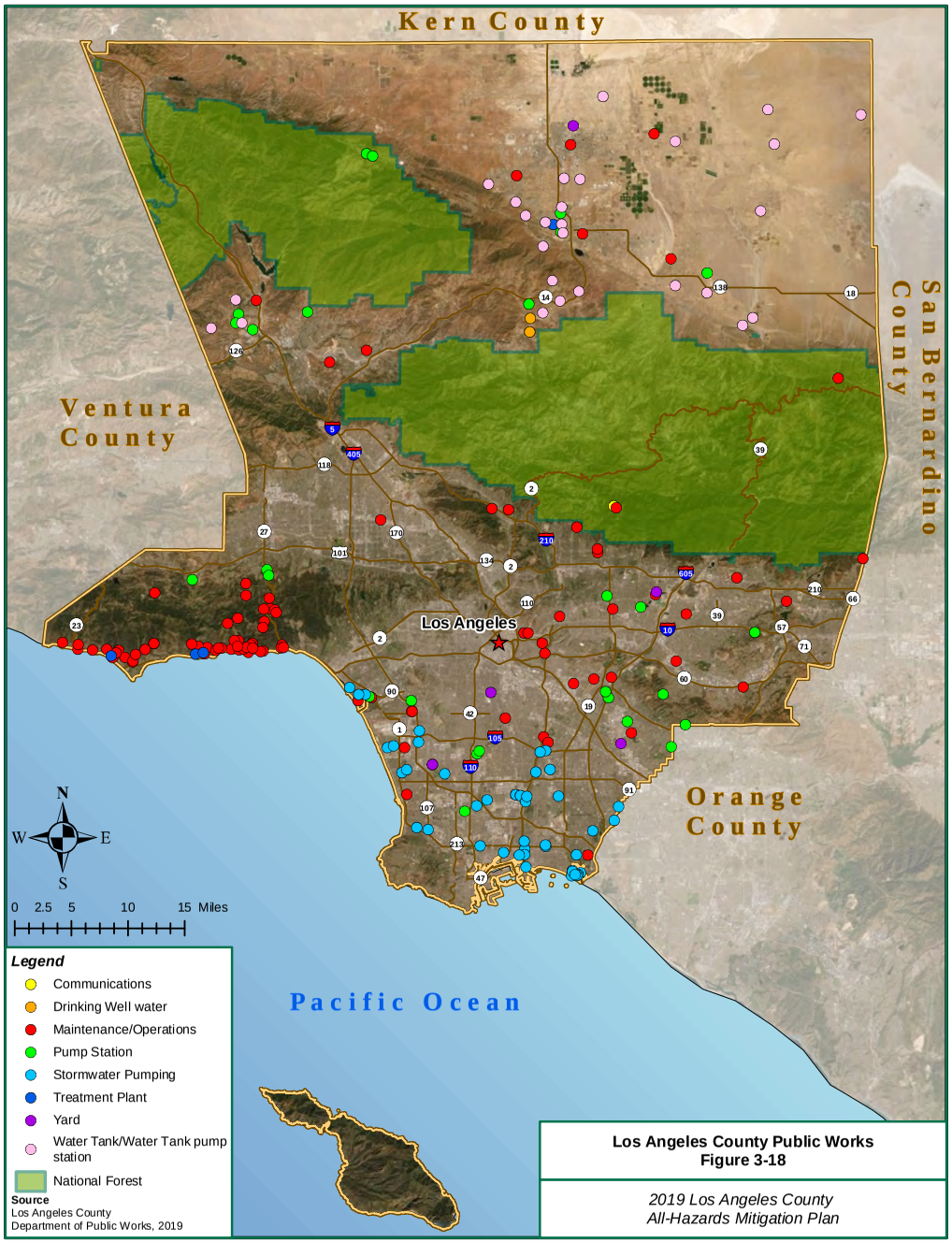
Los Angeles County Parks & Recreation
Figure 3-16

2019 Los Angeles County
All-Hazards Mitigation Plan



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 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 4-1. 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 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

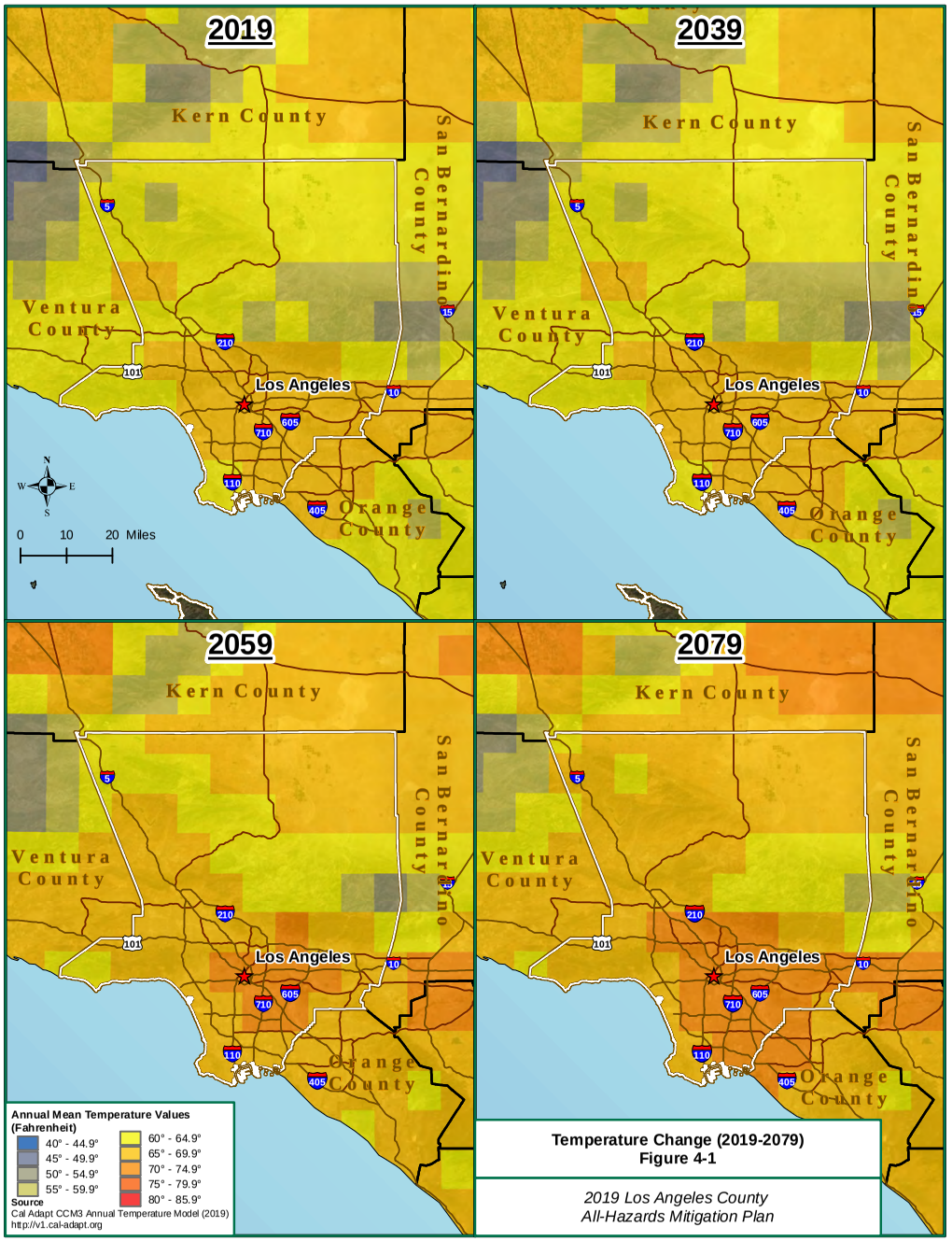
Table 4-4. Climate Change Impact on County Critical Facilities

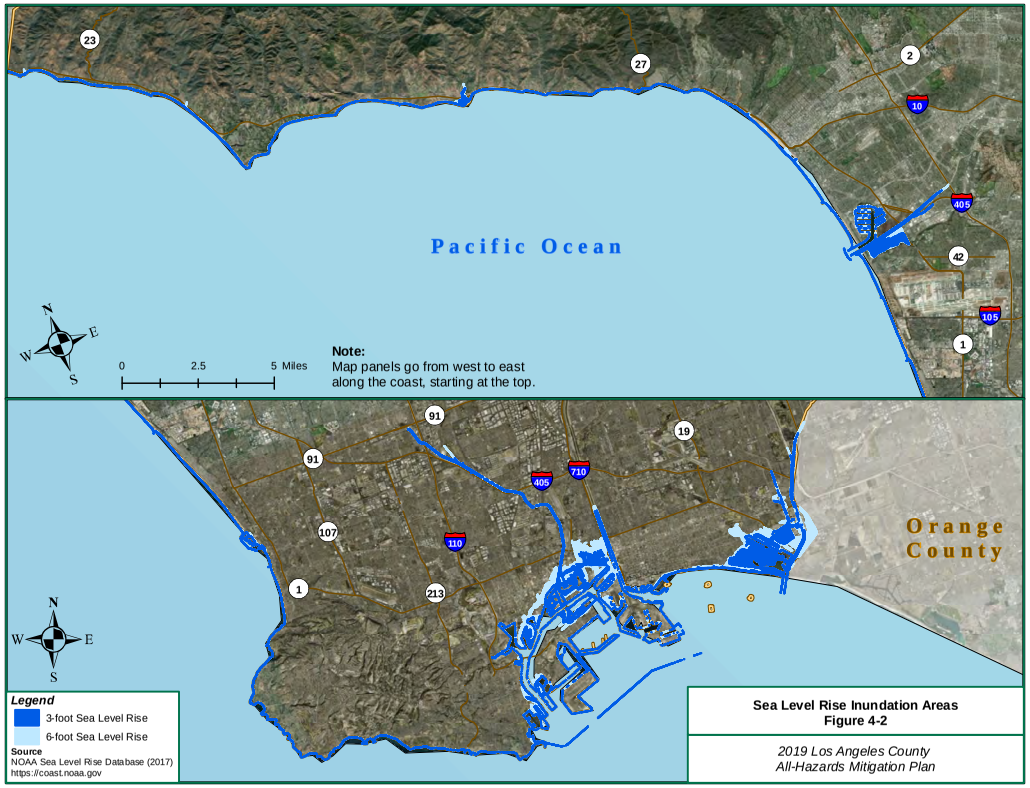
Department/ Agency	3 Ft. Sea Level Rise		6 Ft. Sea Level Rise	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	0	0.00	0	0.00
Los Angeles County Fire Department	1	0.00	5	1.4
Los Angeles County Health Services	0	0.00	0	0.00
Los Angeles County Library	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.

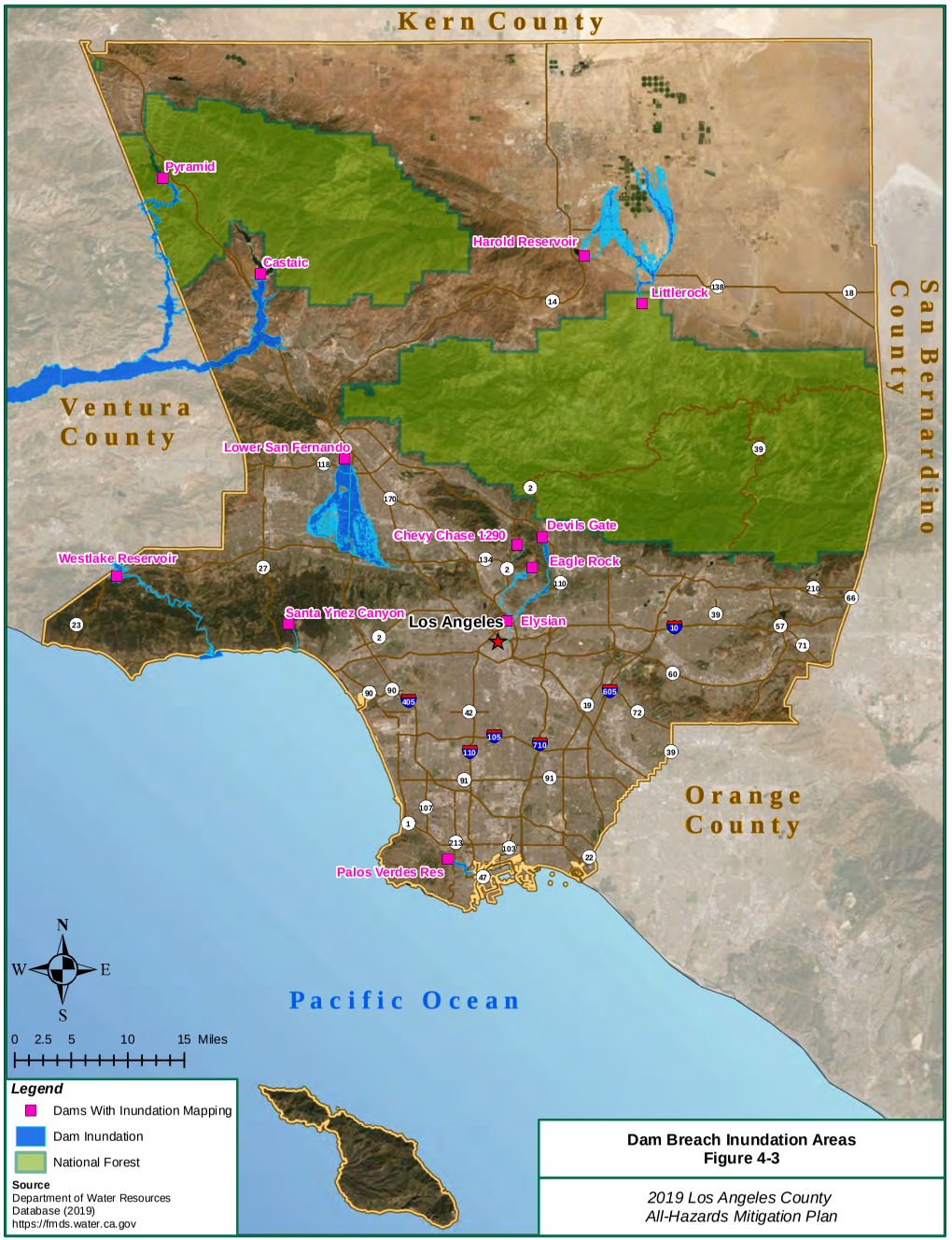


Table 4-11. Drought Identification Profile

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

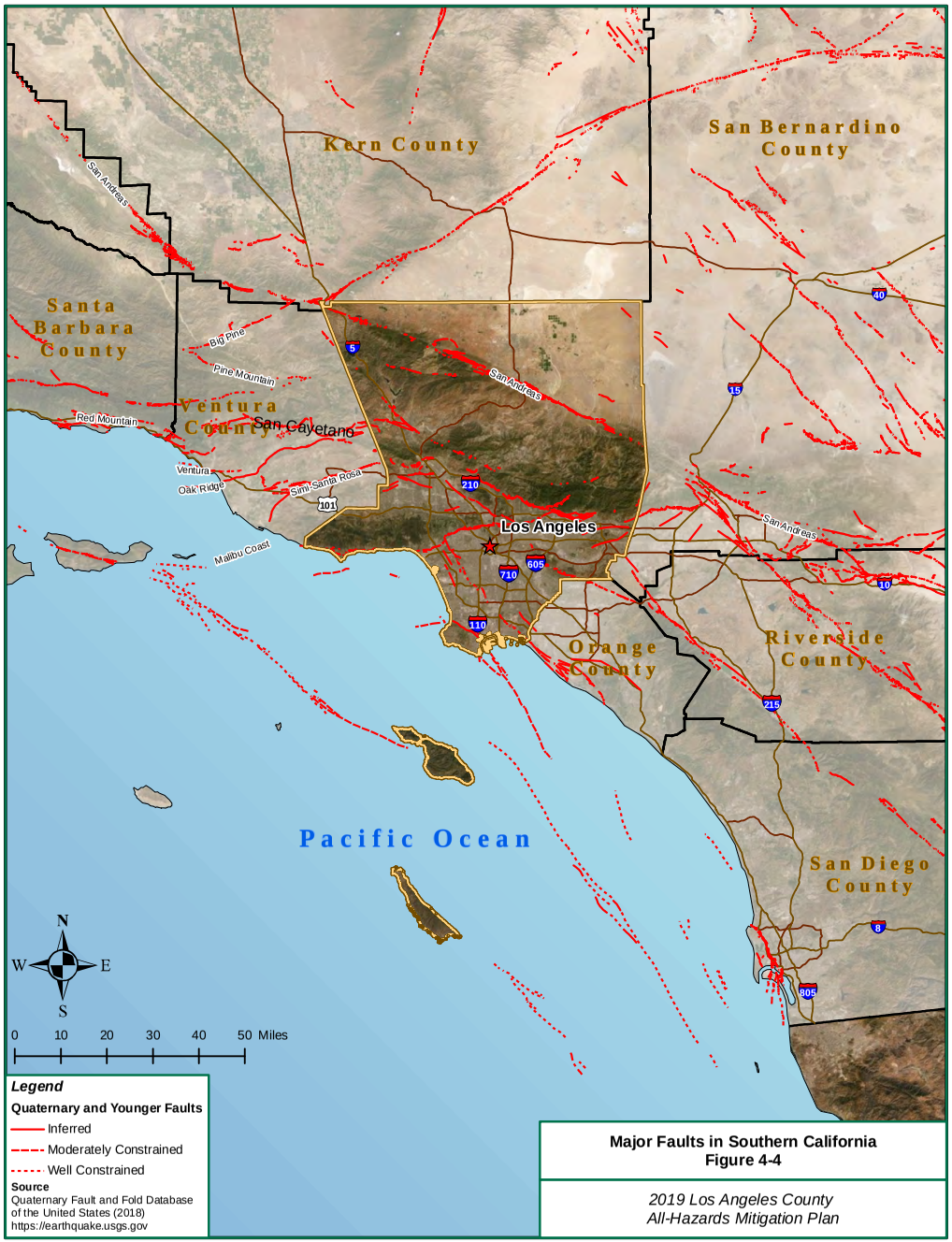
Table 4-17. Seismic Hazard Impact on County Critical Facilities

	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

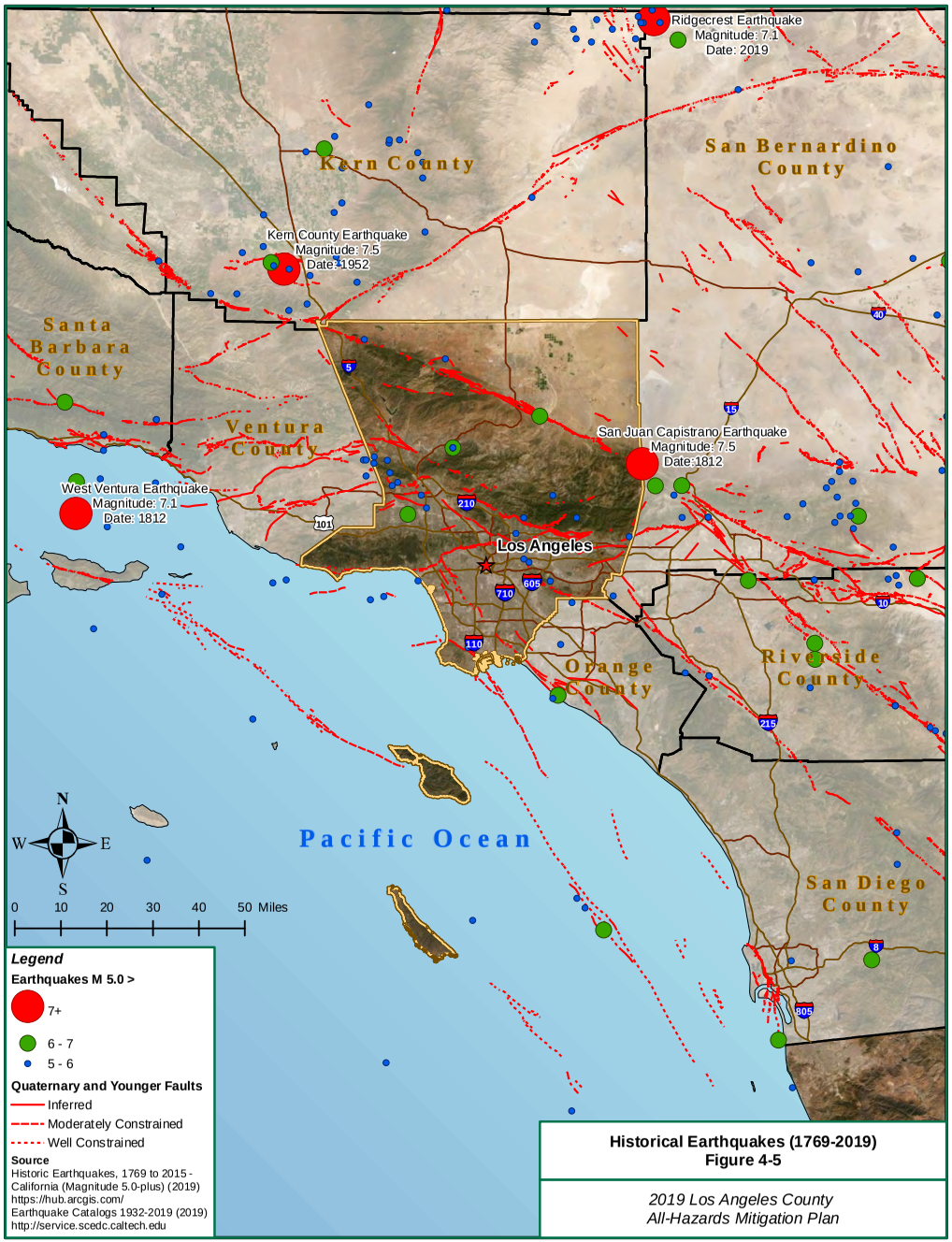
Table 4-18. Overall Summary of Vulnerability to Earthquakes

	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.



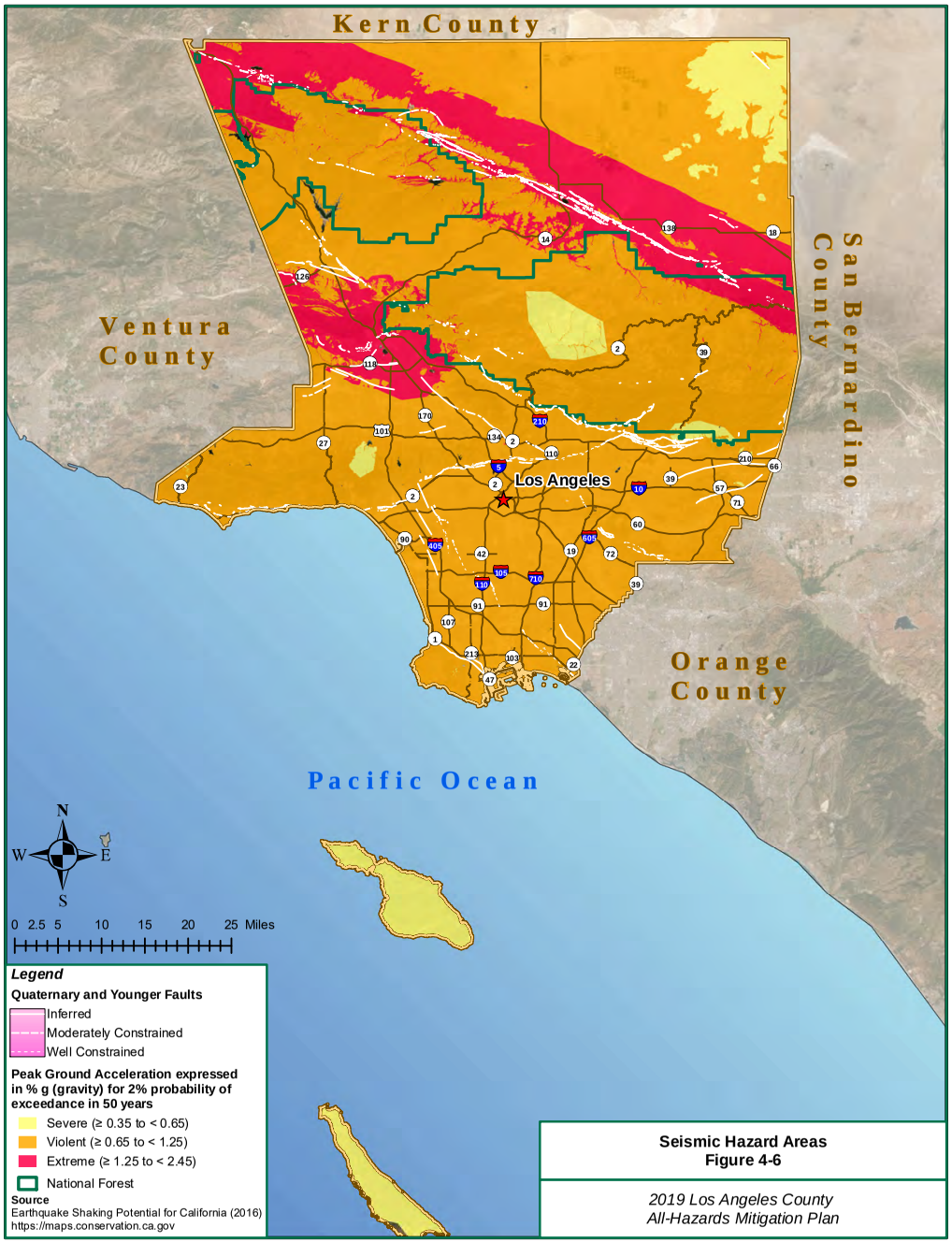
Major Faults in Southern California
Figure 4-4

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

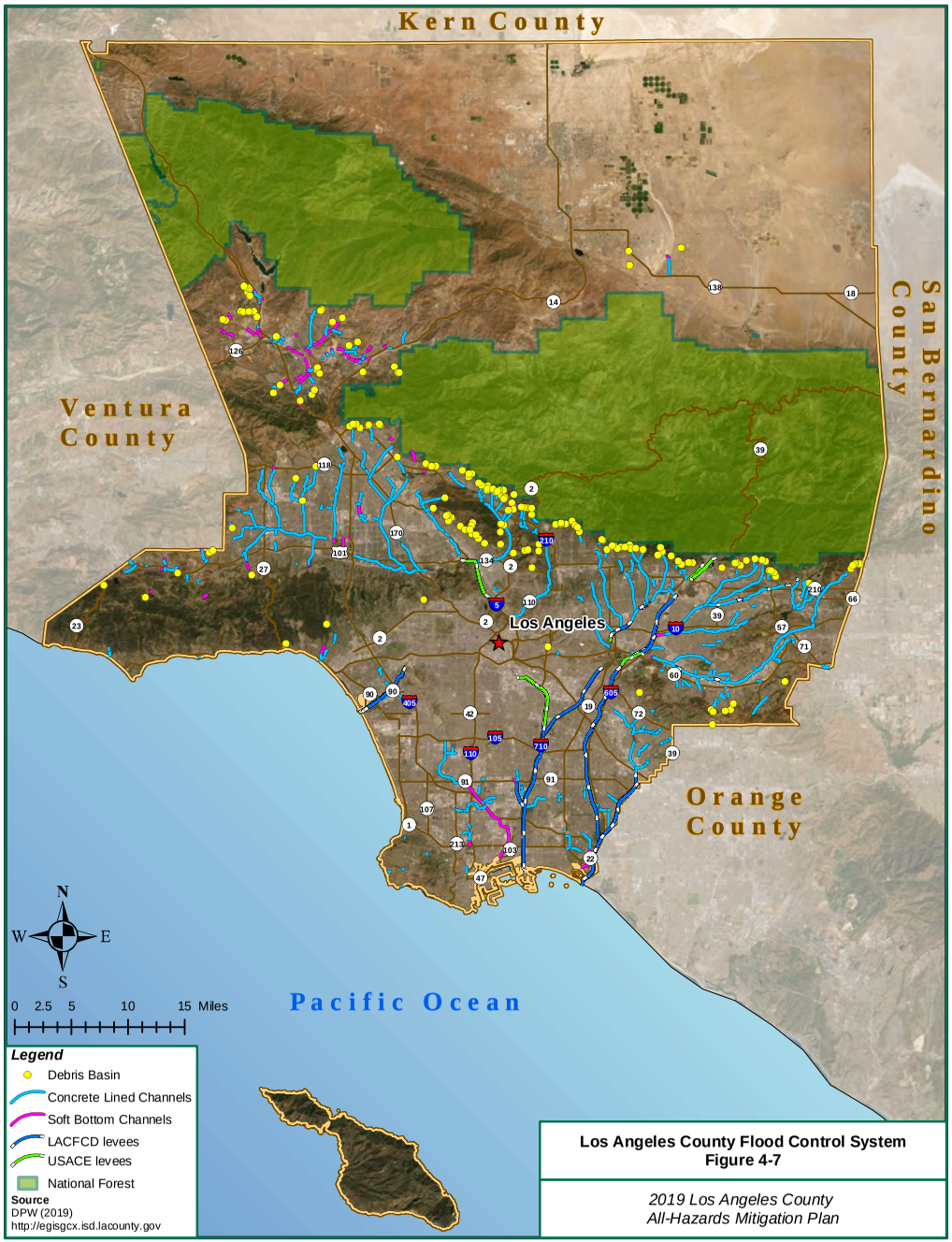
	0.2% Annual Chance of Flooding		1% Annual Chance of Flooding	
Entity	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	1,601	4.86	87	0.26
Unincorporated Los Angeles County	170	2.88	0	0.00

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

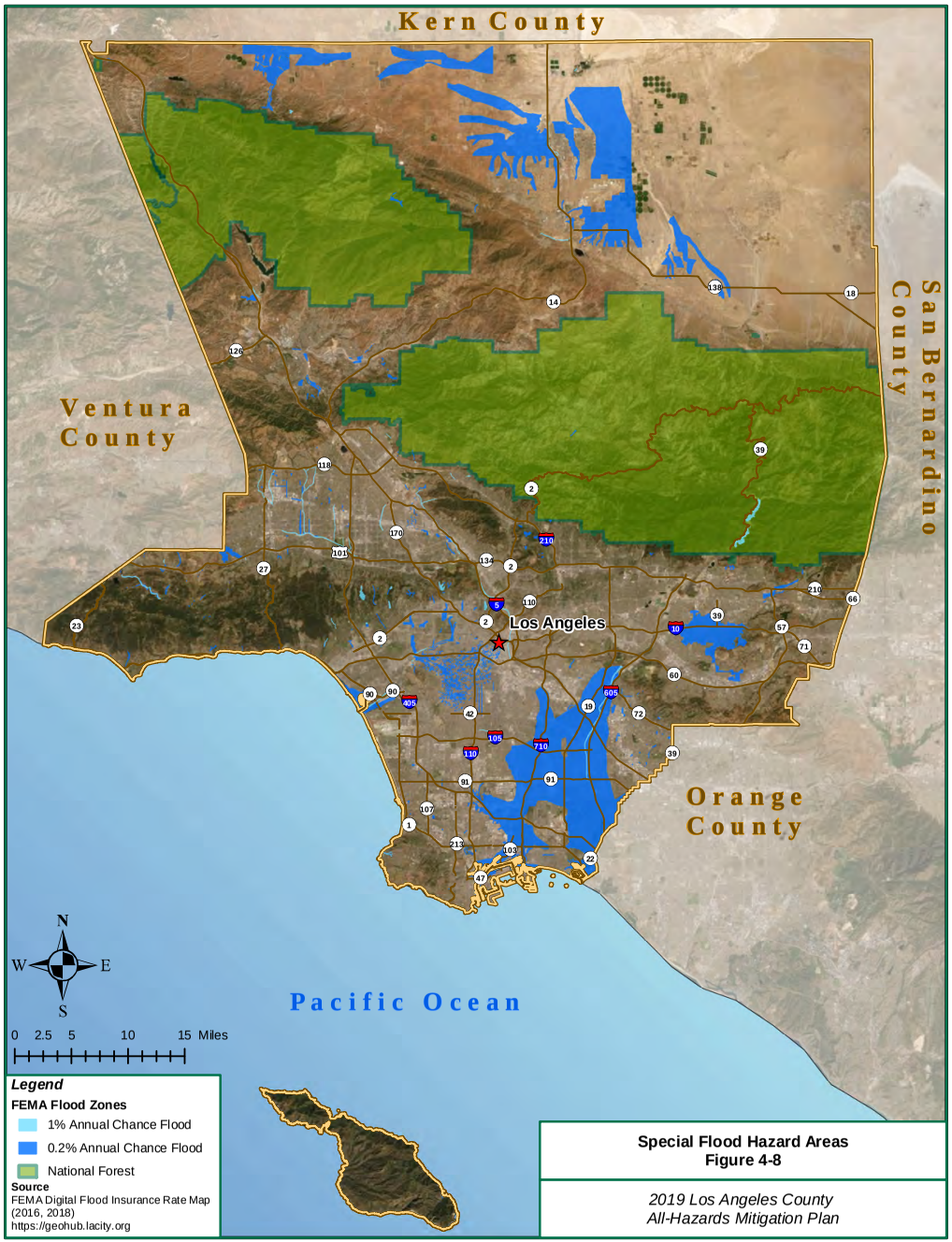
Table 4-23. Overall Summary of Vulnerability to Floods

	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

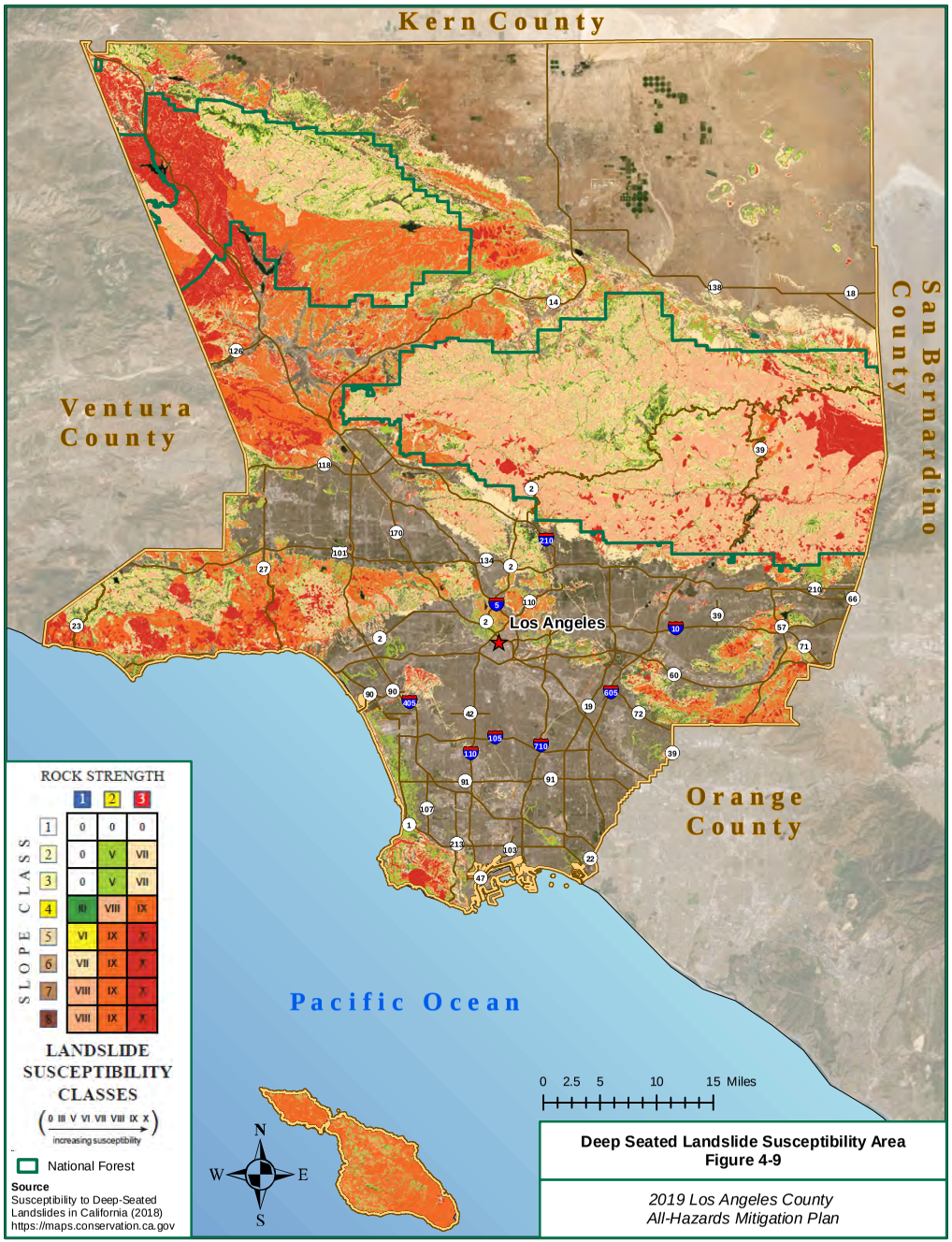
Entity	Deep Seated Landslide Class IX and X	
	# of Homeless	% of Homeless
City of Los Angeles	234	0.71
Unincorporated Los Angeles County	325	5.55

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

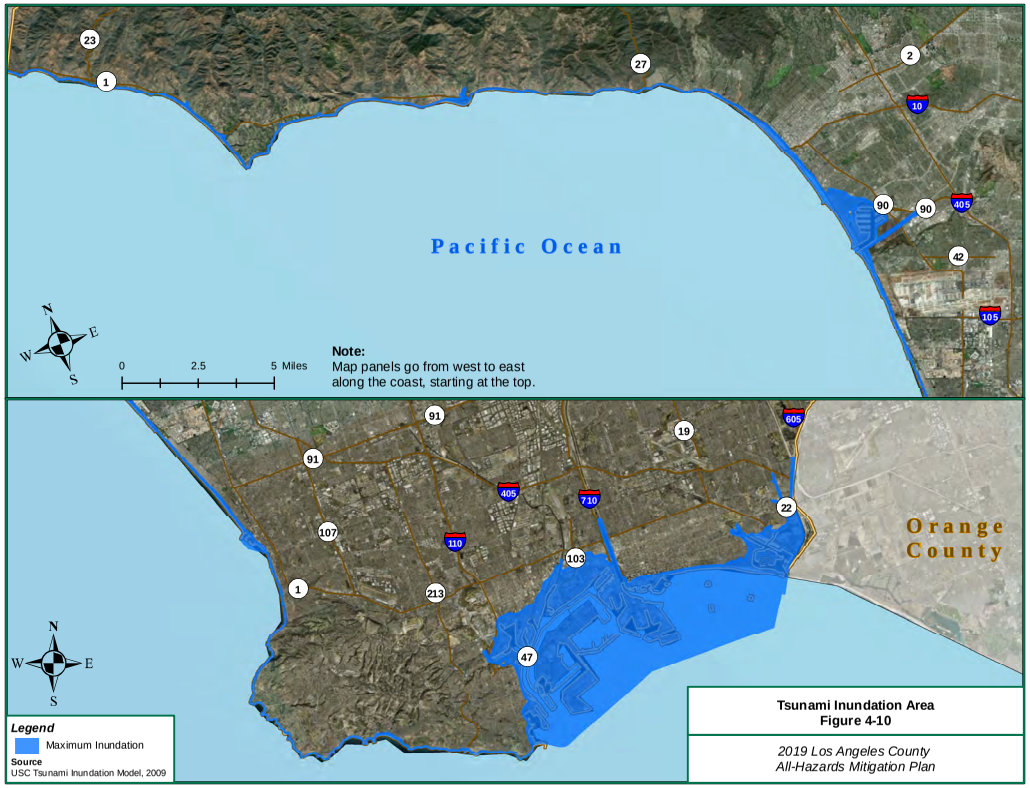
Entity	Maximum Tsunami Inundation Area	
	# of Homeless	% of Homeless
City of Los Angeles	622	1.89
Unincorporated Los Angeles County	20	0.34

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

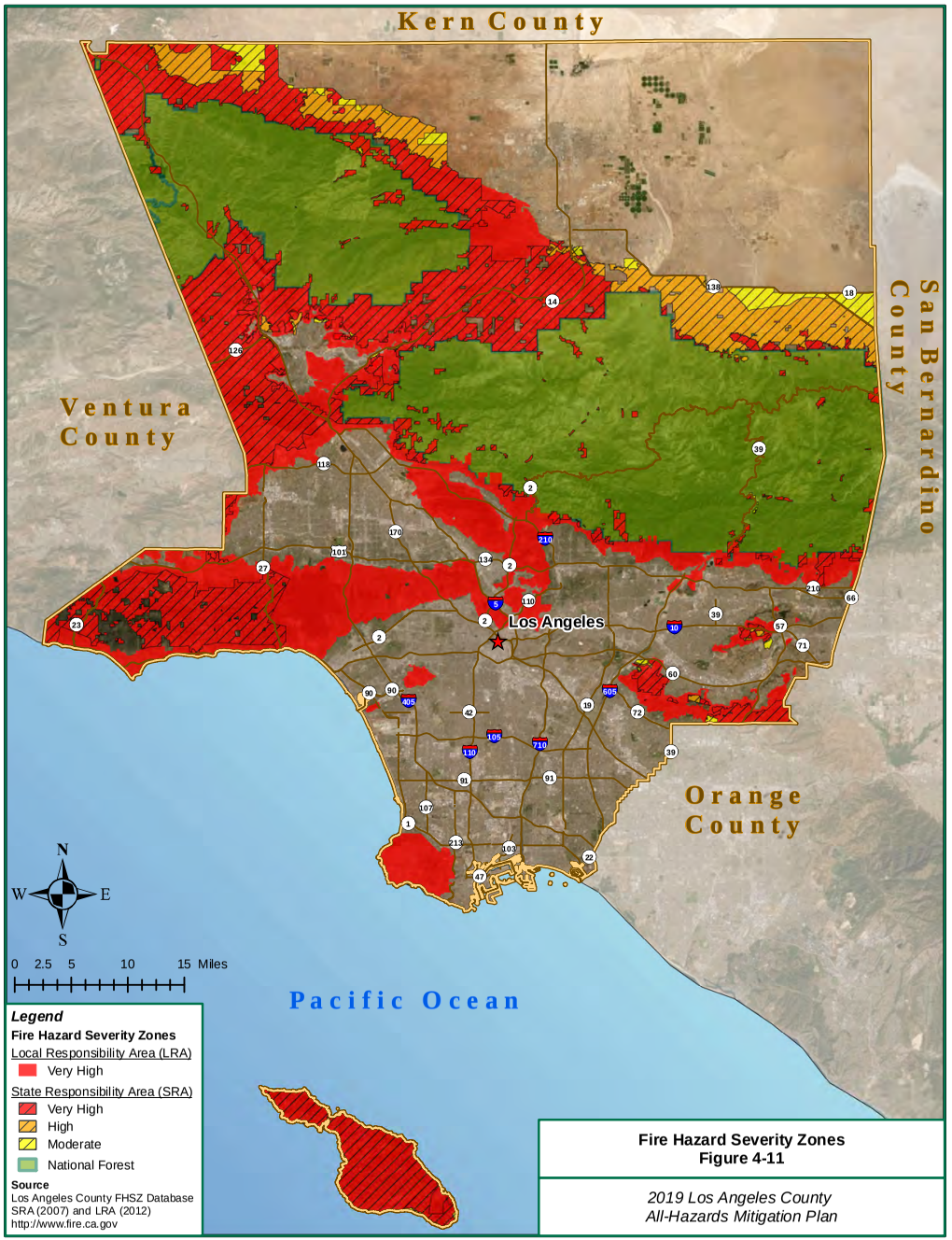
Entity	Very High LRA FHSZ		High SRA FHSZ		Very High SRA FHSZ	
	# of Homeless	% of Homeless	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	1,291	3.92	0	0.00	0	0.00
Unincorporated Los Angeles County	88	1.49	58	0.99	465	7.91

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

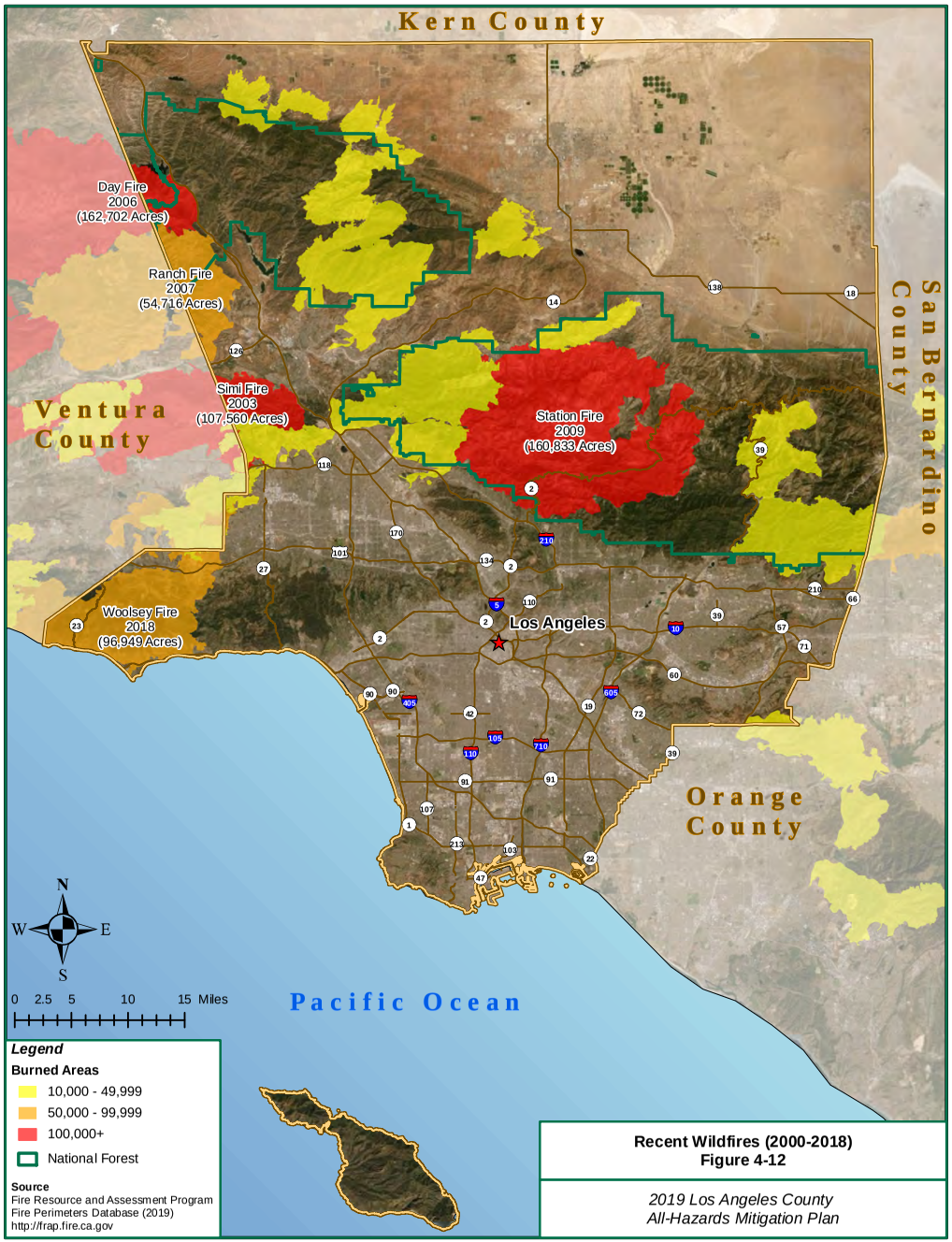
Table 4-38. Overall Summary of Vulnerability to Wildfires

	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.



Fire Hazard Severity Zones
Figure 4-11

2019 Los Angeles County
All-Hazards Mitigation Plan



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.

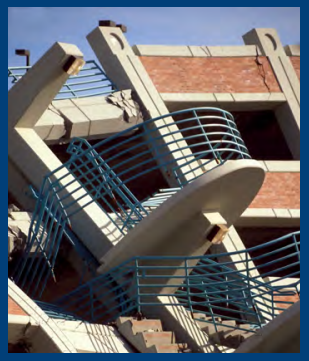
Natural disasters addressed in our plan include: climate change, dam failure, drought, flood, earthquake, landslide, tsunami, and wildfire.

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**.







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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**.

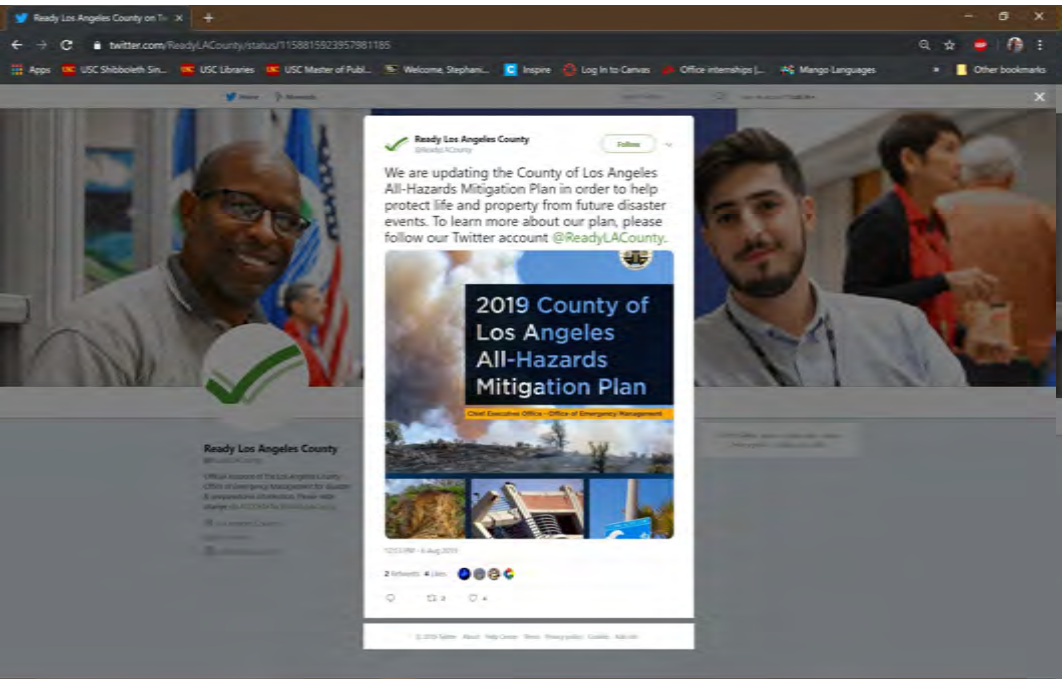
Para obtener más información sobre nuestro plan y / o participar en nuestro proceso de planificación, visite nuestro sitio web **lacounty.gov/emergency** o nuestra cuenta de Twitter **@ReadyLACounty**.

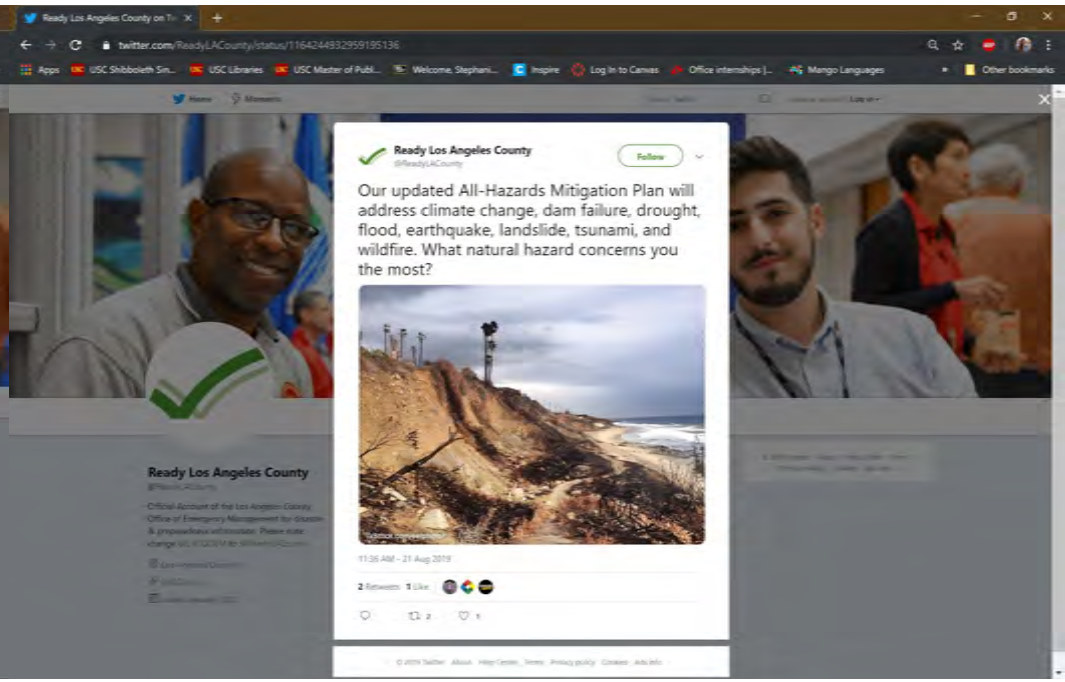


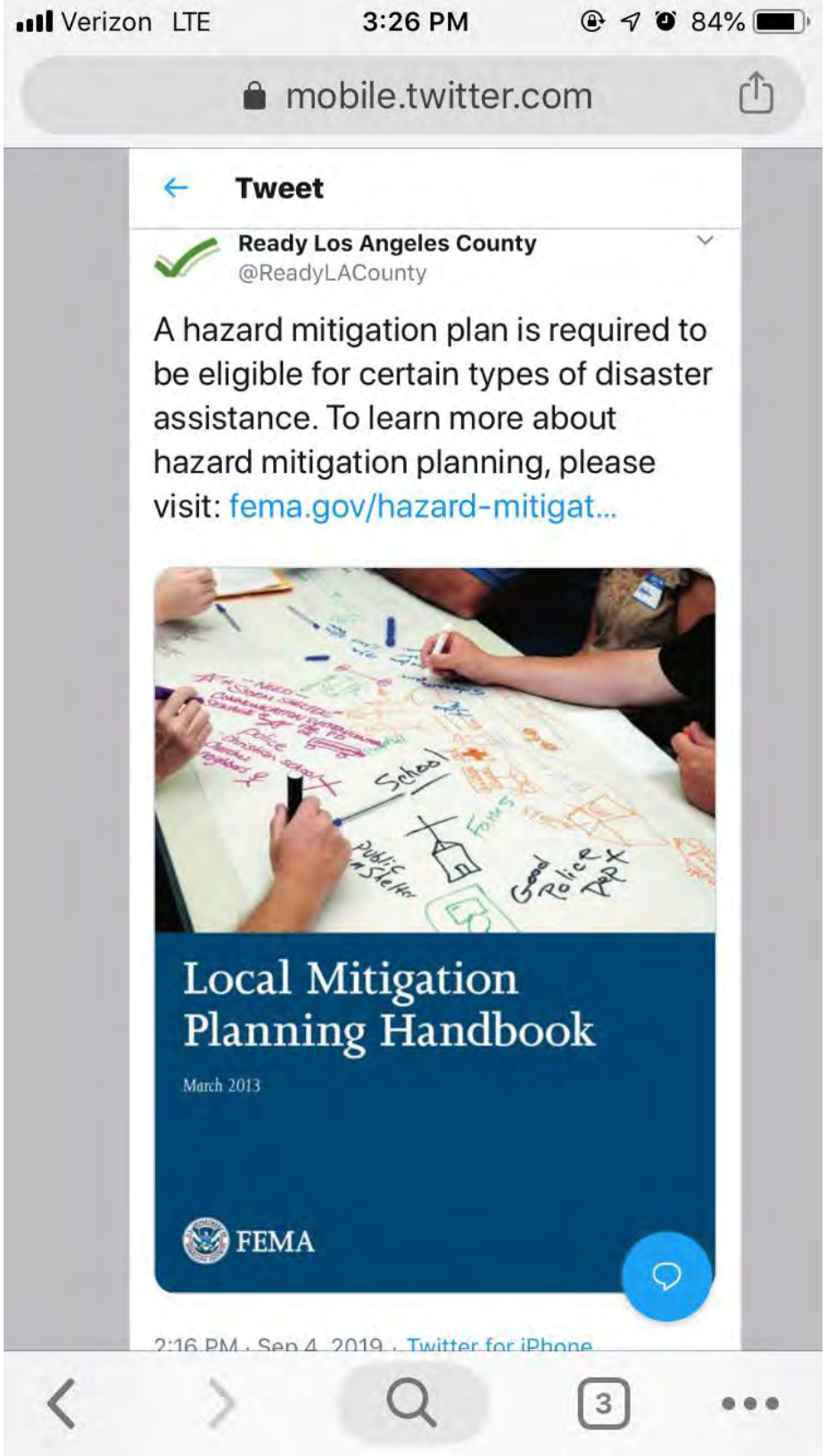




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Ready Los Angeles County
Follow
We are updating the County of Los Angeles All-Hazards Mitigation Plan in order to help protect life and property from future disaster events. To learn more about our plan, please follow our Twitter account @ReadyLACounty.
2019 County of Los Angeles All-Hazards Mitigation Plan
Chief Executive Office - Office of Emergency Management


Ready Los Angeles County
Follow
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
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								

Table C-11: Sheriff's Department Facility Hazard Impacts

APPENDIX M

DECLARED STAGE 3 RESOLUTION

City Council Staff Report

DATE: January 20, 2016

AGENDA ITEM NO: **New Business Agenda Item 6-D.**

TO: The Honorable Mayor and City Council

FROM: Ron Bow, Director of Public Works/Assistant City Manager

SUBJECT: Declaring a Stage 3 Drought Emergency

RECOMMENDATION:

It is recommended that the City Council consider:

1. Adopting the resolution declaring a Stage 3 Drought Emergency. The resolution would become effective immediately;
2. Taking such additional, related, action that may be desirable.

CEQA (CALIFORNIA ENVIRONMENTAL QUALITY ACT):

This resolution is exempt from review under the California Environmental Quality Act (California Public Resources Code §§ 21000, *et seq.*, "CEQA") and CEQA Guidelines (14 California Code of Regulations §§ 15000, *et seq.*) because it establishes rules and procedures to clarify existing policies and practices related to water service; does not involve any commitment to a specific project which could result in a potentially significant physical impact on the environment; and constitutes an organizational or administrative activity that will not result in direct or indirect physical changes in the environment. This resolution is adopted, in part, for protection of the environment. Accordingly, this resolution does not constitute a "project" that requires environmental review (see specifically CEQA Guidelines § 15378(b)(2, 5)). Moreover, even if the resolution were a project, it constitutes a specific action needed to mitigate an emergency in accordance with CEQA Guidelines § 15269(c) and would be categorically exempt from additional environmental review.

EXECUTIVE SUMMARY:

Ordinance **2121** was adopted on July 1, 2015. During this time, council declared a Stage 2 Drought Emergency by resolution. The objective of the Stage 2 was to comply with the mandatory conservation of 20% for the City of Monterey Park. Since the mandatory conservation was implemented by the State Water Resources Board, staff has been diligently monitoring the conservation progress. As of December 2015, the City of Monterey Park has achieved the monthly 20% conservation target 2 of the last 7 months. As a direct result, the cumulative conservation percentage and total water saved has steadily decreased.

Each month the conservation goal is not achieved, the deficit is carried over to the next month. Through the first five months (June to October) the city was able to save a

minimum of 17%. However, in November and December the percentages dropped to 13.3% and 13.9% respectively. Staff evaluation demonstrated that as of January 11, 2016 the conservation has dropped to 11.5% or 8.3 Million Gallons (MG) for the month.

In order to increase the cumulative percentage up to the mandated goal of 20%, the city would need to save 81.3 MG or 40.3% for the month of January. The initial reporting period was set to end on February 29, 2016 leaving only approximately 45 days to make up for the deficit. On January 6, 2016, the Governor has released the 4th of a series of Executive Orders. This most recent action by the Governor will directs the State Water Resources Board to extend the mandatory conservation through the end of October 2016.

Declaring a Stage 3 drought emergency is designed to save 25% to 35% of water demands. Increasing from Stage 2 to Stage 3 will assist the staff as well as water consumers to lower the water usage by limiting outside watering to one time a week (Monday). It will also limit filling of pools and similar fixtures to once a week (Monday). The other two differences are that Stage 3 limits fire hydrant use and prohibits the washing of cars and other motorized and on motorized equipment.

Staff is confident that by increasing to Stage 3 is warranted and will demonstrate a proactive approach of controlling water usage in the event the Water Resources Control Board (SWRCB) performs an audit. Depending on each water purveyor's performance which is determined by the cumulative percentage, SWRCB will impose various responses to agencies that have not met their mandatory conservation goal. Part of the audit is to determine what steps the water agency took to minimize water waste and encourage conservation.

FISCAL IMPACT

The fiscal impact will affect the City's water enterprise fund and possibly impact future capital improvement project work.

Respectfully submitted by:

Ron Bow
Director of Public Works/
Assistant City Manager

Prepared by:

Frank M. Heldman
Water Utility Manager

Approved by:

Paul L. Talbot
City Manager

Reviewed by:

Karl H. Berger
Assistant City Attorney

ATTACHMENTS:

1) Regular Ordinance 2121
2) Proposed Resolution declaring a Stage 3 Drought Emergency

RESOLUTION NO._____

A RESOLUTION DECLARING A STAGE 3 DROUGHT EMERGENCY AND DIRECTING THE WATER SUPERINTENDENT TO IMPLEMENT WATER CONSERVATION RESTRICTIONS IN ACCORDANCE WITH SECTION H20 1.070 OF THE MONTEREY PARK EMERGENCY WATER CONSERVATION REGULATIONS.

The City Council of the City of Monterey Park resolves as follows:

SECTION 1: The City Council finds as follows:

A. In response to the Governor's April 1, 2015 Executive Order, the California State Water Resources Control Board (the "Board") adopted emergency regulations amending 23 California Code of Regulations §§ 863, 864, 865, and 866 ("Emergency Regulations");

B. To comply with the Emergency Regulations, the City Council adopted Ordinance No. 2121 on July 1, 2015 which takes effect immediately;

C. Ordinance No. 2121 enacts the Monterey Park Emergency Water Conservation Regulations which establish the means by which the City Council may declare a Drought Emergency; and

D. This Resolution is adopted in accordance with Section H20 1.080 of the Monterey Park Emergency Water Conservation Regulations to declare a Stage 3 Drought Emergency.

SECTION 2: **Stage 3 Drought Emergency**.

A. Declaring a Stage 3 drought emergency demonstrates the need to reduce the City's water demand between 25% and 35%.

B. The resolution declaring a Stage 3 Drought Emergency must, in addition to the general prohibitions of this Ordinance, direct the water superintendent to impose the following water use restrictions:

1. Watering outdoors for the purposes of irrigating landscape, lawns, vegetated areas, and plant material without the use of a drip irrigation or micro-spray system is limited to one (1) time per week. Residents may water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday.

2. Filling swimming pools, spas, hot tubs, Jacuzzis, or children's wading pools is limited to not more than one (1) time per week on Mondays.

3. Installing non drip irrigation or micro-spray systems used in watering outdoors for purposes of irrigating landscape, lawns, vegetated areas, and plant material in new commercial and residential developments requesting new water utility service is unlawful.

4. It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

5. It is unlawful to wash any motorized vehicle or non-motorized equipment including, without limitation, automobiles, trucks, vans, buses, motorcycles, boats, or other motorized and non-motorized equipment unless performed at commercial car wash facilities.

6. Using potable water from fire hydrants is limited to firefighting and emergency related activities and/or other activities necessary to maintain public health, safety, and welfare including without limitation, flushing utility distribution pipelines; construction water distribution and production facilities; and maintaining street sweeping services. If there is a need for acquiring fire hydrant and flow testing services, the applicant is required to have the test completed by the water superintendent through the water system computer model in-lieu of having an actual real-time field test completed. The expense incurred by the City for the completion of a fire hydrant and flow test modeling using the City water system computer model will be paid for by the applicant.

SECTION 3: The City Manager is authorized to promulgate administrative policies and procedures in order to implement the purpose and goals set forth in this Resolution.

SECTION 4: This Resolution will become effective immediately upon adoption and will remain effective unless repealed or superseded.

PASSED AND ADOPTED this 20th day of January, 2016.

Peter Chan,
Mayor

ATTEST:

Vincent D. Chang,
City Clerk

APPROVED AS TO FORM:
MARK D. HENSLEY, City Attorney

By: _____
Karl H. Berger, Assistant City Attorney

APPENDIX N

WATER RATES

City of Monterey Park

Monthly Water Rate Schedule

Starting September 1, 2019

Meter Size	Monthly Water Meter Charge
5/8" or 3/4"	$19.20
1"	$20.75
1-1/2"	$32.70
2"	$42.15
3"	$84.35
4"	$139.55
6"	$425.95
8"	$1,065.30

Proposed Single Family Residential	Monthly Water Consumption Charge (per unit)
Tier 1 (units 0-6)	$2.10
Tier 2 (units 7-12)	$2.29
Tier 3 (above 12 units)	$2.45

Proposed All Other	
All Units of Consumption	$2.39

Water Treatment Charge	
% (meter + consumption)	37.5%

One unit = 100 cubic feet = 748 gallons of water

APPENDIX O

RESOLUTION ADOPTING 2020 UWMP AND WSCP

RESOLUTION NO. 12258

A RESOLUTION ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

The City Council of the city of Monterey Park does resolve as follows:

SECTION 1: The City Council finds and declares that:

A. The Urban Water Management Planning Act (Water Code § 10620, *et seq*; the "Act") requires every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to develop an urban water management plan ("UWMP") that has as its primary objective the conservation and efficient use of water;

B. The City of Monterey Park ("City") is a water supplier and is required to prepare an UWMP;

C. The Act requires that an UWMP be updated every five years;

D. The City retained Stetson Engineers, Inc. to prepare the City's UWMP. The UWMP was reviewed by the Public Works Director and was circulated for public review;

E. The City reviewed the UWMP's environmental impacts under the California Environmental Quality Act (Public Resources Code §§ 21000, *et seq*., "CEQA"), the regulations promulgated thereunder (14 Cal. Code of Regulations §§15000, *et seq*., the "CEQA Guidelines"), and the City's Environmental Guidelines ("City Guidelines"; CEQA, CEQA Guidelines and City Guidelines collectively referred to as "CEQA Regulations");

F. The Department of Public Works completed its review and scheduled a public hearing regarding the application before the City Council for July 7, 2021;

G. On July 7, 2021, the City Council opened a public hearing to receive public testimony and other evidence regarding the UWMP including, without limitation, information provided to the City Council by the accompany staff report;

H. The City Council considered the information provided by City staff and the public. This Resolution, and its findings, are made based upon the evidence presented to the City Council at its July 7, 2021 public hearing including, without limitation, the staff report submitted by the Department of Public Works;

SECTION 2: *Environmental Assessment*. The UWMP is statutorily exempt from additional environmental review under the California Environmental Quality Act (California Public Resources Code §§ 21000, *et seq*., "CEQA") and CEQA Guidelines (14 California Code of Regulations §§ 15000, *et seq*.) pursuant to Water Code § 10652 (*see also* 14 CCR § 15282(v)).

SECTION 3: *General Plan Conformance*. Pursuant to Government Code § 65401 and Monterey Park Municipal Code § 2.56.020(b), the City Council finds that the UWMP conforms with the Monterey Park General Plan. Specifically, the UWMP conforms with Goal 4.0 of the General Plan's Water Resources Element, and its policies, as follows:

A. Policy 4.1: Encourage water conservation through education, use of drought-landscapes, and water-conserving technology.

B. Policy 4.2: Promote the use of drought-tolerant trees and native plant material in landscapes, especially in City-owned landscapes.

C. Policy 4.3: Encourage use and production of reclaimed water.

D. Policy 4.4: Install treatment facilities as necessary to ensure attainment of water quality standards.

E. Policy 4.5: Work with state and federal agencies to identify the source and causes of contamination plumes with the groundwater basin, and to ensure clean up consistent with state and federal laws.

F. Policy 4.6: Continue enforcement of National Pollution Discharge Elimination System (NPDES) Permit to protect groundwater resources from further contamination.

G. Policy 4.7: Encourage and support the proper disposal of hazardous waste and waste oil. Monitor dry cleaners, film processors, auto service establishments, and other businesses generating hazardous waste materials to ensure compliance with approved disposal procedures.:

SECTION 4: *Adoption*. The 2020 Urban Water Management Plan prepared by Stetson Engineers, Inc. and dated "June 2021" is incorporated by this reference and adopted. Because the UWMP is too voluminous to be attached to this Resolution, a copy is on file with the City Clerk's office and also available online at the City's website (www.montereypark.ca.gov/1363/2020-Urban-Water-Management-Plan).

SECTION 5: *Notification.* The Public Works Director is authorized and directed to file the 2020 Urban Water Management Plan with the California Department of Water Resources within 30 days.

SECTION 6: *Severability*. If any part of this Resolution or its application is deemed invalid by a court of competent jurisdiction, the City Council intends that such invalidity will not affect the effectiveness of the remaining provision or application and, to this end, the provisions of this Resolution are severable.

SECTION 7: *Electronic Signatures*. This Resolution may be executed with electronic signatures in accordance with Government Code §16.5. Such electronic signatures will be treated in all respects as having the same effect as an original signature.

SECTION 8: *Recordation.* The Mayor, or presiding officer, is authorized to sign this Resolution signifying its adoption by the City Council of the City of Monterey Park and the City Clerk, or his duly appointed deputy, may attest thereto.

SECTION 9: *Effective Date.* This Resolution will become effective immediately upon adoption and will remain effective unless repealed or superseded.

PASSED AND ADOPTED this 7th day of July, 2021

Yvonne Yiu, Mayor

Attest:

Vincent D. Chang, City Clerk

Approved as to Form:

Karl H. Berger, City Attorney

State of California)
County of Los Angeles) §.
City of Monterey Park)

I, Vincent D. Chang, City Clerk of the City of Monterey Park, California, do hereby certify that the foregoing Resolution No. 12258 was duly and regularly adopted by the City Council of the City of Monterey Park at a regular meeting held on the 7th day of July 2021, by the following vote:

Ayes:	Council Members:	Chan, Liang, Sornoso, Lo, Yiu
Noes:	Council Members:	None
Absent:	Council Members:	None
Abstain:	Council Members:	None

Dated this 7th day of July 2021.

Vincent D. Chang, City Clerk
Monterey Park, California