CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX A

DWR STANDARDIZED SUBMITTAL TABLES

Submittal Table 2-1 Retail: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
Add additional rows as needed			
CA1910092	City of Monterey Park	13,321	6,636
	Total	13,321	6,636

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES:

Submittal Table 2-2: Plan Identification		
Select One	**Type of Plan**	**Name of Regional Alliance or RUWMP** (Drop Down List)
☑	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name from the drop-down.	
☐	**Regional Urban Water Management Plan (RUWMP)**	
	If Supplier selected RUWMP, select name from the drop-down.	
NOTES:		

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
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 the drop down list).	
Unit	AF
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange Water Code Section 10631(h)
The retail Supplier has informed the following wholesale supplier(s) of projected water use.
Wholesale Water Supplier Name
Add additional rows as needed
San Gabriel Valley Municipal Water District
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	53,758	54,061	54,366	54,634	54,903	55,173
NOTES:						

Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water — Actual
Water Code Section 10631(d)(1)

Use Type	Additional Description (as needed)	2025 Actual Water Use	
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		**Potable or Non-Potable** (OPTIONAL) Drop down list	Volume (AF)
Add additional rows as needed			
Single Family		Potable	2,422
Multi-Family		Potable	1,890
Commercial		Potable	1,418
Institutional/Governmental		Potable	199
Landscape		Potable	176
Distribution System Water Loss		Potable	531
		Subtotal Potable	6636
		Subtotal Non-Potable	0
		Total	6,636

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES:

Submittal Table 4-2 Retail: Total Uses for Potable, and Non-Potable Water — Projected
Water Code Section 10631(d)(1)

Use Type	Additional Description (as needed)	Projected Water Use (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		**Potable or Non-Potable** (OPTIONAL) Drop down list	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed.							
Single Family		Potable	2,496	2,510	2,522	2,535	2,547
Multi-Family		Potable	1,947	1,958	1,968	1,977	1,987
Commercial		Potable	1,461	1,469	1,476	1,484	1,491
Institutional/Governmental		Potable	206	207	208	209	210
Landscape		Potable	182	183	184	185	186
Distribution System Water Loss		Potable	547	550	553	556	558
		Subtotal Potable	6,839	6,877	6,911	6,946	6,979
		Subtotal Non-Potable	0	0	0	0	0
		Total	6,839	6,877	6,911	6,946	6,979

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES:

Submittal Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? **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. ***Optional*** Suppliers may complete Optional Submittal Table 4-4 R to quantify the expected savings.	Section 4.2.5 and Chapter 8
Are Lower Income Residential Demands Included In Projections? **Drop down list (y/n)**	Yes
Optional If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES:	

Submittal Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)		
Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
Report submittal status for all five years for each Public Water System as available. Add rows as needed		
CA1910092	**2020**	Yes
	2021	No
	2022	No
	2023	No
	2024	No
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports.		
NOTES:		

Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard
Water Code Section 10631(d)(3)(C)

Public Water System ID # Reported in Submittal Table 2-1 R	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss Drop down list	Number of Units (Connections or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections	Volume of Total Apparent Loss (from AWWA Water Loss Audit) (AF)	Apparent Water Loss Per Unit per Day
Add additional rows as needed.											
CA1910092	Yes	19.2	Gallons per Service Connection per Day (GPSCD)	13666	436.314	28.5	4.7	Gallons per Service Connection per Day (GPSCD)	13666	72.217	4.7
								Gallons per Service Connection per Day (GPSCD)			
								Gallons per Service Connection per Day (GPSCD)			

Water Board's Calculated Water Loss Standards

DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss **MUST** remain consistent with units reported in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations.

NOTES: Based on 2020 Water Loss Audit

Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress
Water Code Section 10608.40

☐	**Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.**

Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target? Drop down list	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	**Only for suppliers that did not meet the Target in 2020** **See DWR NOTES below.**	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	142	112	Yes		NA

DWR NOTES:
Suppliers calculating a 2025 GPCD will need to complete and submit SB X 7-7 Compliance Tables to verify the use of SB X7-7 Methodologies.
Suppliers that were part of a merger or consolidation since 2020 see Chapter 5 and Appendix P for guidance.
NA=Not Applicable

NOTES:

Submittal Table 6-1 Retail: Groundwater Volume Pumped
Water Code Section 10631(4) and 10631(4)(c)

☐	Check the box if the Supplier does not pump groundwater. Proceed to the next table.
☐	Check the box if all or part of the groundwater described below is desalinated. (OPTIONAL)

Groundwater Type **Drop Down List** May use each category multiple times	Potable or Non-Potable (OPTIONAL) **Drop down list**	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Add additional rows as needed							
Alluvial Basin	Potable	Main Basin	7574	7118	5585	5132	6618
		Total	7,574	7,118	5,585	5,132	6,618

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area
Water Code Section 10633(a)

☐	Check the box if there is no wastewater collection system. Proceed to the next table.
	Percentage of 2025 service area served by wastewater collection system (OPTIONAL)
	Percentage of 2025 service area population served by wastewater collection system (OPTIONAL)

Wastewater Collection			Recipient of Collected Wastewater	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? OPTIONAL **Drop Down List**	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number **Drop down list**	Is WWTP Located Within UWMP Area? **Drop Down List**
Add additional rows as needed				
LACSD	Estimated	150	Whittier Narrows Water Reclamation Plant, Place ID 235826	No
LACSD	Estimated	4,004	A.K. Warren Water Resource Facility, Place ID 234156	No
Total Wastewater Received from UWMP Service Area in 2025:		4,154		

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

Submittal Table 6-3 Retail: Wastewater Treatment and Outcomes Within UWMP Service Area
Water Code Section 10633(b)

☑	**Check the box if no wastewater is treated or disposed of within the UWMP service area.** Proceed to the next table.

Wastewater Treatment Plant Name and Place ID Number **Drop down list**	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL) **Drop down list**	2025 Volume of Wastewater Received from UWMP Service Area (As Reported in Submittal Table 6-2 R) (AF)	Total 2025 Volume of Water Treated (AF)	**2025 Outcomes of Treated Wastewater**										
				Water Recycled Within UWMP Service Area (enter data as applicable)		**Water Recycled Outside of UWMP Service Area** (enter data as applicable)		**Effluent Discharge that is not a Permitted Recycled Water Use** (enter data as applicable)		**Required Discharge for Instream Flow** (enter data as applicable)		**Delivered to Another Entity for Additional Treatment** (enter data as applicable)		
				Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Name of other entity
Add additional rows as needed														
Total		0	-		0		0		0		0		0	

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
IPR: Indirect Potable Reuse would have the treatment level of its end use requirement in the Level of Treatment drop-down.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area
Water Code Section 10633 (c),(d),(e)

☑	Check box if recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use.

Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL) :	
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL) :	
Volume of Supplemental Water Added in 2025 (OPTIONAL) :	
Source of 2025 Supplemental Water (OPTIONAL) :	

Use Type **Drop down list**	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop down list	Additional Information (as needed)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)	**Potential Recycled Water Use**	
									Volume	Narrative page number (OPTIONAL)
Add additional rows as needed										
		Subtotal Potable	0	0	0	0	0	0	0	
		Subtotal Non-Potable	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	0	0

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.
Potential recycled water use: a description of the feasibility of these uses must be included in the narrative.
Multiple Producers: If you have multiple recycled water producers, submit a separate table for each.

NOTES:

Submittal Table 6-5 Retail: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual
Water Code Section 10633(e)

☑	Check the box if recycled water was not used in 2025 nor previously projected for use in 2020. Proceed to the next table.

Use Type Drop Down list	2020 Projection for 2025 (AF)	2025 Actual Use (AF)
Add additional rows as needed		
Total	0	0

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3

Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

Submittal Table 6-6 Retail: Methods to Encourage Future Recycled Water Use
Water Code Section 10633(f)

☐	Check the box if the 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	Provide page location of narrative in the UWMP

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (AF)
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
		Total (AF)	1,150
		Unit Conversion to AF	1,150

DWR NOTES:
Units of measure (AF, CCF, MG) MUST remain consistent with units reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
The unit conversion to Acre Feet addresses the Water Code's requirement that this value be provided in acre-feet.

NOTES:

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs
Water Code Section 10631(f)

☐	Check the box if there are no expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Proceed to the next table.
☑	Check the box if some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.
Section 6.2.10	Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Planned Implementation Year	Planned for Use in Year Type **Drop Down List**	Expected Increase in Water Supply to Supplier (This may be a range) (AF)
	Drop Down List (yes/no)	If Yes, Supplier Name					
Add additional rows as needed							
Construct New Groundwater Wells	No		Install new and/or replacement wells in the Main Basin as necessary	Potable	Ongoing	All Year Types	2,000

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.

NOTES:

Submittal Table 6-8 Retail: Water Supplies — Actual
Water Code Section 10631(b)

Water Supply		2025		
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	Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Actual Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed				
Groundwater (not desalinated)	Main Basin	Potable	6,618	
Purchased or Imported Water	San Gabriel Valley Water Company	Potable	18	
		Subtotal Potable	6,636	0
		Subtotal Non-Potable	0	0
		Total	6,636	0

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES:

Submittal Table 6-9 Retail: Water Supplies — Projected
Water Code Section 10631 (b)

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	Additional Detail on Water Supply	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	**2030**		**2035**		**2040**		**2045**		**2050 (opt)**	
			Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed												
Groundwater (not desalinated)	Main Basin	Potable	6,439		6,477		6,511		6,546		6,579	
Purchased or Imported Water	San Gabriel Valley Water Company	Potable	400		400		400		400		400	
Subtotal Potable			6,839	0	6,877	0	6,911	0	6,946	0	6,979	0
Subtotal Non-Potable			0	0	0	0	0	0	0	0	0	0
Total			6,839	0	6,877	0	6,911	0	6,946	0	6,979	0

DWR NOTES:

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

Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES:

Optional Submittal Table O-1B: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - TOTAL UTILITY APPROACH

Water Delivery Product drop down list (If delivering more than one type of product recommend using Table O-1C)	Retail Potable Deliveries	**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**		
Start Date of Reporting Period	7/1/2024	**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
End Date of Reporting Period	6/30/2025			
Is upstream embedded energy in the values reported?	No			
Units of Measure for Water	AF	**Total Utility** See DWR NOTES	**Hydropower**	**Net Utility**
Volume of Water Entering Process		6,636		6,636
Energy Consumed (kWh)		8,003,433		8,003,433
Energy Intensity (kWh/vol. converted to MG)		3,701	-	3,701

DWR NOTES:

Total Utility: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from your volume in this table.

Quantity of Self-Generated Renewable Energy

0 kWh

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

Combination of Estimates and Metered Data

Data Quality Narrative:

The total energy consumed was identified based on Southern California Edison (SCE) billing records. Although the total energy consumed includes electricity usage for general administration (which is not an identified water management process), general administration energy use is considered to be negligible compared to overall water system use and has not been netted out.

Narrative:

The total energy consumption includes energy associated with operating groundwater production wells and booster pumps to deliver water in the distribution system. Energy consumption is associated with operating groundwater water treatment. Energy consumption is also associated with plant lighting and air conditioning, and operating the Supervisory Control and Data Acquisition (SCADA) system and chlorination injection pumps.

NOTES:

Optional 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 2024-2025, use 2025	Available Supplies if Year Type Repeats	
		☐	Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. **Location:** [insert location from UWMP]
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	**% of Average Supply**
Average Year	2017	7557	100%
Single-Dry Year	2018	7782	103.0%
Consecutive Dry Years 1st Year	2012	8791	116.3%
Consecutive Dry Years 2nd Year	2013	8965	118.6%
Consecutive Dry Years 3rd Year	2014	9094	120.3%
Consecutive Dry Years 4th Year	2015	8391	111.0%
Consecutive Dry Years 5th Year	2016	7409	98.0%

DWR NOTES: Supplier may use multiple versions of Submittal Table 7-1 R 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 Submittal Table 7-1 R, in the "Note" section of each submittal table, state that multiple versions of Submittal Table 7-1 R are being used and identify the particular water source that is being reported in each submittal table. **Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals (autofill from Submittal Table 6-9 R)	6,839	6,877	6,911	6,946	6,979
Use totals (autofill from Submittal Table 4-2 R)	6,839	6,877	6,911	6,946	6,979
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Use Comparison Water Code Section 10635(a)					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals	7,042	7,082	7,117	7,153	7,187
Use totals	7,042	7,082	7,117	7,153	7,187
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison
Water Code Section 10635(a)

		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals	7,956	8,000	8,040	8,080	8,119
	Use totals	7,956	8,000	8,040	8,080	8,119
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals	8,113	8,159	8,199	8,240	8,280
	Use totals	8,113	8,159	8,199	8,240	8,280
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals	8,230	8,276	8,317	8,359	8,399
	Use totals	8,230	8,276	8,317	8,359	8,399
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals	7,594	7,636	7,674	7,713	7,749
	Use totals	7,594	7,636	7,674	7,713	7,749
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals	6,705	6,743	6,776	6,810	6,843
	Use totals	6,705	6,743	6,776	6,810	6,843
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					

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

NOTES:

Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2026	**Total**
Total Water Use (AF)	7,768
Total Supplies (AF)	8,791
Surplus/Shortfall w/o WSCP Action	1,023
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2027	**Total**
Total Water Use (AF)	7,970
Total Supplies (AF)	8,965
Surplus/Shortfall w/o WSCP Action	995
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2028	**Total**
Total Water Use (AF)	8,133
Total Supplies (AF)	9,094
Surplus/Shortfall w/o WSCP Action	961
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2029	**Total**
Total Water Use (AF)	7,549
Total Supplies (AF)	8,391
Surplus/Shortfall w/o WSCP Action	842
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2030	**Total**
Total Water Use (AF)	6,705
Total Supplies (AF)	7,409
Surplus/Shortfall w/o WSCP Action	704
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions
Water Code Section 10632(a)(4)(A),(C) and (E)

Yes	Is the Supplier completing this table using the standard six levels? (yes/no)			
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?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)	
Add additional rows as needed				
1	Transfers	Volume	0	Not applicable (see Notes)
2	Transfers	Volume	0	Not applicable (see Notes)
3	Transfers	Volume	0	Not applicable (see Notes)
4	Transfers	Volume	0	Not applicable (see Notes)
5	Transfers	Volume	0	Not applicable (see Notes)
6	Transfers	Volume	0	Not applicable (see Notes)

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

NOTES: The City will consider increased production from the Main Basin using existing facilities to address increased demands. As noted on Table 8-3, 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 8-3 Retail: Demand Reduction Actions
Water Code Section 10632(a)(4)(B),(D), and (E)

Yes | Is the Supplier completing this table using the standard six levels? (yes/no)

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?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
1	Other - Prohibit use of potable water for washing hard surfaces	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Landscape - Limit landscape irrigation to specific times	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Landscape - Other landscape restriction or prohibition	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY	Prohibit landscape irrigation within 48 hours after measurable precipitation	Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Other - Require automatic shut of hoses	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	CII - Restaurants may only serve water upon request	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	CII - Lodging establishment must offer opt out of linen service	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY		Yes
1	CII - Other CII restriction or prohibition	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY	It is unlawful to install non re-circulating water systems at new commercial car washes and new commercial laundromat facilities.	Yes
1	CII - Other CII restriction or prohibition	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY	It is unlawful to install single pass cooling systems in new commercial buildings requesting new water utility service.	Yes
1	Other	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY	A written warning must be provided to persons upon the first violation of this section.	Yes
1	Landscape - Limit landscape irrigation to specific days	Volume	Collective reduction from all Shortage Level 1 actions is up to 507 AFY	Limit Landscape irrigation to Monday, Wednesday, and Friday	Yes
2	Other	Volume	Collective reduction from Shortage Level 1 plus all Shortage Level 2 actions is up to 1,014 AFY	All actions under Shortage Level 1	Yes
2	Landscape - Limit landscape irrigation to specific days	Volume	Collective reduction from all Shortage Level 2 actions is up to 1,014 AFY	Limit Landscape irrigation to Monday and Thursday	Yes
2	Landscape - Prohibit certain types of landscape irrigation	Volume	Collective reduction from all Shortage Level 2 actions is up to 1,014 AFY	It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.	Yes
2	Landscape - Other landscape restriction or prohibition	Volume	Collective reduction from all Shortage Level 2 actions is up to 1,014 AFY	Drip irrigation required for new construction	Yes
3	Other	Volume	Collective reduction from Shortage Level 2 plus all Shortage Level 3 actions is up to 1,521 AFY	All actions under Shortage Level 2	Yes
3	Landscape - Limit landscape irrigation to specific days	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 AFY	Limit Landscape irrigation to Monday	Yes
3	Other water feature or swimming pool restriction	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 AFY	Limit filling or refilling of swimming pools to Mondays	Yes
3	Landscape - Other landscape restriction or prohibition	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 AFY	Drip irrigation required for new construction	Yes
3	Landscape - Prohibit certain types of landscape irrigation	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 AFY	It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 AFY		Yes
3	Other	Volume	Collective reduction from all Shortage Level 3 actions is up to 1,521 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	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY	All actions under Shortage Level 3	Yes
4	Other	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 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	Landscape - Prohibit certain types of landscape irrigation	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY	It is unlawful to water without a drip irrigation or micro-spray system.	Yes
4	Landscape - Other landscape restriction or prohibition	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY	Drip irrigation required for new construction	Yes
4	Landscape - Other landscape restriction or prohibition	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY	It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.	Yes
4	Other water feature or swimming pool restriction	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY		Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Volume	Collective reduction from Shortage Level 3 plus all Shortage Level 4 actions is up to 2,027 AFY		Yes
5	Other	Volume	Collective reduction from Shortage Level 4 plus all Shortage Level 5 actions is up to 2,534 AFY	All actions under Shortage Level 4	Yes
6	Other	Volume	Collective reduction from Shortage Level 5 plus all Shortage Level 6 actions is greater than 2,534 AFY	All actions under Shortage Level 5	Yes

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

NOTES:

Submittal Table 10-1 Retail: Notification to Cities and Counties Water Code Section 10621(b) and 10642		
City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Alhambra	Yes	Yes
Monterey Park	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX B

COMPLETED PLAN CHECKLIST

Retail (x = required)	Wholesale (x = required)	Order	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	1	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	n/a	Chapter 1 Lay Description
x	x	1	Chapter 1	10630.5	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.	Plan preparation	n/a	Beginning of each Chapter
x	x	2.1	Section 2.1	10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan preparation	n/a	Section 2.1
x	n/a	2.5	Section 2.5	10644	Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP.	Plan preparation	2-1	Sections 2.1 and 2.5
x	x	2.5	Section 2.5	10644	Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance.	Plan preparation	2-2	Sections 2.2 and 2.5
x	x	2.5	Section 2.5	10644	Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes.	Plan preparation	2-3	Sections 2.3 and 2.5
x	x	2.4	Section 2.4	10642	Provide supporting documentation that the 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	n/a	Section 2.4
x	x	2.4	Section 2.4.2	10620(d)(3)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other Suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan preparation	n/a	Section 2.4.2
x	n/a	2.4	Section 2.4.1	10631(h)	Retail Suppliers will include documentation that they have provided their Wholesale Supplier(s)—if any—with water use projections from that source.	Plan preparation	2-4 R	Sections 2.4.1 and 2.5
n/a	x	2.4	Section 2.4.1	10631(h)	Wholesale Suppliers will provide their Suppliers with identification and quantification of the existing and planned sources of water available from the Wholesale Supplier to the Supplier during various water year types.	Plan preparation	2-4 W	n/a
x	x	3	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	n/a	Section 3.1 and 3.2
x	x	3.3	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	n/a	Section 3.3
x	x	3.4	Section 3.4.1	10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	3-1	Sections 3.4 and 3.6
x	x	3.4	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	n/a	Section 3.4.2
x	x	3.5	Section 3.5	10631(a)	Describe the land uses within the service area… include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water management planning. Describe the land uses within the service area.	System description and baselines	n/a	Section 3.5
x	Optional	4.2	Sections 4.2.3 and 4.2.4	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System water use	4-1 and 4-2	Sections 4.2 and 4.4
x	Optional	4.3	Section 4.3.1	10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System water use	4-5	Sections 4.3 and 4.4
x	n/a	4.3	Section 4.3.2	10631(d)(3)(C)	Retail Suppliers shall provide data to show the distribution loss standards were met.	System water use	4-6	Sections 4.3 and 4.4
x	n/a	4.2	Section 4.2.5.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the Supplier.	System water use	4-3	Sections 4.2.5.5 and 4.4
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System water use	4-3	Section 4.2.5.3
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System water use	4-3	Sections 4.2.5.3 and 9.1
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(B)(ii)	To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall… Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.	System water use	4-3	Section 4.2.5.3 and 4.2.5.4
x	x	4.2	Section 4.2.5.6	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	n/a	Section 4.2.5.6
n/a	x	5.1	Section 5.1	10608.36	Wholesale Suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their Retail Suppliers achieve targeted water use reductions.	Baselines and targets	n/a	n/a
x	n/a	5.2	Section 5.2	10608.4	Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3 address each of these situations.	Baselines and targets	5-1	Sections 5.2 and 5.3
x	x	6.1	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System supplies	n/a	Sections 6.1 and 6.2
x	x	6.1	Sections 6.1 and 6.2	10631(b)(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	n/a	Sections 6.1, 6.2, 7.1, and 7.2
x	x	6.2	Section 6.2.2	10631(b)(4)(C)	Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	Water supplies and recycled water	6-1	Sections 6.2.2 and 6.4
x	x	6.2	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the Supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System supplies	n/a	Section 6.2.2
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	n/a	Section 6.2.2
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	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	n/a	Section 6.2.2
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… (include) information as to whether DWR has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin…	Water supplies and recycled water	n/a	Section 6.2.2

x	x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… describe efforts by the Supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	Water supplies and recycled water	n/a	Section 6.2.2
x	x	6.2	Section 6.2.2.	10631(b)(4)(C)	If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	System supplies	n/a	Sections 6.2.2 and 6.4
x	x	6.2	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System supplies	6-9	Sections 6.2.2 and 6.4
x	x	6.1	Section 6.1	10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System supplies	6-8 and 6-9	Section 6.4
x	x	6.2	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System supplies	n/a	Section 6.2.7
x	n/a	6.2	Section 6.2.5	10633(a)	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)	6-2	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	6-3	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System supplies (recycled water)	6-4	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(d)	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)	6-4	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the Supplier's service area at the end of 5, 10, 15, and 20 years, and describe the actual use of recycled water in comparison to uses previously projected.	System supplies (recycled water)	6-4 and 6-5	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(f)	Describe the actions that 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)	6-6	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area.	System supplies (recycled water)	n/a	Sections 6.2.5 and 6.4
x	x	6.2	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	6-7	Section 6.2.6
x	x	6.2	Section 6.2.10	10631(f)	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 five consecutive water years.	System supplies	6-7	Sections 6.2.10 and 6.4
x	x	6.3	Section 6.3 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	O-1A, O-1B, O-1C, and O-2	Section 6.3
x		7.1	Section 7.1	10634	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	n/a	Section 7.1
x	x	7.2	Section 7.2	10635(a)	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 Supplier with the total projected water use over the next 20 years.	Water supply reliability assessment	7-2, 7-3, and 7-4	Sections 7.2
x	x	7.2	Section 7.2.3	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water supply reliability assessment	n/a	Section 7.2.3
x	x	7.3	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water supply reliability assessment	n/a	Section 7.3
x	x	7.3	Section 7.3	10635(b)(1)	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 five consecutive years.	Water supply reliability assessment	n/a	Section 7.3
x	x	7.3	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water supply reliability assessment	n/a	Section 7.3
x	x	7.3	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the Supplier with the total projected water use for the drought period.	Water supply reliability assessment	7-5	Section 7.3
x	x	7.3	Section 7.3	10635(b)(4)	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	n/a	Section 7.3
x	x	8	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	n/a	Chapter 8
x	x	8	Chapter 8	10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	n/a	Chapter 8
x	x	8.2	Section 8.2	10632(a)(2)(A)	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	n/a	Section 8.2
x	x	8.2	Section 8.2	10632(a)(2)(B)	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	n/a	Section 8.2
x	x	8.3	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% 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	n/a	Section 8.3
x	x	8.3	Section 8.3	10632(a)(3)(B)	Suppliers with an existing WSCP that uses different water shortage levels must cross reference their categories with the six standard categories.	Water shortage contingency planning	8-1	Sections 8.3 and 8.14
x	x	8.4	Section 8.4	10632(a)(4)(A)	Suppliers with WSCPs that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water shortage contingency planning	8-2	Sections 8.4.1 and 8.14
x	x	8.4	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	8-3	Sections 8.4.2 and 8.14
x	x	8.4	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	8-2	Section 8.4.3
x	x	8.4	Section 8.4	10632(a)(4)(D)	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	Table 8-3	Section 8.4.4
x	x	8.4	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water shortage contingency planning	8-2 and 8-3	Sections 8.4.7 and 8.14
x	x	8.4	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	n/a	Section 8.4.6
x	x	8.5	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water shortage contingency planning	n/a	Section 8.5

x	x	8.5	Section 8.5	10632(a)(5)(B), 10632(a)(5)(C)	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	n/a	Section 8.5
x	n/a	8.6	Section 8.6	10632(a)(6)	Retail Supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water shortage contingency planning	n/a	Section 8.6
x	x	8.7	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water shortage contingency planning	n/a	Section 8.7
x	x	8.7	Section 8.7	10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3, *Water Shortage Emergencies* .	Water shortage contingency planning	n/a	Section 8.7
x	x	8.7	Section 8.7	10632(a)(7)(C)	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	n/a	Section 8.7
x	x	8.8	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Section 8.8
x	x	8.8	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Section 8.8
x	n/a	8.8	Section 8.8	10632(a)(8)(C)	Retail Suppliers must describe the cost of compliance with Water Code Chapter 3.3, *Excessive Residential Water Use During Drought* .	Water shortage contingency planning	n/a	Section 8.8
x	n/a	8.9	Section 8.9	10632(a)(9)	Retail Suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data are collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water shortage contingency planning	n/a	Section 8.9
x	x	8.10	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the WSCP to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water shortage contingency planning	n/a	Section 8.10
x	n/a	8.11	Section 8.11	10632(b)	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	n/a	Section 8.11
x	x	8.12	Section 8.12	10632(c)	Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water shortage contingency planning	n/a	Sections 8.12 and 10.6
x	n/a	9.1	Sections 9.1	10631(e)(1)	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	n/a	Section 9.1.1
n/a	x	9.2	Sections 9.2	10631(e)(2)	Wholesale Suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and Supplier assistance program.	Demand management measures	n/a	n/a
x	n/a	10	Chapter 10	10608.26(a)	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	n/a	Sections 10.3 and 10.4
x	x	10.2	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the Supplier provides water that the Supplier will be reviewing the UWMP and considering amendments or changes to the plan.	Plan adoption, submittal, and implementation	10-1	Section 10.2
x	x	10.4	Section 10.4	10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 202 6.	Plan adoption, submittal, and implementation	n/a	Section 10.5
x	x	10.2	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the Supplier made the UWMP and WSCP available for public inspection, published notice of the public hearing, and held a public hearing about the UWMP and WSCP.	Plan adoption, submittal, and implementation	n/a	Sections 10.2, 10.3, and 10.4
x	x	10.2	Section 10.2.2	10642	The 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	10-1	Section 10.3
x	x	10.3	Section 10.3.2	10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan adoption, submittal, and implementation	n/a	Sections 10.4 and 10.9
x	x	10.4	Section 10.4	10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan adoption, submittal, and implementation	n/a	Section 10.5.3
x	x	10.4	Section 10.4	10644(a)(1)	Provide supporting documentation that the Supplier has submitted their UWMP to any city or county within which the Supplier provides water no later than 30 days after adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.5.4
x	x	10.4	Sections 10.4.1 and 10.4.2	10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan adoption, submittal, and implementation	n/a	Sections 10.5 and 10.9
x	x	10.7	Section 10.7.2	10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.9
x	x	10.5	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its UWMP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.6
x	x	10.5	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its WSCP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Section 10.6
x	x	10.6	Section 10.6	10621(c)	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	n/a	Section 10.7

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX C

DEMONSTRATION OF REDUCED IMPORTED WATER RELIANCE

DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTIONS (2015 THROUGH 2050) 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, 2020, and 2025 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 imported water supplies for the City. The City has used these tables to demonstrate its reduced regional reliance on imported water supplies, but not specifically Delta Watershed supplies. For each of the tables, a "Baseline year" was selected. Water demands during subsequent years (from 2015 through 2050 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 reduced regional reliance on imported water supplies is to show increased regional self-reliance. Table C-3 lists water supply sources that contribute to regional self-reliance, including water use efficiency (from Table C-1 and C-2) 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 reduced regional reliance on imported water supplies in 2015, 2020, 2025 and anticipates doing so through 2050.

The City has reduced regional reliance on imported water supplies through the following:

- The demand in GPCD for the "Baseline year" was compared to the GPCDs in subsequent years (from 2015 through 2050, in five-year increments). The reduced GPCD multiplied by the populations in these subsequent years is indicative of the potential reduced regional reliance on imported water supplies and is included in Table C-1.
- To the extent the Main San Gabriel Basin Watermaster (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 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 2025 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 2010) 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 Upper San Gabriel Valley Municipal Water District, which is in turn purchased water from MWD. The untreated imported water subsequently is delivered to replenish the Main Basin and to supplement local storm water replenishment. In addition, the City can purchase treated imported water directly from MWD.

Chapter 9 of the 2025 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 2025 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 2025 UWMP. These actions directly impact total water demands, and consequently, the quantity of imported water which may be required. Absent the proactive measures taken by the City, it is anticipated there may have been a greater demand on imported water.

Pursuant to DWR guidance, reduced reliance on imported water supplies can be demonstrated by first selecting a “Baseline” water demand, represented by total potable water demands during 2010. Table C-1 summarizes the “Baseline” water usage by the City in 2010 (assuming demand reduction efforts had not been implemented); actual water usage in 2015, 2020, and 2025; and projected water usage through 2050 in five-year increments. Furthermore, it is assumed that as of 2010 the City was already exceeding its water rights and was required to fund the purchase of untreated imported water. Table C-2 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 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 regional reliance on imported water supplies as compared to the Baseline year.

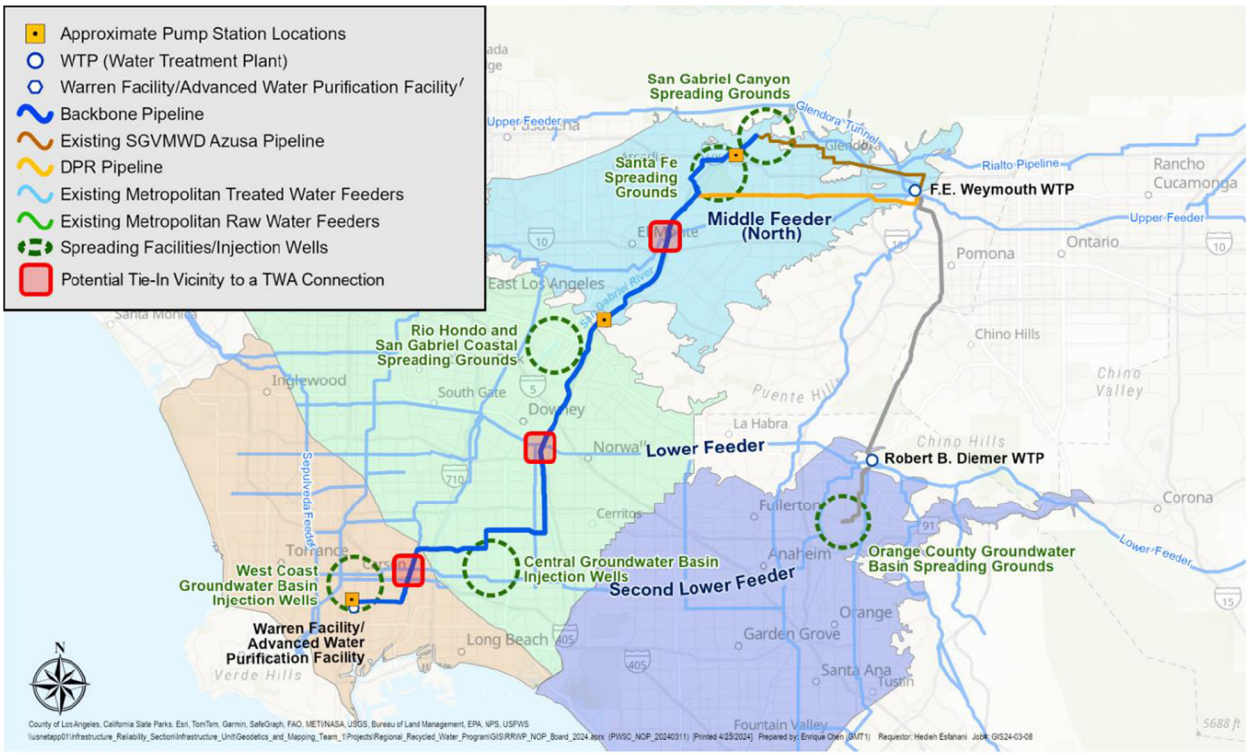
The City’s potable water demand during 2010, along with the corresponding service area population, were used to determine the Baseline GPCD. Subsequently, the actual demands for 2015, 2020, and 2025 were compared to the calculated population to obtain the recent GPCD which includes the water conservations measures which have been implemented (those demand management measures are described in Chapter 9 of the 2025 UWMP). The “Water Supplies Contributing to Regional Self-Reliance" are also provided in Table C-3. The differences between the Baseline GPCD and the 2015, 2020, and 2025 GPCDs are effectively considered a demonstration of the reduced regional reliance on imported water supplies with the understanding that any potential increased

demand by the City resulting from increased population could have been required from imported water supplies, absent the City's new water supplies which contribute to self-reliance. A similar methodology is used for the projected potable water demands (2025 UWMP Table 4-2) and populations (2025 UWMP Table 3-1).

Recycled Water for Groundwater Replenishment

The City may be involved in a regional program to deliver recycled water to replenish the Main Basin. MWD is developing its "Pure Water Southern California" (Pure Water) project. 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 A.K. Warren Water Resource Facility (formerly Joint Water Pollution Control Plant) located in Carson, California (Carson Plant). The Pure Water project 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 including the Central, West Coast, Main San Gabriel, and Orange County Basins. 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: https://www.mwdh2o.com/building-local-supplies/pure-water-southern-california/

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 Pure Water project 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 2025 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 entered into a letter of intent with Upper San Gabriel Valley Municipal Water District for at least 35,000 AFY, with San Gabriel Valley Municipal Water District for at least 6,000 AFY, and with Three Valleys Municipal Water District for at least 6,500 AFY, and will potentially provide up to 60,000 to 80,000 AFY, collectively.

For the purposes of this Plan and to illustrate the anticipated benefits the Pure Water project will have for reduced regional reliance on imported water supplies, it is assumed 20,000 AFY from the Pure Water project will be replenished in the Main Basin commencing in the year 2035 and up to 40,000 AFY will be replenished commencing in the year 2040 and thereafter. The recharged water hypothetically assigned to the City is based on projected groundwater use less the City's share of the Main Basin's current Operating Safe Yield (150,000 AFY). The balance is production in excess of water rights and subject to replenishment; 50 percent of that amount is assumed to be delivered from the Pure Water project in 2035 and 100 percent in 2040 and thereafter. Because SWP water deliveries will be offset through the Pure Water project, Table C-3 includes 50 percent of the City's Replacement Water requirement in 2035 (under Advanced Water Technologies) and all of the Replacement Water requirement in 2040 and thereafter.

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

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	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	6,637	6,839	6,877	6,911	6,945	6,979
Non-Potable Water Demands									
Potable Service Area Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	6,637	6,839	6,877	6,911	6,945	6,979

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Population	56,646	56,063	59,473	53,758	54,061	54,366	54,634	54,903	55,173

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Per Capita Water Use (GPCD)	134	118	112	110	113	113	113	113	113
Change in Per Capita Water Use from Baseline (GPCD)		(16)	(22)	(24)	(21)	(21)	(21)	(21)	(21)
Estimated Water Use Efficiency Since Baseline		1,001	1,473	1,427	1,270	1,278	1,284	1,291	1,297

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	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	8,497	7,409	7,448	6,637	6,839	6,877	6,911	6,945	6,979
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		1,001	1,473	1,427	1,270	1,278	1,284	1,291	1,297
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	8,064	8,109	8,155	8,195	8,236	8,276

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	2050 (Optional)
Water Use Efficiency	-	1,001	1,473	1,427	1,270	1,278	1,284	1,291	1,297
Water Recycling									
Stormwater Capture and Use									
Advanced Water Technologies (Pure Water - Main Basin)[1]	-	-	-	-	-	694	1,423	1,458	1,491
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	1,427	1,270	1,972	2,707	2,748	2,788

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	8,064	8,109	8,155	8,195	8,236	8,276

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Supplies Contributing to Regional Self-Reliance	-	1,001	1,473	1,427	1,270	1,972	2,707	2,748	2,788
Change in Water Supplies Contributing to Regional Self-Reliance		1,001	1,473	1,427	1,270	1,972	2,707	2,748	2,788

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	0.0%	11.9%	16.5%	17.7%	15.7%	24.2%	33.0%	33.4%	33.7%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		11.9%	16.5%	17.7%	15.7%	24.2%	33.0%	33.4%	33.7%

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	2050 (Optional)
CVP/SWP Contract Supplies									
Delta/Delta Tributary Diversions									
Transfers and Exchanges									
Other Water Supplies from the Delta Watershed (Untreated)[2]	3,301	3,043	2,345	1,530	1,351	694	-	-	-
Total Water Supplies from the Delta Watershed	3,301	3,043	2,345	1,530	1,351	694	-	-	-

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	8,497	8,410	8,921	8,064	8,109	8,155	8,195	8,236	8,276

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Supplies from the Delta Watershed	3,301	3,043	2,345	1,530	1,351	694	-	-	-
Change in Water Supplies from the Delta Watershed		(257)	(955)	(1,771)	(1,950)	(2,606)	(3,301)	(3,301)	(3,301)

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	2050 (Optional)
Percent of Water Supplies from the Delta Watershed	38.8%	36.2%	26.3%	19.0%	16.7%	8.5%	0.0%	0.0%	0.0%
Change in Percent of Water Supplies from the Delta Watershed		-2.7%	-12.6%	-19.9%	-22.2%	-30.3%	-38.8%	-38.8%	-38.8%

[1] The Pure Water Southern California Project is anticipated to meet all of the City's water replenishment obligations in the Main Basin. Based on the City's production less the City's share (3.39216%) of the Main Basin's Operating Safe Yield (150,000 AFY). It is assumed that 50% of the recharged water will be available in 2035 before Pure Water is fully operational in 2040.

[2] Represents imported untreated water to satisfy replenishment obligations due to Main Basin overproduction. Based on the City's production less water available to the City from Pure Water and less the City's share (3.39216%) of the Operating Safe Yield (150,000 AFY).

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX D

NOTIFICATION LETTERS AND NOTICES OF PUBLIC HEARING

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

Dear Water Utility:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

As required pursuant to Sections 10620 et seq. of the California Water Code, the City of Monterey Park is coordinating with water management agencies, relevant public agencies, and other interested parties in the preparation of the UWMP. The City invites your agency to submit written comments for consideration during the development of the 2025 UWMP update. Please provide any comments within 30 days of receipt of this notice to the City of Monterey Park Public Works Department – Water Division.

Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

Dear City Clerk:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

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Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

City Clerk
City of Monterey Park
320 West Newmark Avenue
Monterey Park, CA 91754

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

Dear City Clerk:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

As required pursuant to Sections 10620 et seq. of the California Water Code, the City of Monterey Park is coordinating with water management agencies, relevant public agencies, and other interested parties in the preparation of the UWMP. The City invites your agency to submit written comments for consideration during the development of the 2025 UWMP update. Please provide any comments within 30 days of receipt of this notice to the City of Monterey Park Public Works Department – Water Division.

Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
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AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

Dear Water Utility:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

As required pursuant to Sections 10620 et seq. of the California Water Code, the City of Monterey Park is coordinating with water management agencies, relevant public agencies, and other interested parties in the preparation of the UWMP. The City invites your agency to submit written comments for consideration during the development of the 2025 UWMP update. Please provide any comments within 30 days of receipt of this notice to the City of Monterey Park Public Works Department – Water Division.

Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

Dear County Clerk:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

As required pursuant to Sections 10620 et seq. of the California Water Code, the City of Monterey Park is coordinating with water management agencies, relevant public agencies, and other interested parties in the preparation of the UWMP. The City invites your agency to submit written comments for consideration during the development of the 2025 UWMP update. Please provide any comments within 30 days of receipt of this notice to the City of Monterey Park Public Works Department – Water Division.

Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

To Whom It May Concern:

The City of Monterey Park is currently preparing its 2025 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires urban water suppliers that provide water directly or indirectly to more than 3,000 customers, or supply more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and update it at least once every five years. The UWMP serves as a long-term planning document used to evaluate water supply reliability and to guide water resource planning and conservation efforts.

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Sincerely,

George Noriega
Assistant Water Utility Manager

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JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

To Whom It May Concern:

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Sincerely,

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Assistant Water Utility Manager

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CITY COUNCIL
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VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

San Gabriel Valley Water Company
14404 Valley Boulevard
P.O. Box 1299
Industry, CA 91746

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

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Assistant Water Utility Manager

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CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

April 23, 2026

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

SUBJECT: 60-Day Notice - 2025 Urban Water Management Plan (UWMP) Update

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Sincerely,

George Noriega, Assistant Water Utility Manager

CITY OF MONTEREY PARK
NOTICE OF PUBLIC HEARING FOR THE CONSIDERATION OF ADOPTION OF THE DRAFT 2025 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

NOTICE is hereby given that the Monterey Park City Council will conduct a public hearing to consider adoption of the City's Draft 2025 Urban Water Management Plan ("Plan") and Water Shortage Contingency Plan, pursuant to Water Code § 10610 *et seq.* and to consider whether the Plan is consistent with the City's General Plan.

PUBLIC HEARING DETAILS:

Date: Wednesday, July 1, 2026
Time: 6:30 p.m.
Location: City Hall Council Chambers - 320 W. Newmark Ave., Monterey Park, CA 91754

The Urban Water Management Plan describes the City's existing and planned water supplies, water use projections, demand management measures, and water shortage contingency planning.

PURSUANT to the California Environmental Quality Act ("CEQA") and applicable CEQA Guidelines, preparation and adoption of the Plan is exempt from CEQA pursuant to Water Code § 10652 and CEQA Guidelines Section 15282(v) because it involves the adoption of a plan that does not itself result in a direct or reasonably foreseeable indirect physical change in the environment.

PERSONS INTERESTED IN THIS MATTER are invited to attend the public hearing and provide comments regarding the above matter. The Plan may be reviewed on the City's website at https://www.montereypark.ca.gov/1735/2025-Urban-Water-Management-Plan-UWMP The City Council staff report will be available prior to the hearing online at https://www.montereypark.ca.gov/AgendaCenter. Written comments may be submitted by 5 p.m. on June 25, 2026, to the Public Works Department, Water Division, to 320 W Newmark Ave. Monterey Park, CA 91754.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's Office at least 48 hours prior to the meeting.

Published in the Monterey Park Press on Thursday June 11, 2026, and June 18, 2026.

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

June 4, 2026

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

SUBJECT: Notice of Public Hearing for the 2025 Urban Water Management Plan (UWMP), including the Water Shortage Contingency Plan (WSCP).

The City of Monterey Park will hold a PUBLIC HEARING on July 1, 2026, for the purpose of receiving public comments and considering adoption of the City's 2025 Urban Water Management Plan (UWMP), including the Water Shortage Contingency Plan (WSCP).

The 2025 UWMP and WSCP have been prepared pursuant to the California Urban Water Management Planning Act (California Water Code Sections 10610 et seq.). The Act requires urban water suppliers to prepare and adopt an Urban Water Management Plan every five years to ensure the reliable management of water resources and long-term water supply planning.

Information regarding the City of Monterey Park's PUBLIC HEARING is as follows:

Date: Wednesday, July 1, 2026
Time: 6:30 p.m.
Place: Monterey Park City Hall Council Chambers
320 W. Newmark Avenue, Monterey Park, CA 91754

The City of Monterey Park invites all interested persons and organizations to attend the public hearing and provide comments regarding the proposed 2025 UWMP and WSCP. A copy of the draft 2025 UWMP, including the WSCP, will be available for public review on the City's website at www.montereypark.ca.gov. Written comments may be submitted to the City Clerk's Office prior to the public hearing and will be included in the public record.

For additional information regarding the 2025 UWMP and the WSCP or the public hearing, please contact the Public Works Department – Water Division at (626) 307-1293.

Sincerely,

George Noriega
Assistant Water Utility Manager

CITY CLERK
MAYCHELLE YEE
CITY TREASURER
AMY LEE

CITY COUNCIL
HENRY LO
VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

June 4, 2026

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

SUBJECT: Notice of Public Hearing for the 2025 Urban Water Management Plan (UWMP), including the Water Shortage Contingency Plan (WSCP).

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Assistant Water Utility Manager

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JOSE SANCHEZ
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ELIZABETH YANG

June 4, 2026

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

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CITY COUNCIL
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VINH NGO
JOSE SANCHEZ
THOMAS WONG
ELIZABETH YANG

June 4, 2026

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

SUBJECT: Notice of Public Hearing for the 2025 Urban Water Management Plan (UWMP), including the Water Shortage Contingency Plan (WSCP).

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ELIZABETH YANG

June 4, 2026

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

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THOMAS WONG
ELIZABETH YANG

June 4, 2026

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

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June 4, 2026

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725 North Azusa Avenue
Azusa, CA 911702

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June 4, 2026

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

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George Noriega
Assistant Water Utility Manager

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX E

CLIMATE CHANGE CONSIDERATIONS (CAL- ADAPT DATA)

Annual Averages

Explore projected changes in annual average Maximum Temperature, Minimum Temperature and Precipitation through end of this century for California.

EXPLORE DATA
ABOUT THE TOOL
RESOURCES
HELP

Main Basin Area.kml

Change Location

Projected changes in **Annual Average Precipitation** under a **Medium Emissions (RCP 4.5) Scenario**.

MODELED HISTORICAL
Baseline (1961-1990)
Change Period

30 YEAR AVG
20.1 inch

30 YEAR RANGE
5.5–45.5 inch

Learn More

FUTURE PROJECTIONS
Mid-Century (2035-2064)
Change Period

30 YEAR AVG
18.6 inch

30 YEAR RANGE
5.3–34.7 inch

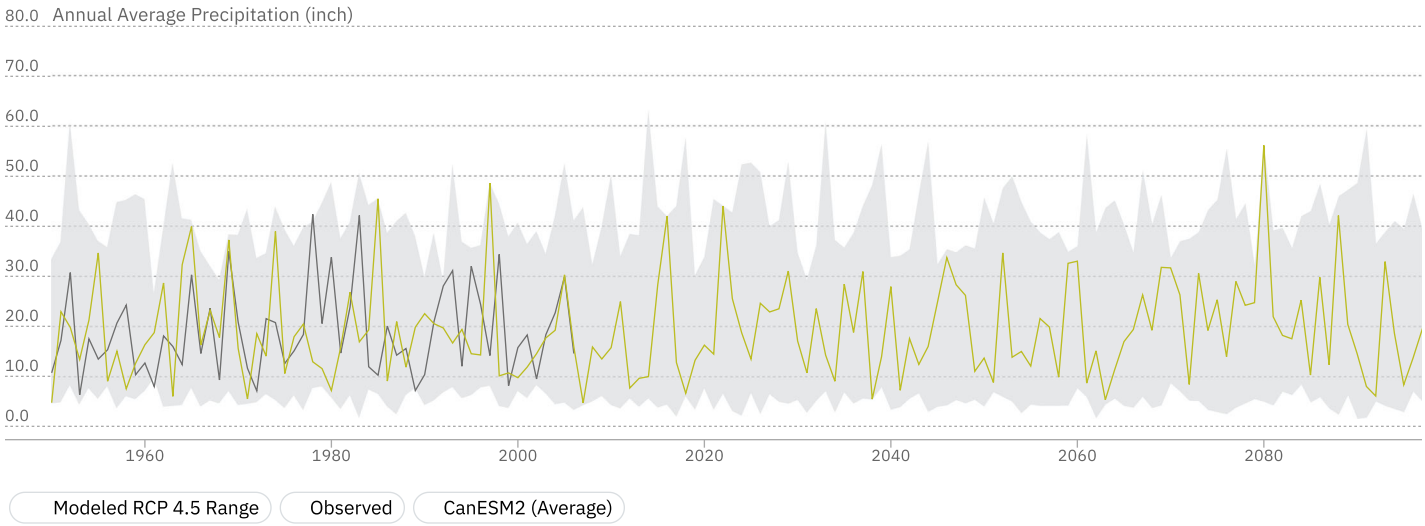
Learn More

FUTURE PROJECTIONS
End-Century (2070-2099)
Change Period

30 YEAR AVG
21.7 inch

30 YEAR RANGE
6.1–56.2 inch

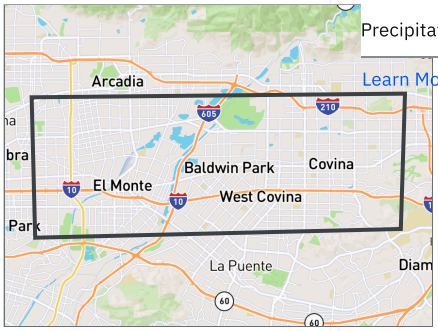
Learn More



Source: Cal-Adapt. Data: LOCA Downscaled CMIP5 Climate Projections (Scripps Institution of Oceanography), Gridded Observed Meteorological Data (University of Colorado Boulder), LOCA Derived Products (Geospatial Innovation Facility).

Explain Chart ⓘ Download Chart Share

SELECT LOCATION



Learn More ⓘ

SELECT CLIMATE VARIABLE

Precipitation

Learn More ⓘ

SELECT SCENARIO

- ○ Medium (RCP 4.5)
- ○ High (RCP 8.5)

Learn More ⓘ

SELECT MODELS

1 Select...

CanESM2

Learn More ⓘ

About the Tool

Overall temperatures are projected to rise substantially throughout this century. These projections differ depending on the time of year and the type of measurement (highs vs. lows), all of which have different potential effects to the state's ecosystem health, agricultural production, water use and availability, and energy demand. On average, the projections show little change in total annual precipitation in California. Furthermore, among several models, precipitation projections do not show a consistent trend during the next century. The Mediterranean seasonal precipitation pattern is expected to continue, with most precipitation falling during winter from North Pacific storms. However, even modest changes would have a significant impact because California ecosystems are conditioned to historical precipitation levels and water resources are nearly fully utilized.

With this tool you can explore projections of annually averaged maximum temperature, minimum temperature and precipitation. These climate projections have been downscaled from global climate models from the CMIP5 archive, using the Localized Constructed Analogs (LOCA) statistical technique developed by Scripps Institution Of Oceanography. LOCA is a statistical downscaling technique that uses past history to add improved fine-scale detail to global climate models.

Data Sources

The following list of datasets were used to create this tool. Download data visualized in the charts by clicking the Download Chart button. For more download options follow the links below.

LOCA Downscaled CMIP5 Climate Projections

Scripps Institution of Oceanography

Daily climate projections for California at a resolution of 1/16° (about 6 km, or 3.7 miles) generated to support climate change impact studies for California's Fourth Climate Change Assessment. The data, derived from 32 coarse-resolution (~100 km) global climate models from the CMIP5 archive, were bias corrected and downscaled using the Localized Constructed Analogues (LOCA) statistical

method. The data cover 1950-2005 for the historical period and 2006-2100 (some models stop in 2099) for two future climate projections. Details are described in Pierce et al., 2018.

Download dataset:

- Cal-Adapt Data Download Tool
- Cal-Adapt Data Server - loca (netcdf)

References:

- LOCA Statistical Downscaling (link)
- Pierce et al. (2018). Climate, drought, and sea level rise scenarios for California's fourth climate change assessment. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CNRA-CEC-2018-006. (link)



Gridded Observed Meteorological Data

University of Colorado Boulder

Historical observed daily temperature data from approximately 20,000 NOAA Cooperative Observer (COOP) stations form the basis of this gridded dataset from 1950–2013 at a spatial resolution of 1/16° (approximately 6 km). Observation-based meteorological data sets offer insights into changes to the hydro-climatic system by diagnosing spatio-temporal characteristics and providing a historical baseline for future projections. Details are described in Livneh et al., 2015.

Download dataset:

- Cal-Adapt Data Download Tool
- Cal-Adapt Data Server - livneh (netcdf)
- NOAA (netcdf)

References:

- Water and Climate Research Group, CIRES (link)
- Livneh et al. (2015). A spatially comprehensive, hydrometeorological data set for Mexico, the U.S., and Southern Canada 1950–2013. Scientific Data, 2(1). doi:10.1038/sdata.2015.42 (link)



LOCA Derived Products

Geospatial Innovation Facility

Datasets created from LOCA downscaled CMIP5 climate projections for Cal-Adapt tools. These currently include the modeled annual variability envelope (maximum and minimum from range of annual average values from all 32 GCMs); precalculated data tables of extreme heat counts for California counties and census tracts for 4 priority models and 2 scenarios.

Download dataset:

- Cal-Adapt Data Download Tool
- Extreme heat data for California counties and census tracts (csv)

References:

- Thomas, N., Mukhtyar, S., Galey, B., Kelly, M. (University of California Berkeley). 2018. Cal-Adapt: Linking Climate Science with Energy Sector Resilience and Practitioner Need. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CCCA4-CEC-2018-015. (link)

Resources

California Adaptation Clearinghouse

The Adaptation Clearinghouse is the State of California's consolidated searchable database of resources for local, regional and statewide climate adaptation planning and decision-making.

VIEW RESOURCE

California's 4th Climate Change Assessment

California's Fourth Climate Change Assessment advances actionable science that serves the growing needs of state and local-level decision-makers from a variety of sectors.

VIEW RESOURCE

Related Cal-Adapt Tools



Maps of Projected Change

Maps depicting long-term (30 years) changes in annual average temperature and precipitation.

EXPLORE

Help

Get Started

An introduction to climate data, models, and projections.

LEARN MORE

FAQs

Frequently asked questions about Cal-Adapt's tools and data.

LEARN MORE

Cal-Adapt has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and the California Strategic Growth Council.

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State of California, Gavin Newsom, Governor.

Annual Averages

Explore projected changes in annual average Maximum Temperature, Minimum Temperature and Precipitation through end of this century for California.

EXPLORE DATA
ABOUT THE TOOL
RESOURCES
HELP

Main Basin Area.kml

Change Location

Projected changes in **Annual Average Maximum Temperature** under a **Medium Emissions (RCP 4.5) Scenario**.

MODELED HISTORICAL
Baseline (1961-1990)
Change Period

30 YEAR AVG	30 YEAR RANGE
78.3 °F	75.2–81.4 °F

Learn More

FUTURE PROJECTIONS
Mid-Century (2035-2064)
Change Period

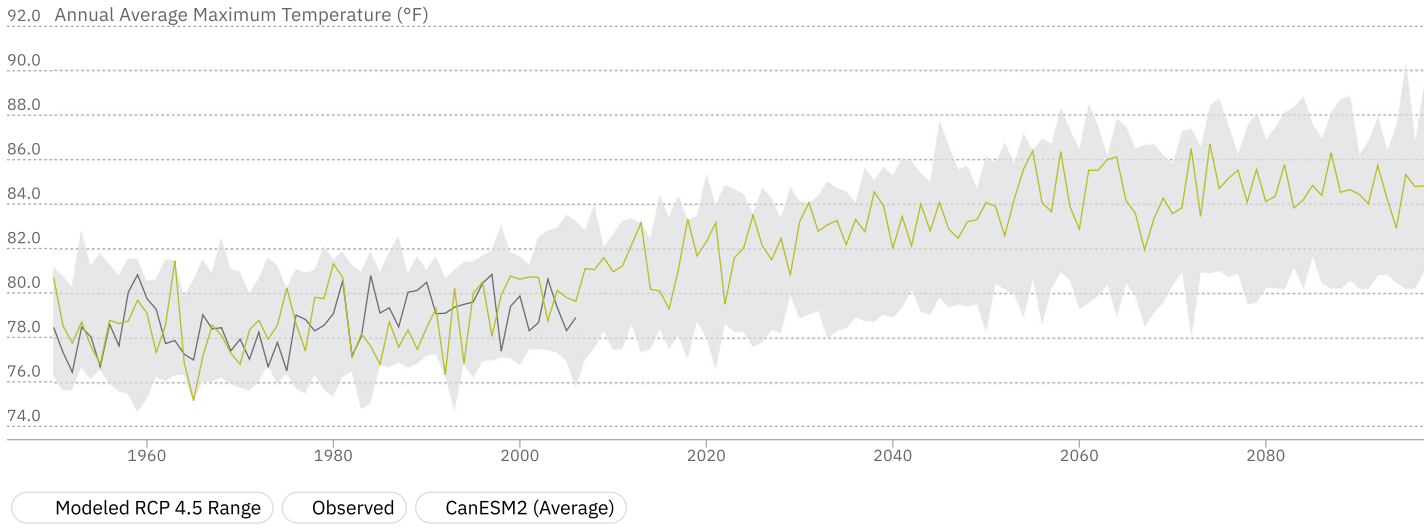
30 YEAR AVG	30 YEAR RANGE
83.9 °F	82.0–86.4 °F

Learn More

FUTURE PROJECTIONS
End-Century (2070-2099)
Change Period

30 YEAR AVG	30 YEAR RANGE
84.7 °F	82.9–86.7 °F

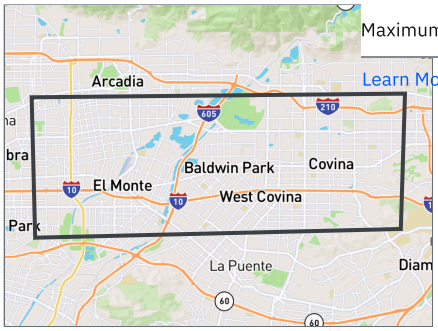
Learn More



Source: Cal-Adapt. Data: LOCA Downscaled CMIP5 Climate Projections (Scripps Institution of Oceanography), Gridded Observed Meteorological Data (University of Colorado Boulder), LOCA Derived Products (Geospatial Innovation Facility).

Explain Chart ⓘ Download Chart Share

SELECT LOCATION



Learn More ⓘ

SELECT CLIMATE VARIABLE

Maximum Temperature

Learn More ⓘ

SELECT SCENARIO

- Medium (RCP 4.5)
- High (RCP 8.5)

Learn More ⓘ

SELECT MODELS

1 Select...

CanESM2

Learn More ⓘ

About the Tool

Overall temperatures are projected to rise substantially throughout this century. These projections differ depending on the time of year and the type of measurement (highs vs. lows), all of which have different potential effects to the state's ecosystem health, agricultural production, water use and availability, and energy demand. On average, the projections show little change in total annual precipitation in California. Furthermore, among several models, precipitation projections do not show a consistent trend during the next century. The Mediterranean seasonal precipitation pattern is expected to continue, with most precipitation falling during winter from North Pacific storms. However, even modest changes would have a significant impact because California ecosystems are conditioned to historical precipitation levels and water resources are nearly fully utilized.

With this tool you can explore projections of annually averaged maximum temperature, minimum temperature and precipitation. These climate projections have been downscaled from global climate models from the CMIP5 archive, using the Localized Constructed Analogs (LOCA) statistical technique developed by Scripps Institution Of Oceanography. LOCA is a statistical downscaling technique that uses past history to add improved fine-scale detail to global climate models.

Data Sources

The following list of datasets were used to create this tool. Download data visualized in the charts by clicking the Download Chart button. For more download options follow the links below.

LOCA Downscaled CMIP5 Climate Projections

Scripps Institution of Oceanography

Daily climate projections for California at a resolution of 1/16° (about 6 km, or 3.7 miles) generated to support climate change impact studies for California's Fourth Climate Change Assessment. The data, derived from 32 coarse-resolution (~100 km) global climate models from the CMIP5 archive, were bias corrected and downscaled using the Localized Constructed Analogues (LOCA) statistical

method. The data cover 1950-2005 for the historical period and 2006-2100 (some models stop in 2099) for two future climate projections. Details are described in Pierce et al., 2018.

Download dataset:

- Cal-Adapt Data Download Tool
- Cal-Adapt Data Server - loca (netcdf)

References:

- LOCA Statistical Downscaling (link)
- Pierce et al. (2018). Climate, drought, and sea level rise scenarios for California's fourth climate change assessment. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CNRA-CEC-2018-006. (link)



Gridded Observed Meteorological Data

University of Colorado Boulder

Historical observed daily temperature data from approximately 20,000 NOAA Cooperative Observer (COOP) stations form the basis of this gridded dataset from 1950–2013 at a spatial resolution of 1/16° (approximately 6 km). Observation-based meteorological data sets offer insights into changes to the hydro-climatic system by diagnosing spatio-temporal characteristics and providing a historical baseline for future projections. Details are described in Livneh et al., 2015.

Download dataset:

- Cal-Adapt Data Download Tool
- Cal-Adapt Data Server - livneh (netcdf)
- NOAA (netcdf)

References:

- Water and Climate Research Group, CIRES (link)
- Livneh et al. (2015). A spatially comprehensive, hydrometeorological data set for Mexico, the U.S., and Southern Canada 1950–2013. Scientific Data, 2(1). doi:10.1038/sdata.2015.42 (link)



LOCA Derived Products

Geospatial Innovation Facility

Datasets created from LOCA downscaled CMIP5 climate projections for Cal-Adapt tools. These currently include the modeled annual variability envelope (maximum and minimum from range of annual average values from all 32 GCMs); precalculated data tables of extreme heat counts for California counties and census tracts for 4 priority models and 2 scenarios.

Download dataset:

- Cal-Adapt Data Download Tool
- Extreme heat data for California counties and census tracts (csv)

References:

- Thomas, N., Mukhtyar, S., Galey, B., Kelly, M. (University of California Berkeley). 2018. Cal-Adapt: Linking Climate Science with Energy Sector Resilience and Practitioner Need. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CCCA4-CEC-2018-015. (link)

Resources

California Adaptation Clearinghouse

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VIEW RESOURCE

California's 4th Climate Change Assessment

California's Fourth Climate Change Assessment advances actionable science that serves the growing needs of state and local-level decision-makers from a variety of sectors.

VIEW RESOURCE

Related Cal-Adapt Tools



Maps of Projected Change

Maps depicting long-term (30 years) changes in annual average temperature and precipitation.

EXPLORE

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An introduction to climate data, models, and projections.

LEARN MORE

FAQs

Frequently asked questions about Cal-Adapt's tools and data.

LEARN MORE

Cal-Adapt has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and the California Strategic Growth Council.

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State of California, Gavin Newsom, Governor.

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX F

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

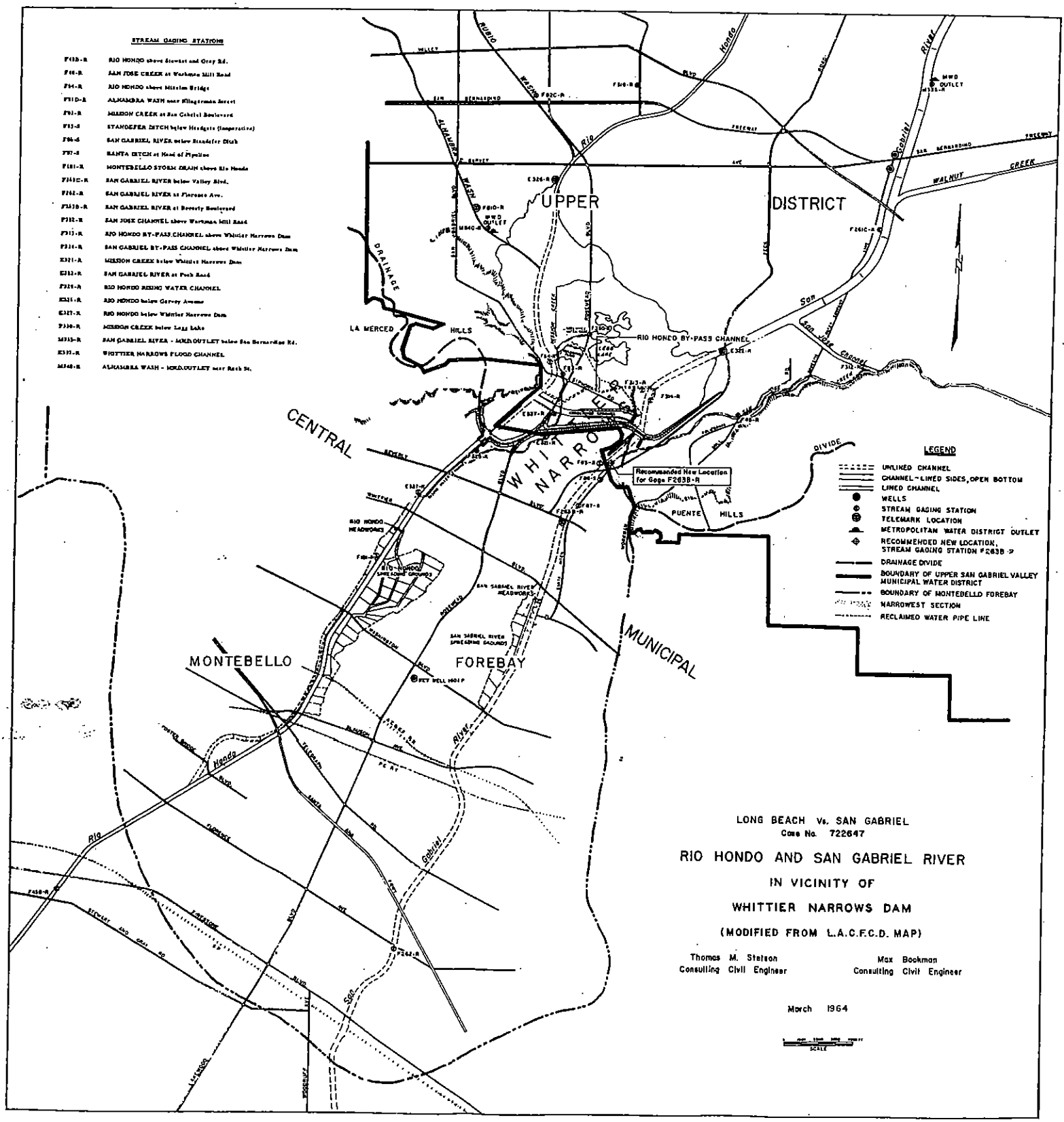
18. The rights decreed and the obligations imposed by this Judgment shall be effective October 1, 1963, and shall accrue from that date.

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:

ed.

(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.

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX G

AMENDED MAIN BASIN JUDGMENT

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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.)

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(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.

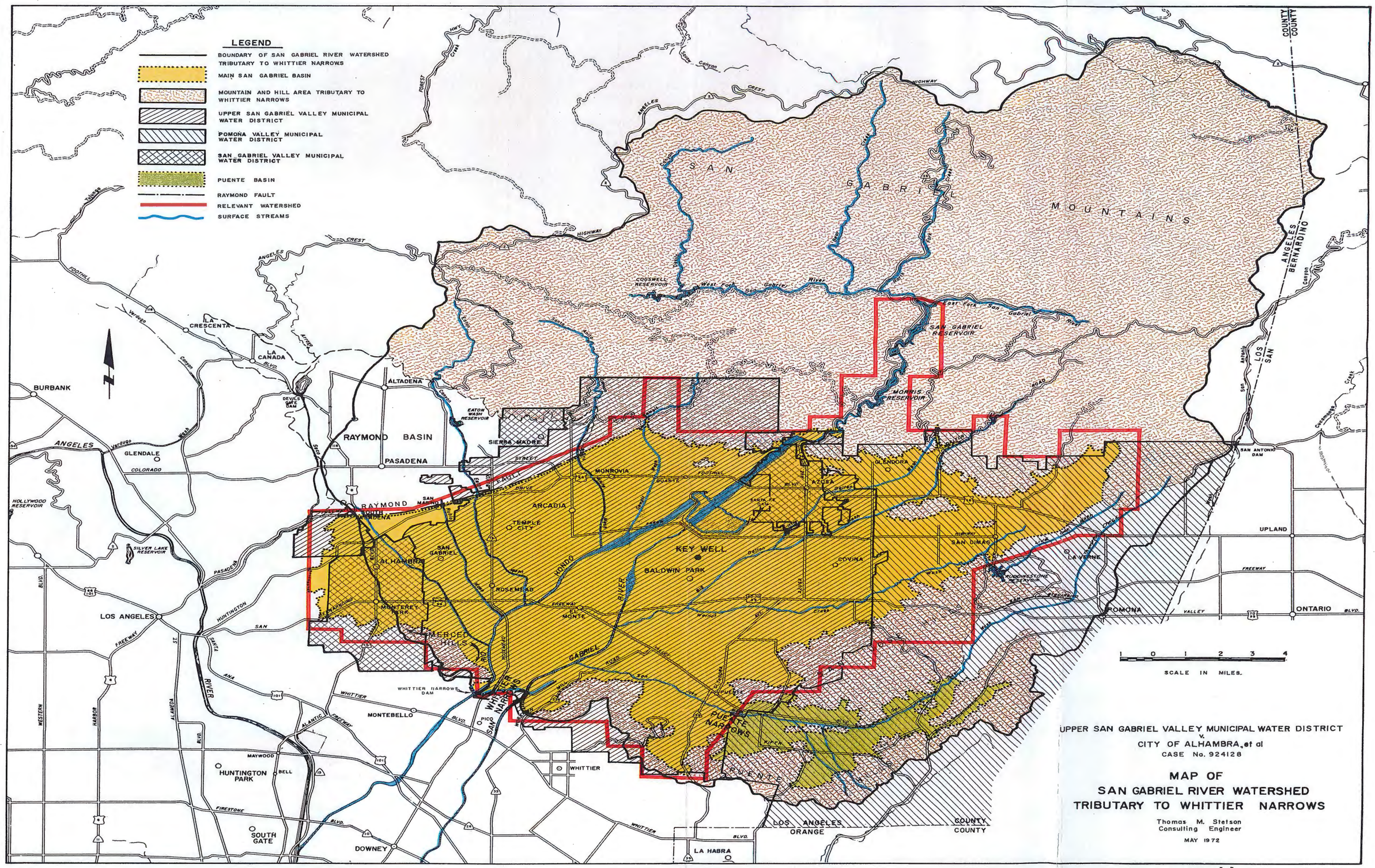
59. Water Rights Permits. (Prior Judgment Section 51) Nothing herein shall be construed as affecting the relative rights and priorities between MWD and San Gabriel Valley Protective Association under State Water Rights Permits Nos. 7174 and 7175, respectively.

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

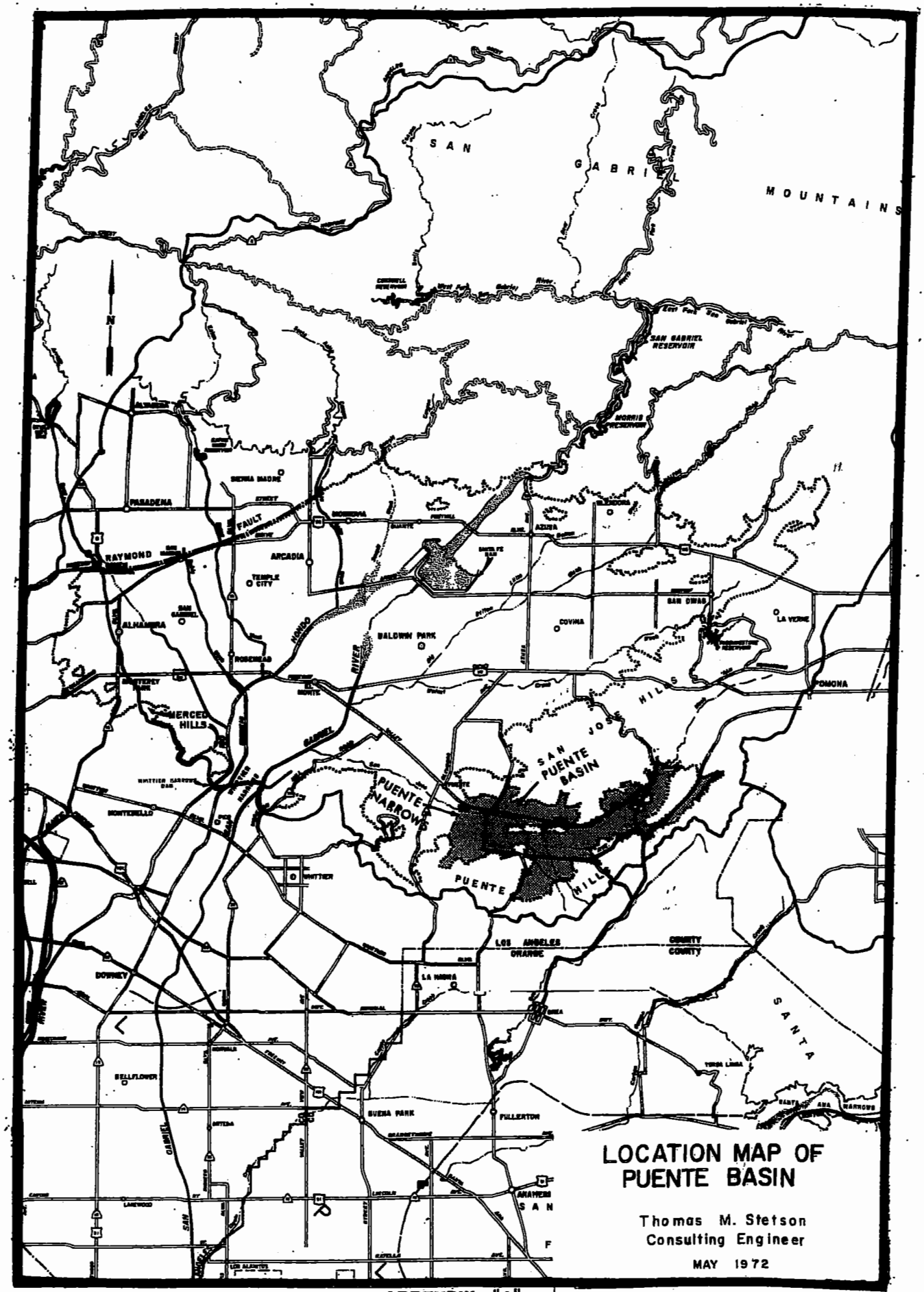
Approved as to form:

_____
Attorneys for Rowland District

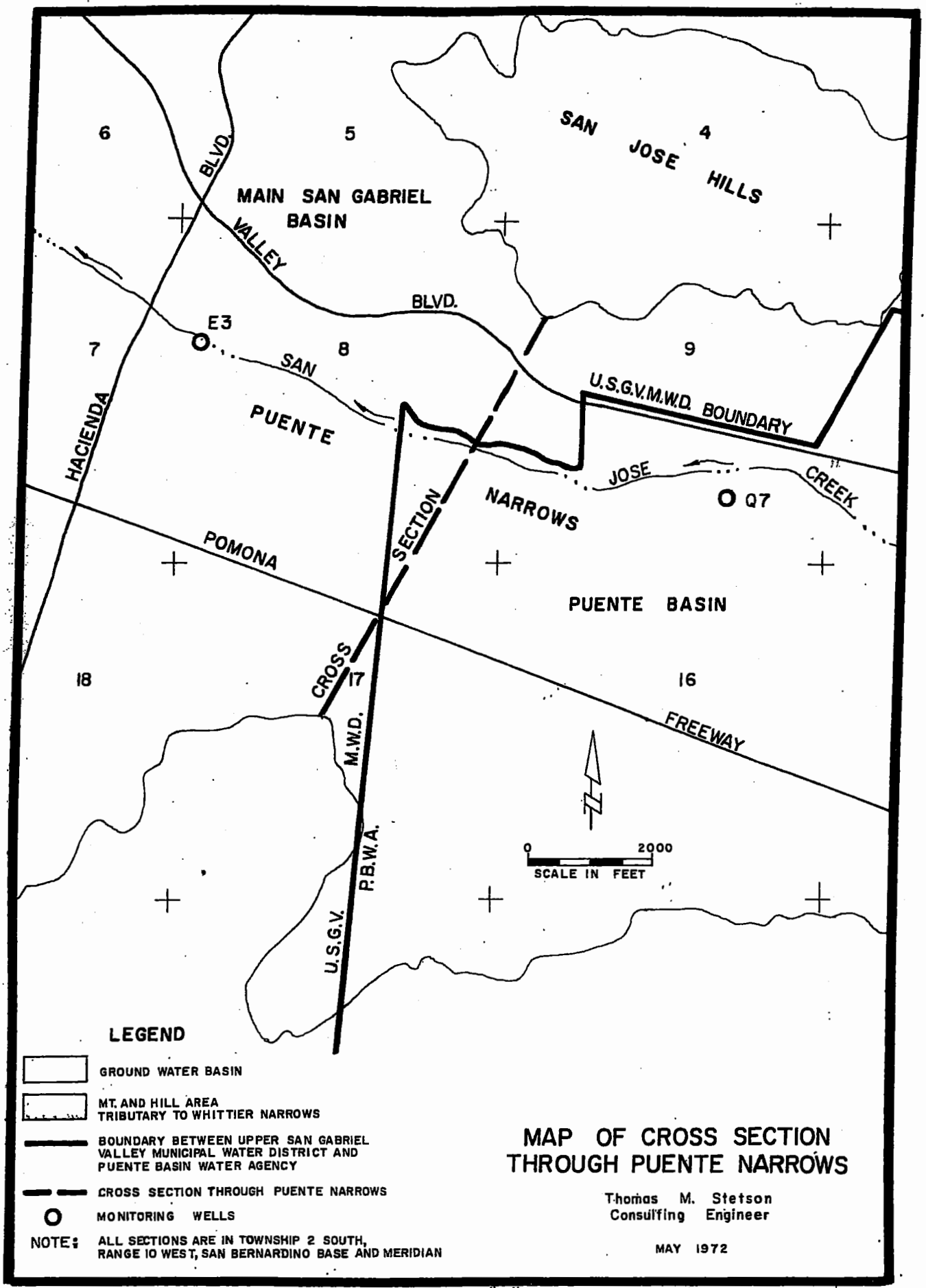
ROWLAND AREA COUNTY WATER DISTRICT

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.

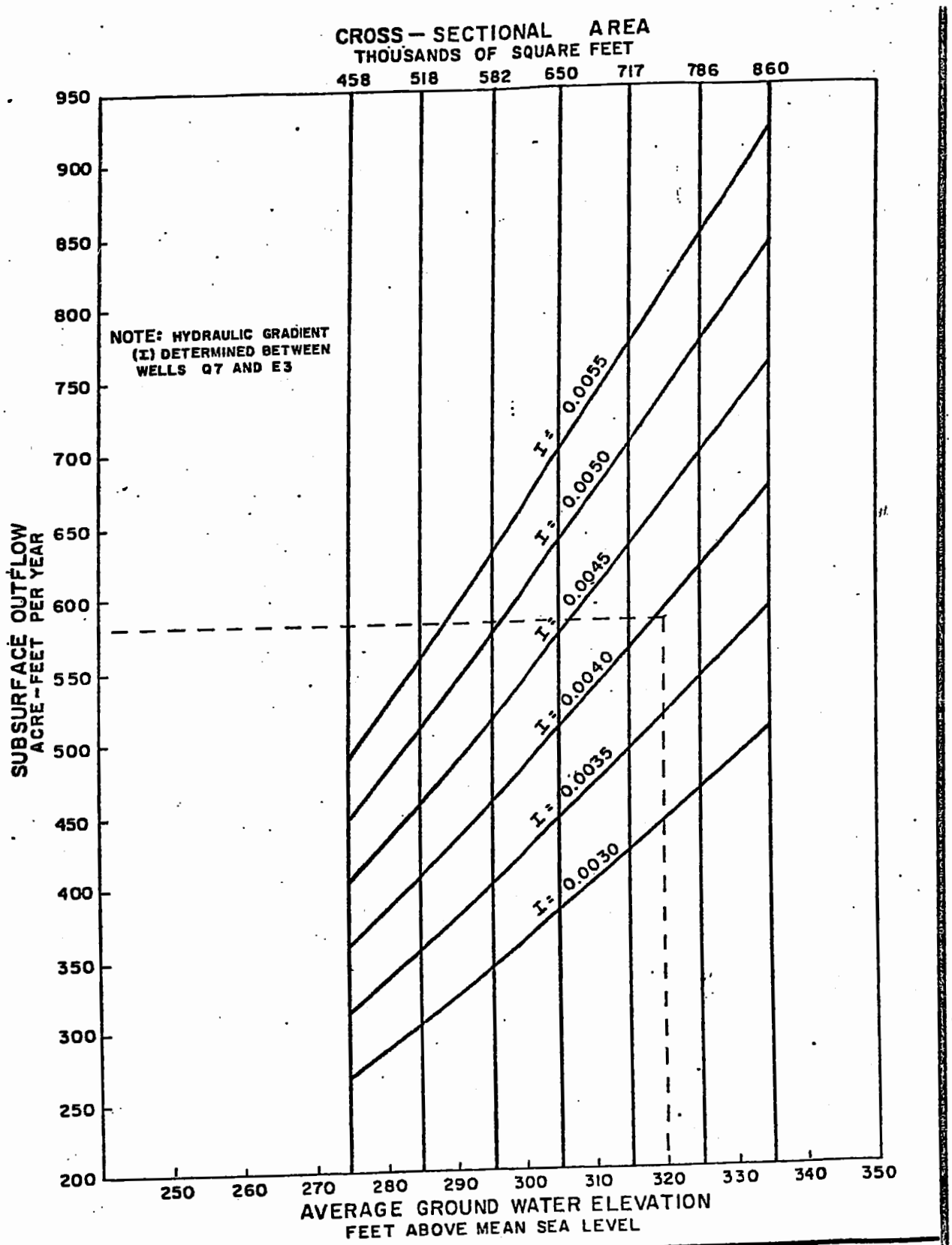
4. Ground Water Elevation at Puente Narrows Cross Section. The ground water elevation at the Puente Narrows

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)

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STAFF

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1978

ROBERT T. BALCH (Producer Member), Chairman

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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

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STAFF

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FOR CALENDAR YEAR 1985

LINN E. MAGOFFIN (Producer Member), Chairman

R.H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

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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

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)

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
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 1997

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 1998

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 1999

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 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)

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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
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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

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX H

ORDINANCE 2214 – WATER CONSERVATION

ORDINANCE NO. 2214

AN ORDINANCE ADDING A NEW CHAPTER 14.25 ENTITLED "WATER CONSERVATION REGULATIONS" AUTHORIZING THE CITY COUNCIL TO DECLARE DROUGHT EMERGENCIES IN VARIOUS STAGES AND IMPOSING DIFFERENT CONSERVATION REQUIREMENTS IN RESPONSE TO SUCH EMERGENCIES.

The Council of the City of Monterey Park does ordain as follows:

SECTION 1: A new Chapter 14.25 entitled "Water Conservation Regulations" is added to the Monterey Park Municipal Code as set forth in attached Exhibit "A," which is incorporated by reference.

SECTION 2: *Savings Clause*. Repeal of any provision of the MPMC or any other regulation by this Ordinance 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 part will remain in full force and effect for sustaining action or prosecuting violations occurring before the effective date of this Ordinance.

SECTION 3: *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 4: *Validity of Previous Code Sections*. If this the entire Ordinance or its application is deemed invalid by a court of competent jurisdiction, any repeal of the MPMC or other regulation by this Ordinance will be rendered void and cause such MPMC provision or other regulation to remain in full force and effect for all purposes.

SECTION 5: *Effective Date*. This Ordinance will become effective 30 days after its adoption.

SECTION 6: *Electronic Signatures*. This Ordinance 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 7: *Publication*. The City Clerk must certify as to the adoption of this ordinance and cause the summary thereof to be published within 15 calendar days of the adoption and post a certified copy of this ordinance, including the vote for and against the same, in the office of the City Clerk, in accordance with Government Code § 36993, for the City of Monterey Park.

PASSED, APPROVED, AND ADOPTED this 15th day of September, 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 Ordinance No. 2214 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 1st day of September, 2021. That thereafter on the 15th day of September, 2021, said Ordinance was duly passed, approved and adopted 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 15th day of September, 2021.

Vincent D. Chang, City Clerk
City of Monterey Park, California

EXHIBIT A

"Chapter 14.25 WATER CONSERVATION REGULATIONS

14.25.010 **Purpose**.

This chapter is adopted in accordance with Article XI, § 7 of the California Constitution and Water Code § 375 for the purpose of adopting water conservation regulations.

14.25.020 **Precedence**.

To the extent that any regulation in this chapter conflicts with that of chapter 14.08, the more restrictive regulation favoring water conservation takes precedence. The Director, in consultation with the City Attorney, may make a written determination regarding any such potential conflict and enforce the more restrictive regulation.

14.25.030 **General Prohibition and Enforcement**.

A. It is unlawful for any person to violate, or fail to comply with, any provision of this chapter. Unless otherwise provided, violations of this chapter constitute an infraction.

B. Every person violating this chapter is guilty of a separate offense for every day during any portion of which any violation of any provision of this chapter 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 chapter is a public nuisance and may be abated in accordance with applicable law including, without limitation, this code.

D. This chapter may also be enforced with administrative citations in accordance with chapter 4.20.

14.25.040 **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 year;

3. A fine not exceeding $500.00 for each additional violation of the same provision within one year of the first violation.

B. If a person violates the same provision a fourth time within one 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 chapter.

14.25.050 **Exception; defense**.

A. This chapter 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 chapter.

14.25.060 **Definitions**.

Words and phrases not defined by this chapter have the meaning set forth in this code, the Water Code, or regulations promulgated by the State Water Resources Control Board in accordance with applicable law.

“Decorative water features” means water features that are artificially supplied with water including, without limitation, ponds, lakes, waterfalls, and fountains, but excluding pools and spas.

“Director” means the Public Works Director, or designee.

14.25.070 **Service permits – Application**.

Should the City Council declare a Stage 4, Stage 5, or Stage 6 Drought Emergency in accordance with this chapter, it may also direct the Director not to accept any applications for new water service.

14.25.080 **Consumer supplying water**.

It is unlawful for any person to allow, maintain, or permit leaks or waste of water. When a person’s interior water pipes, those water pipes on the person’s side of the water meter, leak to an extent that water is being wasted and the customer does not repair said leaks, the Director, may, except in a Drought Emergency, give the customer 30 days’ notice to

make such repairs to eliminate said wastage of water. If said repairs are not completed within the 30 days' notice, the water service to the property may be shut off. To have water service restored after such a shutoff, it the person must furnish proof of repairs, apply for water service to be reinstated, and pay a reconnection fee established by city council resolution. In a Drought Emergency, the Director may provide less time for compliance as required in accordance with applicable law. Persons must be provided with at least 24 hours to repair.

14.25.090 **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 Director, must give 30 days' notice in writing to all consumers served through such service before enforcing 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 Director 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 Director.

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.

14.25.100 **Determination of Drought Emergency**.

The Director must monitor and evaluate projected available water supplies and estimated water demand of the city's users. Upon the Director 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, Stage 4, Stage 5, or Stage 6 Drought Emergency by resolution. In addition to the general regulations, restrictions from the previous Drought Emergency State will apply to the next higher stage in addition to a more stringent restriction.

14.25.110 **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 Director, 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 times per week. Residents may water and/or irrigate landscape, lawns, vegetated areas, and plant material on Monday, Wednesday, and Friday.

14.25.120 **Stage 2 Drought Emergency**.

A. Declaring a Stage 2 Drought Emergency demonstrates the need to reduce the City's water demand between 11% and 20%.

B. The resolution declaring a Stage 2 Drought Emergency must, in addition to the general prohibitions of this chapter, direct the Director, 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 times per week. Residents may water and/or irrigate landscape, lawns, vegetated

areas, and plant material on Monday and Thursday.

2. Install 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.

C. It is unlawful to use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

14.25.130 **Stage 3 Drought Emergency**.

A. Declaring a Stage 3 Drought Emergency demonstrates the need to reduce the City's water demand between 21% and 30%.

B. The resolution declaring a Stage 3 Drought Emergency must, in addition to the general prohibitions of this chapter, direct the Director, 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 time per week. Persons 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 time per week on Mondays.

3. 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 Director, through the water system computer model in-lieu of having an actual real-time field test completed. The expense incurred by the City for completing a fire hydrant and flow test using the City water system computer model will be paid by the applicant.

C. Declaring a Stage 3 Drought Emergency makes it is unlawful to:

1. Install 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.

2. Use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

3. 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.

14.25.140 **Stage 4 Drought Emergency**.

A. Declaring a Stage 4 Drought Emergency demonstrates the need to reduce the City's water demand between 31% and 40%, or more.

B. The resolution declaring a Stage 4 Drought Emergency must, in addition to the general prohibitions of this chapter, direct the Director, to impose the following mandatory water use restrictions:

1. 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 Director, 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. Declaring a Stage 4 Drought Emergency makes it unlawful to:

1. Water without a drip irrigation or micro-spray system.

2. Install 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.

3. Use potable water to irrigate ornamental turf on public street medians within the City's service boundaries.

4. 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. 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.

14.25.150 **Stage 5 Drought Emergency**.

Declaring a Stage 5 Water Shortage demonstrates the need to reduce the City's water demand between 41% and 50%. All prohibitions and restrictions for a Stage 4 Drought Emergency are applicable to a Stage 5 Drought Emergency and must be incorporated into the resolution adopted by the city council.

14.25.160 **Stage 6 Drought Emergency**.

Declaring a Stage 6 Water Shortage demonstrates the need to reduce the City's water demand more than 50 percent. All prohibitions and restrictions for a Stage 5 Drought Emergency are applicable to a Stage 6 Drought Emergency and must be incorporated into the resolution adopted by the city council."

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX I

CITY HAZARD MITIGATION PLAN

September 10, 2023 | Hazard Mitigation Plan









Credits

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))
A: See **Hazard Mitigation Planning Team** below.

Hazard Mitigation Planning Team:

Name	*Department/Division*	*Position*
City of Monterey Park		
Chris Thompson, Chair	Fire Department	Battalion Chief - Emergency Manager
Robert Aguirre	Recreation and Community Services Department	Recreation and Community Services Director
Inez Alverez	City Manager's Office	Interim City Manager
Tony Antich	Public Works Department	Former Interim Public Works Director
Ron Bow	City Manager's Office	Former City Manager
Beth Chow	Planning Division	Interim Planning Manager
Diana Garcia	Library Department	Librarian
Martha Garcia	Management Services Division	Director of Management Services
Matt Hallock	Fire Department	Fire Chief
Shawn Igoe	Public Works Department	Public Works Director
Gustavo Jimenez	Police Department	Police Captain
Ziad Mazboudi	Engineering Division	Interim Engineer Manager
George Noriega	Water Utility Division	Water Operations Supervisor
Jessica Serrano	Community Development Department	Director of Community Development
Christine Tomikawa	Human Resource and Risk Management Department	Human Resources and Risk Management Director
Joseph Torres	Economic Development Department	Economic Development Manager
Scott Wiese	Police Department	Police Chief
Emergency Planning Consultants		
Carolyn J. Harshman	Emergency Planning Consultants	President/Principal Planner
Jill Caputi	Independent Contractor	Research and HAZUS Analyst

Acknowledgements

City of Monterey Park

- ✓ Jose Sanchez, Mayor
- ✓ Thomas Wong, Mayor Pro Tem
- ✓ Vinh T. Ngo, Council Member, District 5
- ✓ Yvonne You, Council Member, District 2
- ✓ Henry Lo, Council Member, District 4

Point of Contact

To request information or provide comments regarding this mitigation plan, please contact:

Name and Position Title	Chris Thompson, Battalion Chief – Emergency Management
Email	LHMP@montereypark.ca.gov
Mailing Address	320 W. Newmark Avenue, Monterey Park, CA 91754
Telephone Number	626-307-1270

Consulting Services

Emergency Planning Consultants

- ✓ Principal Planner: Carolyn J. Harshman, MPA, CEM
- ✓ Research Analyst and HAZUS: Jill Caputi, MS

3665 Ethan Allen Avenue
San Diego, California 92117
Phone: 858-922-6964
epc@pacbell.net
www.carolynharshman.com

Mapping

The maps in this plan were provided by the City of Monterey Park, County of Los Angeles, California Office of Emergency Services (Cal OES), Federal Emergency Management Agency (FEMA), or were acquired from public Internet sources. Care was taken in the creation of the maps contained in this plan, however they are provided "as is". The City of Monterey Park cannot accept any responsibility for any errors, omissions or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from land surveys may have been used in the creation of these products, in no way does this product represent or constitute a land survey. Users are cautioned to field verify information on this product before making any decisions.

Mandated Content

In an effort to assist the readers and reviewers of this document, the jurisdiction has inserted "markers" emphasizing mandated content as identified in the Disaster Mitigation Act of 2000 (Public Law – 390). Following is a sample marker:

EXAMPLE

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.
Q Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))
A:

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Part I: PLANNING PROCESS

Introduction

Q&A | ELEMENT A: PLANNING PROCESS | A1-b.
Q: Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process? (Requirement 44 CFR § 201.6(c)(1))
A: See **Introduction** below.

The Hazard Mitigation Plan (Mitigation Plan) was prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 (also known as Public Law 106-390) since 2005 has required state and local governments (including special districts and joint powers authorities) to prepare mitigation plans to document their mitigation planning process, and identify hazards, potential losses, mitigation needs, goals, and strategies. This type of planning supplements the City's comprehensive land use planning and emergency management planning programs. The City's last Hazard Mitigation Plan was approved by FEMA in 2008.

Since the five years of eligibility has lapsed, this Hazard Mitigation Plan is considered "new" by FEMA and Cal OES. Once the new plan is adopted by the City Council and approved by FEMA, the City will regain its eligibility for Hazard Mitigation Grant Program (HMGP) and other mitigation-related funding for a period of five years.

DMA 2000 was designed to establish a national program for pre-disaster mitigation, streamline disaster relief at the federal and state levels, and control federal disaster assistance costs. Congress believed these requirements would produce the following benefits:

- ✓ Reduce loss of life and property, human suffering, economic disruption, and disaster costs.
- ✓ Prioritize hazard mitigation at the local level with increased emphasis on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring critical facilities/services survive a disaster.
- ✓ Promote education and economic incentives to form community-based partnerships and leverage non-federal resources to commit to and implement long-term hazard mitigation activities.

The following FEMA definitions are used throughout this plan (Source: FEMA, 2002, *Getting Started, Building Support for Mitigation Planning*, FEMA 386-1):

Hazard Mitigation – "Any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards".

Planning – "The act or process of making or carrying out plans; specifically, the establishment of goals, policies, and procedures for a social or economic unit."

Planning Approach

The four-step planning approach outlined in the FEMA publication, *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3) was used to develop this plan:

- ✓ **Develop mitigation goals and objectives -** The risk assessment (hazard characteristics, inventory, and findings), along with municipal policy documents, were utilized to develop mitigation goals and objectives.
- ✓ **Identify and prioritize mitigation actions -** Based on the risk assessment, goals and objectives, existing literature/resources, and input from participating entities, mitigation activities were identified for each hazard.
- ✓ **Prepare implementation strategy -** Generally, high priority activities are recommended for implementation first. However, based on organizational needs and goals, project costs, and available funding, some medium or low priority activities may be implemented before some high priority items.
- ✓ **Document mitigation planning process -** The mitigation planning process is documented throughout this plan.

Q&A | ELEMENT A: PLANNING PROCESS | A2-a.
Q: Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))
A: See **Stakeholder Involvement** below.

Stakeholder Involvement

A Hazard Mitigation Planning Team (Planning Team) consisting of the City of Monterey Park staff, worked with Emergency Planning Consultants to create the new hazard mitigation plan. **The Planning Team served as the primary stakeholders throughout the planning process.**

As required by DMA 2000, the Planning Team involved "the public". The general public and external agencies were invited to contribute to the plan during the plan writing phase. In addition, the Second Draft Plan was announced in the Monterey Park Cascades newspaper and posted on the City's website on _____. External agencies were emailed information about the availability of the plan on the City's website on _____. See **Attachments**.

The general public and external agencies served as secondary stakeholders with an opportunity to contribute to the plan during the Plan Writing Phase of the planning process.

Q&A | ELEMENT C: Mitigation Strategy | C2-a.
Q: Does the plan contain a narrative description or a table/list of their participation activities? (Requirement 44 CFR § 201.6(c)(3)(ii))
A: See **National Flood Insurance Program** below.

National Flood Insurance Program

Established in 1968, the NFIP provides federally backed flood insurance to homeowners, renters, and businesses in communities that adopt and enforce floodplain management ordinances to reduce future flood damage. The City of Monterey Park adopted a floodplain management ordinance and has Flood Insurance Rate Maps (FIRM) that show floodways, 100-year flood zones, and 500-year flood zones. The City Engineer is designated as floodplain administrator.

NFIP Participation

The City of Monterey Park participates in NFIP, and the FEMA FIRM maps for the City were last updated in 2008. These studies and maps represent flood risk at the point in time when FEMA completed the studies and does not incorporate planning for floodplain changes in the future due to new development. Although FEMA is considering changing that policy, it is optional for local communities. According to FEMA, the City of Monterey Park is designated a No Special Flood Hazard Area (NSFHA). A Non-Special Flood Hazard Area (NSFHA) is an area that is in a moderate- to low-risk flood zone (Zones B, C, X Pre- and Post-FIRM). The City is located within flood Zone X.

The NSFHA is not in any immediate danger from flooding caused by overflowing rivers or hard rains. However, it is important to note that structures within a NSFHA are still at risk. In fact, over 20% of all flood insurance claims come from areas outside of mapped high-risk flood zones.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-c.
Q: Does the Plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Repetitive Loss Properties** below.

Repetitive Loss Properties

Repetitive Loss Properties (RLPs) are most susceptible to flood damages; therefore, they have been the focus of flood hazard mitigation programs. Unlike a Countywide program, the Floodplain Management Plan (FMP) for repetitive loss properties involves highly diversified property profiles, drainage issues, and property owner's interest. It also requires public involvement processes unique to each RLP area. The objective of an FMP is to provide specific potential mitigation measures and activities to best address the problems and needs of communities with repetitive loss properties. A repetitive loss property is one for which two or more claims of $1,000 or more have been paid by the National Flood Insurance Program (NFIP) within any given ten-year period. According to FEMA resources, none of the properties within the City of Monterey Park are designated as Repetitive Loss Property (RLPs).

Planning Process

Throughout the project, the Planning Team served as the primary stakeholders while also making a concerted effort to gather information from the general public and external agencies. The hazard mitigation strategies contained in this plan were developed through an extensive planning process involving the City of Monterey Park staff, general public, and external agencies.

Following review and input by the Planning Team to the First Draft Plan, next (still during the Plan Writing Phase), the Second Draft Plan was shared with the general public and external agencies. The general public and external agencies served as the secondary stakeholders. Next, the comments gathered from the secondary stakeholders were incorporated into a Third Draft Plan which was submitted to Cal OES and FEMA along with a request for a determination of "approvable pending adoption".

Next, the Planning Team completed amendments to the Plan to reflect mandated input by Cal OES and FEMA. The Final Draft Plan was then posted in advance of Monterey Park's City Council public meeting. Any comments gathered were included in the staff report to the City Council. Following adoption by the City Council, proof of adoption was forwarded to FEMA with a request for approval. The FEMA Letter of Approval was included in the Final Plan. The planning process described above is portrayed below in a progression:

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.
Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))
A: See **Plan Methodology and Planning Phases Progression** below.
Q&A | ELEMENT A: PLANNING PROCESS | A2-a.
Q: Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))
A: See **Planning Phases Progression** below.

Figure: Planning Phases Progression

PLANNING PHASES PROGRESSION				
Plan Writing Phase (First & Second Draft Plan)	Plan Review Phase (Third Draft Plan)	Plan Adoption Phase (Final Draft Plan)	Plan Approval Phase (Final Plan)	Plan Implementation Phase
• Planning Team input – research, meetings, writing, review of First Draft Plan • Incorporate input from the Planning Team into Second Draft Plan • Invite public and external agencies via email and web posting to review, comment, and contribute to the Second Draft Plan • Incorporate input into the Third Draft Plan	• Third Draft Plan sent to Cal OES and FEMA for "approvable pending adoption" • Address any mandated revisions identified by Cal OES and FEMA into Final Draft Plan	• Post public notice of City Council meeting along with the Final Draft Plan • Final Draft Plan distributed to City Council in advance of meeting • Present Final Draft Plan to City Council for adoption • City Council adopts Plan	• Submit Proof of Adoption to FEMA with request for final approval • Receive FEMA Letter of Approval • Incorporate FEMA approval and City Council resolution into the Final Plan	• Conduct annual Planning Team meeting • Integrate mitigation action items into budget and other funding and strategic documents

Plan Methodology

The Planning Team discussed knowledge of hazards and past historical events, as well as building codes and facilities maintenance plans.

The rest of this section describes the mitigation planning process including 1) Planning Team involvement, 2) general public and external agency involvement; and 3) integration of existing data and plans.

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.
Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))
A: See **Planning Team Involvement** below.

Planning Team Involvement

The Planning Team consisted of representatives from different City departments with a role in hazard mitigation processes. The Planning Team served as the primary stakeholders throughout the planning process. The general public and external agencies served as

secondary stakeholders in the planning process. The Planning Team was responsible for the following tasks:

- ✓ Develop planning goals,
- ✓ Prepare timeline,
- ✓ Ensure plan meets DMA 2000 requirements,
- ✓ Organize and solicit involvement of public and external agencies,
- ✓ Analyze existing resources including data, maps, and reports,
- ✓ Research hazard information,
- ✓ Review HAZUS loss projection estimates,
- ✓ Develop mitigation action items,
- ✓ Participate in Planning Team and City Council meetings, and

The Planning Team, with assistance from Emergency Planning Consultants, identified and profiled hazards; determined hazard rankings; estimated potential exposure or losses; evaluated development trends and specific risks; and developed mitigation goals and action items.

Table: Planning Team Level of Participation

Name	Research and Writing of Plan	Planning Team Meeting 1: November 28, 2022	Planning Team Meeting 2: December 12, 2022	Planning Team Meeting 3: January 9, 2023	Planning Team Meeting 4: March 6, 2023	Planning Team Meeting 5: June 26, 2023	Planning Team Comment on First Draft Plan	Distribute Second Draft Plan to General Public and External Agencies	Incorporate Input from Public, and External Agencies into the Third Draft Plan	Submit Third Draft Plan to Cal OES/FEMA for Approvable Pending Adoption	Post Final Draft Plan in Advance of City Council Meeting	Present Final Draft Plan to City Council at Public Meeting for Plan Adoption	Submit Proof of Adoption to FEMA for Final Approval	Incorporate FEMA Approval into Final Plan
Planning Team														
Chris Thompson, Chair	X	X	X	X	X	X	X	X						
Robert Aguirre	X	X	X	X		X	X							
Inez Alverez	X	X	X	X	X									
Tony Antich					X									
Ron Bow	X	X	X		X									
Beth Chow					X	X	X							
Diana Garcia	X	X	X	X	X	X	X							
Martha Garcia	X	X	X	X		X	X							

Name	Research and Writing of Plan	Planning Team Meeting 1: November 28, 2022	Planning Team Meeting 2: December 12, 2022	Planning Team Meeting 3: January 9, 2023	Planning Team Meeting 4: March 6, 2023	Planning Team Meeting 5: June 26, 2023	Planning Team Comment on First Draft Plan	Distribute Second Draft Plan to General Public and External Agencies	Incorporate Input from Public, and External Agencies into the Third Draft Plan	Submit Third Draft Plan to Cal OES/FEMA for Approvable Pending Adoption	Post Final Draft Plan in Advance of City Council Meeting	Present Final Draft Plan to City Council at Public Meeting for Plan Adoption	Submit Proof of Adoption to FEMA for Final Approval	Incorporate FEMA Approval into Final Plan
Matt Hallock	X	X	X		X	X	X							
Shawn Igoe	X	X	X	X	X									
Gustavo Jimenez	X	X	X	X	X									
Ziad Mazboudi	X		X	X	X									
George Noriega						X	X							
Jessica Serrano	X	X	X	X		X	X							
Christine Tomikawa	X	X	X	X	X	X	X							
Joseph Torres	X	X	X	X	X									
Scott Wiese	X	X												
Emergency Planning Consultants														
Carolyn Harshman	X	X	X	X	X	X		X						
Jill Caputi	X													

Table: Planning Team Timeline

Tasks	October 2022	November	December	January 2023	February	March	April	May	June	July	August	September	October	November	December	January 2024
Research																
Research for Risk Assessment	X	X														
Prepare HAZUS	X	X														
Plan Writing																
First Draft, Second Draft, Third Draft, Final Draft, Final	X	X	X	X	X	X	X	X	X	X	X					
Planning Team Meetings																
Meeting #1 HMP Overview and Initial Hazard Assessment		X														
Meeting #2 Develop Mitigation Action Items			X													
Meeting #3 Develop Mitigation Action Items				X												
Meeting #4 Discuss Changes in FEMA Regulations						X										
Meeting #5 Review First Draft Plan									X							
Community Outreach (Review Second Draft Plan)																
Seek General Public and External Agencies Input to Second Draft Plan												X				
Approval and Adoption of Plan																
Submit Third Draft Plan to Cal OES and FEMA. Complete Mandated Revisions.												X	X	X	X	
Receive FEMA's Approvable Pending Adoption															X	
Post and Participate in City Council Meeting to Adopt the Final Draft Plan, Submit Proof of Adoption to FEMA																X
Receive FEMA Final Approval																X
Incorporate FEMA Final Approval into Final Plan																X

Q&A | ELEMENT C. MITIGATION STRATEGY | C1-a.

Q: Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations? (Requirement 44 CFR § 201.6(c)(3))

A: See **Capability Assessment – Existing Processes and Programs** below.

Capability Assessment – Existing Processes and Programs

The City of Monterey Park will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the Planning Team working with their respective departments to integrate mitigation strategies into the planning documents and the City of Monterey Park's operational guidelines.

The Capability Assessment below includes a full range of the City of Monterey Park's policies, programs, practices, and procedures that could be created or modified to address mitigation activities. In addition, the Assessment lists the "community lifelines" that are critical in supporting the City's day-to-day operations. No doubt, several of the City's capabilities are also considered community lifelines (e.g., Safety and Security includes law enforcement, fire services, search and rescue, government services, and community safety). FEMA defines Community Lifelines as:

- The most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
- Lifelines are the integrated network of assets, services, and capabilities that are used day-to-day to support the recurring needs of the community.
- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required to stabilize the incident.



As indicated above, the Community Lifelines are:

- Safety and Security
- Food, Water, and Shelter
- Health and Medical
- Energy (Power and Fuel)
- Communications
- Transportation
- Hazardous Materials

Capabilities

The City will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the Planning Team members with their respective departments to integrate mitigation strategies into their planning documents and operational guidelines. FEMA identifies four types of capabilities: Planning and Regulatory, Administrative and Technical, Financial, and Education and Outreach. Following are explanations drawn from "Beyond The Basics" a website developed as part of a multi-year research study funded by the U.S. Department of Homeland Security, Coastal Resilience Center and led by the Center for

Sustainable Community Design within the Institute for the Environment at the University of North Carolina at Chapel Hill and the Institute for Sustainable Coastal Communities at Texas A&M University. This excellent resource ties FEMA regulations together with best practices in hazard mitigation.

Planning and Regulatory
Planning and regulatory capabilities are based on the implementation of ordinances, policies, local laws and State statutes, and plans and programs that relate to guiding and managing growth and development. Examples of planning capabilities that can either enable or inhibit mitigation include comprehensive land use plans, capital improvements programs, transportation plans, small area development plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Plans describe specific actions or policies that support community goals and drive decisions. Likewise, examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed and structures are built. Planning and regulatory capabilities refer not only to the current plans and regulations, but also to the community's ability to change and improve those plans and regulations as needed.

Administrative and Technical
Administrative and technical capability refers to the community's staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. It also refers to the ability to access and coordinate these resources effectively. Think about the types of personnel employed by each jurisdiction, the public and private sector resources that may be accessed to implement mitigation activities in your community, and the level of knowledge and technical expertise from all of these sources. These include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, floodplain managers, and more. For jurisdictions with limited staff resources, capacity should also be considered; while staff members may have specific skills, they may not have the time to devote to additional work tasks.

The planning team can identify resources available through other government entities, such as counties or special districts, which may be able to provide technical assistance to communities with limited resources. For example, a small town may turn to county planners, engineers, or a regional planning agency to support its mitigation planning efforts and provide assistance. For large jurisdictions, reviewing administrative and technical capabilities may involve targeting specific staff in various departments that have the expertise and are available to support hazard mitigation initiatives. The degree of intergovernmental coordination among departments also affects administrative capability.

Financial
Financial capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions. The costs associated with implementing mitigation activities vary. Some mitigation actions, such as building assessment or outreach efforts, require little to no costs other than staff time and existing operating budgets. Other actions, such as the acquisition of flood-prone properties, could require a substantial monetary commitment from local, state, and federal funding sources. Some local governments may have access to a recurring source of revenue beyond property, sales, and income taxes, such as stormwater utility or development impact fees. These communities may be able to use the funds to support local mitigation efforts independently or as the local match or cost-share often required for grant funding.

Education and Outreach
This type of capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Examples include fire safety programs that the Fire Department delivers to students at local schools; and participation in community programs, such as Firewise and StormReady.

The table below includes a broad range of capabilities within the City of Monterey Park to successfully accomplish mitigation.

Table: Capability Assessment - Existing Processes and Programs
(Source: City of Monterey Park Website, 2023)

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
City of Monterey Park Departments					
X	X			City Attorney	The City Attorney acts as the city's general legal counsel. In this capacity, the city attorney advises the city council and staff on all legal matters relating to the operation of the municipal government, and is responsible for the preparation of various resolutions, ordinances, and agreements. The general legal counsel services of the city attorney are provided via contract with a legal private firm of Hensley Law Group.
X	X		X	City Clerk's Office	The City Clerk's Office is responsible for maintaining an accurate record of city council proceedings, maintaining official city records and conducting municipal elections in accordance with federal and state laws. The city clerk administers the oath of office to all elected officials, city commissioners and key employees.
X	X	X	X	City Council	Under the Council-Manager form of government, the Monterey Park City Council is responsible for the legislative functions of the City, which includes establishing policies and priorities, developing an overall vision, and approving annual spending plans for the City. The activities provide the resources and support needed by the City Council to carry out the legislative and fiduciary responsibilities and establish City policies based on information provided by staff, advisory boards and commissions, and the community. The City Council has identified the following core strategies: • Maintain a fiscally healthy and financially sound municipal government. • Provide a safe, well-maintained community that affords a good quality of life. • Create a civil, fair, and democratic community which maintains a well balance for its residents and businesses. • Ensure a responsive and transparent municipal government that facilitates opportunities for community involvement in decision-making. • Seek and support solutions to regional issues such as public health,

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					housing/homelessness, economic growth, job creation, and environmental sustainability that promote intergovernmental relationships and public-private partnerships.
X	X	X	X	City Manager's Office	Under the initiative adopted by the voters of Monterey Park in 1948, the City Manager serves as the chief executive officer of the city under the direction of the City Council. In this capacity, the City Manager provides the following: • Overall direction and coordination of city operations. • Continual monitoring and evaluation of services and programming to ensure their relevance to the needs of the community. • Oversees an aggressive program of resource development that results in measurable increases in the productivity of city operations each year. • Procurement of available grant funds to achieve special projects. • New commercial and industrial development that expands the economic base of the city.
		X		City Treasurer	The City Treasurer evaluates investment options and investing City funds using the criteria of safety, liquidity, and yields. Also reviews the City's investment policy and internal controls over investment and treasury functions to ensure the proper segregation of duties and asset safeguarding. Submits monthly and annual investment reports.
X	X	X	X	Community Development Department	The Community Development Department maintains the city's physical environment through the effective and efficient use of the city's legislative mandates, including maintaining the General Plan, zoning, building, and property maintenance codes, which provide a solid foundation for an excellent quality of life for the residents of Monterey Park. The Community Development Department is comprised of the Building & Safety and Planning Divisions. This Department is also responsible for providing services that promote the community's short and long term development interests in maintaining Monterey Park's traditionally high standards of development in residential, commercial, and industrial areas, as well as providing staff assistance to the Design Review Board, Planning Commission and City Council.
X	X		X	Economic Development Division	The Economic Development Division is responsible for encouraging business investment opportunities and job creation, expanding the City's tax base, supporting business attraction and retention activities, and assisting business building efforts through innovative and implementable

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					approaches that advance inclusion, diversity, and accessibility. The Economic Development Division serves several functions. In keeping with our responsibility to market the City and attract, assist, and retain businesses, we: • Help business owners navigate the business creation process. • Conduct outreach within the business community to identify the needs and concerns of local business owners. • Identify and create programs to assist local businesses. • Locate underused commercial properties and work with owners and leasing agents to help them find the right tenants. • Market and promote the City at networking events like the International Council of Shopping Centers conference to attract high-profile tenants. • Manage the lease and sale of City-owned properties. • Act as liaison to the Business Improvement District.
	X	X	X	Finance Department	The Finance Department is the core of the city's financial operations. It provides centralized financial planning, budgeting, investing, debt management, general ledger, grant accounting, accounts payable, payroll, audits, and financial reporting. In addition, the department establishes and maintains the city's administrative policies and procedures for internal controls. The department maintains the city's IT management function. Current applications, including accounting, assessment, budgeting, licensing, utility billing, and financial planning, are all on a PC-based network. In addition to assisting city departments in purchasing services and goods, Finance maintains the city's telephone system. The department maintains a public service counter and serves as the central revenue collection point for the city, including utility billing, various users' fee, business license, utility tax, transient occupancy tax, and franchise tax.
X	X		X	Fire Department	The Fire Department serves the community with fire protection, hazardous materials response, disaster preparedness, and emergency medical services. Maintains the Emergency Operations Center. For the past few years, the Fire Department has been moving towards a community-centered metric driven organization committed to providing quality emergency, preventative, and risk reduction activities to the community. Personnel have become more proactive towards risk identification, public education, safety education, increased Community Emergency Response Teams ("CERT") training, and fire investigation

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					activities. Moving in this direction, and through the hard work and efforts of the fire personnel, the City has achieved a Public Protection Classification (PPC) rating of a Class 1 by the Insurance Services Offices (ISO). Out of 33,000 fire departments in the United States, Monterey Park is one of 132 agencies that has achieved this designation.
	X	X		Human Resources and Risk Management Department	The Human Resources Division is committed to attracting and retaining a qualified, diverse, and safe workforce committed to providing excellent customer service. The City of Monterey Park offers an excellent opportunity for highly motivated individuals to pursue promotional advancement, obtain specialized training and excel in achieving personal goals. The Risk Management Division serves to protect the personnel and physical assets of the city from injury and loss. Risk Management manages the city's insurance and loss control programs, including worker's compensation, property insurance general / auto liability, long term disability and unemployment insurance. This is an internal insurance program providing oversight of claims administration, procurement of required insurance coverage and the development, coordination and implementation of safety and loss-prevention programs.
	X		X	Library	The mission of the Monterey Park Bruggemeyer Library is to create opportunities for learners of all ages and backgrounds, to foster community connections, and to advance all aspects of literacy in Monterey Park.
X			X	Police Department	The Monterey Park Police Department is a full service police agency. Our 75 sworn police officers and 44 civilian personnel represent a diverse workforce that is supported by over 80 community volunteers through the police reserves, emergency communications, citizen patrol, explorer programs, and other civilian volunteers. We take pride in our ability to prevent crime, interact with the community, and apprehend criminals. Our department personnel strives to provide the finest police service to our community. We view the community as our partner in fighting crime and seek the community's input and assistance through programs such as Neighborhood Watch, Business Watch, Citizen Patrol, and the Citizen's Academy.
	X		X	Recreation and Community Services Department	The Recreation and Community Services Department is responsible for the development, implementation, coordination, and delivery of recreational and leisure time activities. The programs are to promote the

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					well-being and enjoyment of life for the city's residents through the fulfillment of their recreational, cultural, social, and educational needs. In addition to the recreational activities, the department operates the city's Dial-A-Ride service, Volunteer Programs, Cable TV (MPK-TV), and coordinates the monthly publication of the Cascades newspaper.
X	X	X	X	Public Works Department	The Public Works Department is responsible for providing and maintaining the City's infrastructure in a manner that ensures the health, safety, and welfare of the City's residents and visitors. This includes the planning, design, construction, repair and maintenance of City vehicles and equipment, and operations of public land in the following areas: Parks Roadways Sidewalks Sewers and storm drains Public buildings and structures Water production Storage and delivery facilities Department Divisions The Public Works Department consists of the following divisions: Community Transportation Engineering Street Maintenance Services Parks Water Utility
City of Monterey Park Boards and Commissions					
	X	X	X	Business Improvement District Advisory Committee	The Business Improvement District Advisory Committee (BIDAC's) primary responsibility is making recommendations to the City Council on the expenditure of BID funds and the operation of the Business Improvement District, which exists to enhance and promote the District area through activities like the Lunar Festival, identification signage, sidewalk, and right-of-way cleaning as well as public improvement and promotional activities. The Business Improvement District (BID) encompasses the central Downtown area extending from Garvey Avenue from Ramona Avenue to Nicholson Avenue, and on Garfield Avenue from south of Newmark Avenue to Emerson Avenue. The committee consists of 5 seats. Members serving on the Business Improvement District Advisory Committee must own or operate a business within the business improvement district. This board is subject

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					to the Monterey Park Conflict of Interest Code.
	X		X	Commission on Aging	The Commission on Aging consists of ten members who advise the city council regarding the problems and services relating to the senior citizens of Monterey Park. The commission also serves as liaison to other agencies and commissions on matters relating to senior programs. Members on this commission must be a Monterey Park resident.
			X	Community Participation Commission	This commission will seek out and publicize artistic, cultural, and historic exhibits, performances and opportunities that would bring the community together and involve the city's youth in community activities. The commission also conducts an Annual Hollywood Bowl Trip, and co-hosts the Summer Movies in the Park. Members on this commission must be a Monterey Park resident.
X	X		X	Design Review Board	The Board is created to advise the Planning Commission or City Council regarding high quality design standards in building and development projects in order to conserve and maintain the aesthetic value of the community, to encourage the most appropriate use of land, and to maintain a proper relationship between the taxable value of real property and the cost of providing municipal services. Members of the Design Review Board may either be residents of the city or persons maintaining a business license in the city and it is recommended members have a background as an architect, planner, landscape architect, civil engineer building contractor, or a practicing licensed electrician
	X	X	X	Economic Development Advisory Commission	The Economic Development Advisory Commission consists of five members. Each member shall be either a resident of the city and operate a business or have operated a business or an individual operating a business or had business experience or have a background in finance, economics or development. It is the responsibility of the Commission to: • Monitor implementation of the most current Economic Development Strategic Plan adopted by the City Council; the Economic Development Advisory Commission is currently working on public outreach on the 2010 Monterey Park Economic Development Strategic Plan. • Recommend updates or amendments to the Economic Development Strategic Plan as deemed necessary. • Provide the City Council with reports on progress towards meeting economic and community development goals as identified in the Economic Development Strategic Plan.

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					• Act in an advisory capacity to the City Council on the needs of local businesses, and the availability of economic development opportunities and resources
X			X	Environmental Commission	The Environmental Commission seeks to be a focal point for information to guide city leaders on environmental issues and promote environmental awareness in the community. At their meeting of March 2, 2005, the City Council unanimously approved Ordinance 2029 to create the Environmental Commission that would assist the City in preserving its natural resources and the sustainability of the community. The ordinance sets forth the Commission's responsibilities to: • Serve in advisory capacity to the City Council on related issues. • Assist in issues that are deemed necessary for the environmental integrity of the City of Monterey Park. • Monitor legislative activities. • Develop and implement policies and procedures. • Advocate and promote programs to increase awareness of the environment. • Investigate funding to implement programs to benefit the community.
		X	X	Library Board of Trustees	The Library Board of Trustees is an administrative board appointed by the City Council. The Library Board of Trustees has a fiduciary responsibility for the library, and each board member is asked to reveal any potential conflicts of interest. The five members are each limited to two terms of three years for a total of six years. The board governs under the Monterey Park Municipal Code, the State of California Education Code, and the Brown Act and is subject to the Monterey Park Conflict of Interest Code.
	X		X	Personnel Board	The Personnel Board is comprised of three members who may advise on any matter of personnel administration such as standardization of hours of work, attendance and leave regulations, vacations, holidays, and working conditions; may advise regarding personnel rules and regulations such as revision and maintenance of position classification plans, formulation of standards and qualifications of each class, employee; and participate in appeal hearings.
X	X		X	Planning Commission	The Planning Commission is a quasi-judicial body consisting of five members who advise the council on policies and legislation relating to the regulation of growth, development, and environmental conditions affecting the city. The commission investigates and makes recommendations on zone changes, specific plan revisions, subdivision

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					maps, and decides on zone variances and conditional use permits, subject to appeal to the City Council. Members on this commission must be a resident of Monterey Park. This commission is subject to the Conflict of Interest Code.
X			X	Recreation and Parks Commission	The Recreation and Parks Commission will consist of five members plus ex officio member(s) as approved by the city manager or its designee. Regular members cannot hold any paid office or employment in the city government. The commission advises the city council on all matters pertaining to parks, parkways and recreation. Further, they coordinate city recreation programs with those offered by other governmental agencies and voluntary organizations.
X			X	Traffic Commission	The Traffic Commission reviews traffic issues and recommends any needed changes. Issues range from traffic safety matters to parking restrictions that may be the result of a citizen's request or a staff recommendation. The commission also makes recommendations to the city council for installation of stop signs and amendments to the municipal code for traffic related items that may ease traffic congestion and help facilitate transportation throughout the city. The commission consists of five members. Each of the five council members shall nominate one member who serves at the pleasure of the city council. Members on this commission must be a resident of Monterey Park.
City of Monterey Park Plans and Policies					
X	X	X	X	Capital Improvement Program	The Capital Improvement Program budget consists of two activities, Street Construction and Community Capital Improvement. The City's Capital Improvement Program is a five-year program designed according to the City's strategic planning, Water, Sewer, and Park Improvement Master Plans. This five-year Capital Improvement Program is updated following the completion of the City's Long Term Financial Planning process in midyear. During the budget process, the capital improvement projects are again adjusted to reflect realistic and reliable funding sources.
	X	X	X	General Fund	General Fund is the main operating fund of the City and pays for the majority of the police, fire, building, zoning, public works, park maintenance, recreation, and library services. It is our practice to conservatively estimate all revenues included in the budget to avoid over committing to future service expansions.
X	X		X	Zoning Ordinance	The City's Zoning Ordinance, which is part of the Municipal Code, divides the city into areas, called zoning districts, and establishes regulations for each district with respect to permitted uses, allowable

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					density, building height, development character, etc. The zoning ordinance consists of a map that delineates the zone district boundaries, plus text that explains the purposes of each district, specifies permitted and conditional uses, and establishes development and performance standards. The zoning ordinance serves as the primary implementation tool for the Land Use Element and the goals and policies it contains. Under California law, the zoning ordinance must be consistent with the General Plan.
X	X		X	Building Code	The city adopts the California Building Code every three years.
X	X	X	X	General Plan	The Monterey Park General Plan serves as the blueprint for planning and development in the City and indicates the community's vision for the future. Of particular importance to the HMP is the Safety and Community Services Element which outlines the hazards posing significant threats as well as goals and policies to manage the threats. Also important is the Housing Element containing demographics and information about present and future housing opportunities.
X	X	X	X	Emergency Operations Plan	The City of Monterey Park maintains an Emergency Operations Plan (EOP) that documents City policies for responding to major emergencies that threaten life, safety, and property. The plan establishes a chain of command and outlines the responsibilities of various City departments in the event of an emergency.
City of Monterey Park Community Lifelines (External)					
X			X	Metro	Metro is unique among the nation's transportation agencies. They serve as transportation planner and coordinator, designer, builder, and operator for the country's largest, most populous county. More than 10 million people – nearly one-fourth of California's residents – live, work and play within our 1,433-square-mile service area.
X			X	Caltrans	Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans carries out its mission with six primary programs: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration and the Equipment Service Center.
X	X		X	Ware Disposal and Athens Services	Contracted provider of residential waste collection and recycling services and non-exclusive franchise contracts for commercial waste collection and recycling services.
X	X	X	X	County of Los Angeles	Provides a range of county-wide services including public health, transportation, animal control, courts, public records, property

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					assessments, flood control, etc.
X	X	X	X	Adjoining Jurisdictions	Los Angeles County City of Rosemead City of Alhambra City of Los Angeles City of San Gabriel
			X	School Districts	Alhambra Unified School District Garvey Elementary School District Montebello Unified School District Los Angeles Unified School District
	X		X	American Red Cross	American Red Cross volunteers and staff work to deliver vital services – from providing relief and support to those in crisis, to helping others be prepared to respond in emergencies.
X	X		X	Southern California Edison	Provides the power grid to the Los Angeles region including generation systems, transmission systems, and distribution systems. Also, has power to initiate a Public Safety Power Shutoff.
				Safety and Security	
	X		X	Los Angeles Sheriff's Department	Law Enforcement (Police Stations, Law Enforcement, Site Security, Correctional Facilities)
	X		X	Los Angeles County Fire Department	Fire Services (Fire Stations and Firefighting Resources)
				Los Angeles County Fire Department	Search and Rescue
				Food, Water, Shelter	
				Food (Commercial Food Distribution, Commercial Food Supply Chain, Food Distribution Programs (e.g., Food Banks)	None
				Agriculture (Animals and Agriculture)	None
X	X		X	Water (Drinking Water Utilities (intake, treatment, storage, and distribution), Wastewater Systems, Commercial Water Supply Chain)	Water and Wastewater – see Public Works Department above. Garvey Reservoir is owned by the Metropolitan Water District of Southern California.
			X	Shelter (Housing (e.g., homes, shelters), Commercial Facilities	Housing – See General Plan – Housing Element above. Commercial Facilities (Hotels) – Courtyard by Marriott, 555 N. Atlantic, Monterey Park CA – (855)399-

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
				(e.g., hotels)	5795 Lincoln Plaza Hotel, 123 S. Lincoln, Monterey Park CA (626) 571-8818 Baymont by Wyndham 434 Potrero Grande Dr., Monterey Park CA (323) 614-0603 Comfort Inn, Monterey Park 588 S. Atlantic Blvd., Monterey Park CA (626) 308-9600 Kings Lodge, Monterey Park 340 S. Garfield Ave., Monterey Park CA (626) 572-0404 Montel 6, Monterey Park 340 S Garfield Ave, Monterey Park CA (323) 263-9888
				Health and Medical	
X	X		X	Medical Care (Hospitals, Dialysis, Pharmacies, Long-Term Care Facilities, VA Health System, Veterinary Services, Home Care	Hospitals - Garfield Hospital, 525 N Garfield Ave., Monterey Park CA (626) 573-2222 Monterey Park Hospital, 900 S. Atlantic Blvd., Monterey Park CA (626) 570-9000 Convalescent Hospitals - Monterey Park Convalescent Hospital 4160N. Garfield Ave, Monterey Park CA (626) 280-0280 Heritage Manor Nursing Home, 610 N Garfield Ave. Monterey Park CA – (626) 573-3141
			X	Patient Movement (Emergency Medical Services)	City of Monterey Park Fire Department
				Fatality Management (Mortuary and Post-Mortuary Services)	None
X	X		X	Public Health (Epidemiological Surveillance, Laboratory, Clinical Guidance, Assessment / Interventions / Treatments, Human Services, Behavior Health)	Public Health – see Los Angeles County above.
	X		X	Medical Supply Chain (Blood / Blood Products, Manufacturing of pharmaceutical, device, medical gases, Distribution, Critical	Blood / Blood Products – See American Red Cross above.

Capability Type				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
				Clinical Research, Sterilization, Raw Materials)	
				Energy	
X	X		X	Power Grid (Generation Systems, Transmission Systems, Distribution Systems)	Power Grid – See Southern California Edison above.
				Communications	
				Alerts, Warnings, and Messages (Local Alert, Warning Ability, Access to IPAWS including WEA, EAS, NWR, and NAWAS Terminals)	Managed through City EOC
				911 and Dispatch (Public Safety Answering Points, Dispatch)	Managed through City EOC
				Transportation	
				Highway / Roadway / Motor Vehicle (Roads, Bridges)	See Caltrans above. See County of Los Angeles above.
				Mass Transit (Bus, Rail, Ferry)	See Metro above.
				Railway (Freight, Passenger)	See Metro above.

Expanding and Improving on Capabilities

Planning and Regulatory Capabilities – The City builds and maintains its own buildings and infrastructure and regulates all construction within the community as per the International Building Code. Future plans are laid out in the General Plan and Capital Improvement Program. Some of the funding of future construction relies on successful bond measures where plans and justifications are shared with the public. Given the fact this is the first mitigation plan for Monterey Park, the topic of mitigation has been limited to Environmental Impact Reports tied to major development projects. Although hazard mitigation is new, the City is very experienced in adhering to federal and state mandates. Also, departmental protocols are in place that ensure future development projects satisfy "substantial conformance" requirements with the General Plan and Zoning Ordinance.

Administrative and Technical –

Existing capabilities are typical for a medium-sized local government. The City already has grant writing and GIS capabilities along with mutual aid agreements, and a warning/notification system. Grant writing capabilities will continue to be especially important once the mitigation plan is approved by FEMA. That approval will trigger eligibility for a range of federal and state grants. Also, the City Council could task a sub-committee dedicated to land use matters and mitigation plan implementation. The Plan's opportunities for success will be increased by the Council's involvement.

Finance -

All local governments have a broad range of funding sources. Taxation, impact fees, bonds, grants, in-kind donations, and philanthropic donations are included in the spectrum. As such, the City needs to keep these resources in mind for future mitigation activities.

Education and Outreach –

Utilize existing community groups, local citizen groups, and non-profit organizations to support and encourage mitigation as well as home and business mitigation. Enlist the City Manager and Public Information Officer in learning and talking about the Hazard Mitigation Plan.

Q&A | ELEMENT A: PLANNING PROCESS | A4-a.

Q: Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document? (Requirement 44 CFR § 201.6(b)(3))

A: See **Use of Existing Data** below.

Use of Existing Data

The Planning Team gathered and reviewed existing data and plans during plan writing and specifically noted as "sources". Numerous electronic and hard copy documents were used to support the planning process:

City of Monterey Park Website
http://www.MontereyPark.ca.gov
Applicable Incorporation: Department Information for Capability Assessment, City Profile, Budget

City of Monterey Park General Plan 2040
https://www.montereypark.ca.gov/253/General-Plan
Applicable Incorporation: Information about hazards contributed to the City Profile, and Hazard-Specific Sections.

County of Los Angeles General Plan (2015)
http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf
Applicable Incorporation: Information about the planning area and geography.

County of Los Angeles All-Hazards Mitigation Plan (2019)
http://file.lacounty.gov/SDSInter/lac/1062614_AHMPPublicDraft_Oct1.pdf
Applicable Incorporation: Information about hazards in the County contributed to the hazard-specific sections.

State of California Hazard Mitigation Plan (2018)
https://www.caloes.ca.gov/wp-content/uploads/002-2018-SHMP_FINAL_ENTIRE-PLAN.pdf
Applicable Incorporation: Risk Assessment – Hazard Identification.

HAZUS Maps and Reports
Created by Emergency Planning Consultants
Applicable Incorporation: Numerous HAZUS maps and reports have been included in the hazard-specific sections.

National Flood Insurance Program
www.fema.gov/national-flood-insurance-program
Applicable Incorporation: Community status used in the flood section.

Local Flood Insurance Rate Maps
https://msc.fema.gov/portal/home
Applicable Incorporation: Used in the Flood hazard section.

California Department of Forestry and Fire Protection (CAL FIRE)
https://www.fire.ca.gov/
Applicable Incorporation: Wildland fire hazard map in fire hazard section.

California Department of Conservation
www.conservation.ca.gov/cgs
Applicable Incorporation: Seismic hazards mapping used in earthquake hazard section.

U.S. Geological Survey (USGS)
www.usgs.gov
Applicable Incorporation: Earthquake records and statistics used in earthquake hazard section..

Using HAZUS for Mitigation Planning (2018)
https://www.fema.gov/sites/default/files/documents/fema_using-hazus-mitigation-planning.pdf
Applicable Incorporation: Used in Risk Assessment in HAZUS Information.

California's Fourth Climate Change Assessment: Los Angeles Region Report (2019)
https://www.ioes.ucla.edu/project/los-angeles-regional-climate-assessment/
Applicable Incorporation: Used in Community Profile - Climate Information.

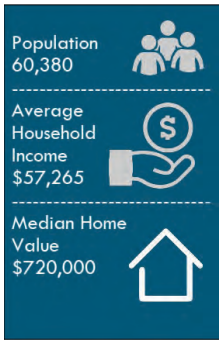
Weather Spark
https://weatherspark.com/
Applicable Incorporation: Weather information used in Community Profile.

Part II: RISK ASSESSMENT

City Profile

The Shoshone (later named Gabrielino) Indians were the first to inhabit Los Angeles County south of the San Gabriel Mountains and beyond, living as hunters and gatherers.

Later in the 1700's, Spanish settlements, first in association with the San Gabriel Mission and later as part of a Spanish Land Grant, established the area incorporating Monterey Park as a defined geographic area. The Land Grant, awarded to Don Antonio Maria Lugo and named Rancho San Antonio, contained nearly 30,000 acres reaching from the present day City of Monterey Park southward to Lynwood. In 1840, one of the Don's sons built the first adobe dwelling on the hills in the areas that would become Monterey Park. Sold to Alessandro Repetto in the late 1860's, the property flourished. Around this time, Richard Garvey's ranch was also improved with groves and gardens. Garvey, a former mail rider for the U.S. Army, had developed his land by bringing in spring water from near the Hondo River and by constructing a 54-foot high dam to form Garvey Lake. Portions of the ranch began to be sold in the late 1800s. In 1906, the first subdivision in the area, Ramona Acres, was developed north of Garvey and east of Garfield Avenues. (Source: Monterey Park website, 2023)



Monterey Park lies seven miles east of downtown Los Angeles, at the western edge of the San Gabriel Valley. Several freeways connect the City to downtown and destinations throughout Los Angeles County and beyond: the Pomona Freeway (SR-60) on the south, the San Bernardino Freeway (I-10) to the north, and the Long Beach Freeway (I-710) to the west. Regional arterial roads traversing the City include Garvey Avenue, Atlantic Boulevard, and Garfield Avenue. And for people who opt to use transit to get around, the Metro light rail system and bus lines serve Monterey Park directly, as do the Montebello bus lines. The hilly terrain that distinguishes Monterey Park from its neighboring cities creates distinct neighborhoods and districts, including neighborhoods offering panoramic views of downtown and the San Gabriel Valley. These neighborhoods—and Monterey Park as a whole—are largely built out, with development opportunities limited to a few scattered vacant parcels and the redevelopment of aging or underperforming properties. To encourage new housing, new businesses, and reinvestment, Monterey Park has increased allowable development intensities in its commercial districts and embraced mixed-use developments. This traditionally suburban community offers districts of urban scale living and commerce amid the beloved neighborhoods of single-family homes. The region has transformed but continues to support diverse lifestyle choices for all. (Source: General Plan 2040)

Location, Environment, and Fast Facts

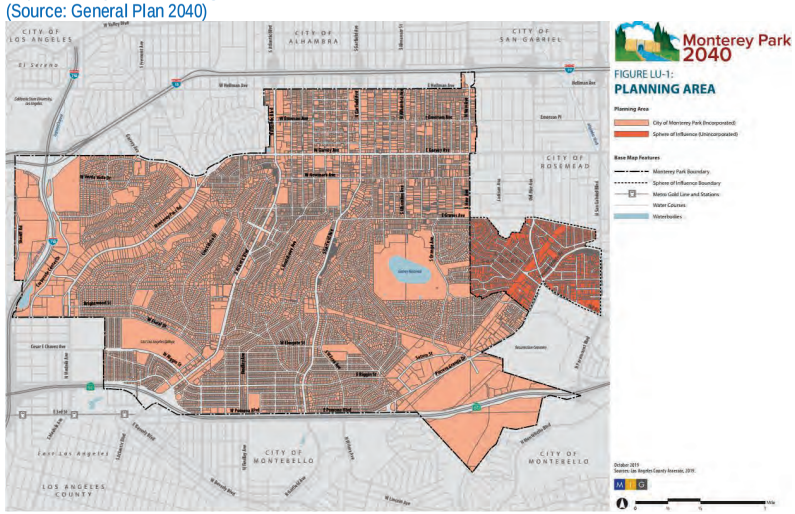
Monterey Park covers an area of 7.73 square miles with a population of approximately 60,380. The City is located six miles east of Los Angeles and is primarily a residential community, with 78% of its land zoned for single and multiple family housing uses. The median home price in Monterey Park is $720,000. The net taxable property value during the FY 2021-2022 assessment period was $8.5 billion, representing a 4.8% increase over the previous year.

Major businesses include food and drug, auto sales and service, banking, restaurants, hotels, hospitals and medical offices, printing and light manufacturing. (Sour

Housing assistance programs in the City include residential critical maintenance, rental rehabilitation, and first-time homebuyer programs. The City's own Housing Fund, Community Development Block Grant, and Home Fund monies primarily finance these activities. In most cases, public/private partnerships are formed.

Monterey Park shares boundaries with the Cities of Alhambra, Los Angeles, and San Gabriel to the north; City of Rosemead to the east; and the City of Montebello and unincorporated areas of Los Angeles County to the south.

Map: Monterey Park Planning Area
(Source: General Plan 2040)



City Fast Facts

Date of Incorporation: May 29, 1916
Form of Government: Council / Manager
Area: 7.73 Square Miles
Miles of Streets: 119.27
Number of Street Lights: 3,359
Fire Protection:
- Number of Fire Stations: 3
- Number of Sworn Firefighters and Non-Sworn Personnel: 63

Police Protection:
- Number of Stations: 1
- Number of Sworn Police Officers and Non-Sworn Personnel: 113

Municipal Water Department:
- Number of Water Meters: 13,293
- Average Daily Consumption: 6,730,000
- Miles of Water Distribution Lines: 134
- Number of Fire Hydrants: 1,063
- Number of Gate Valves 2,073

Miles of Sewers:
- Sanitary Sewers: 126
- Storm Drains: 12.43

Building Permits Issued: 515
Recreation and Culture:
- Number of Parks & Gardens: 14 (107.64 Acres)
- Number of Pools: 2
- Number of Libraries: 1
- Number of Library Collection Volumes: 104,200
- Number of Library Cardholders: 40,100

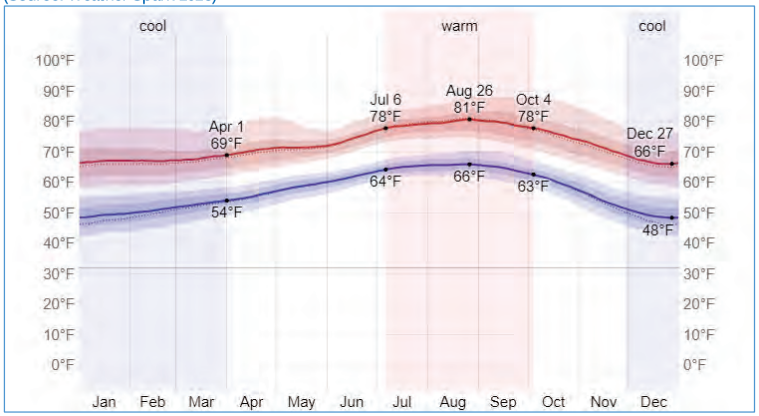
Number of Employees:
- Full-Time: 327
- Part-Time: 59

Elected Officials: 7
Population: 60,207

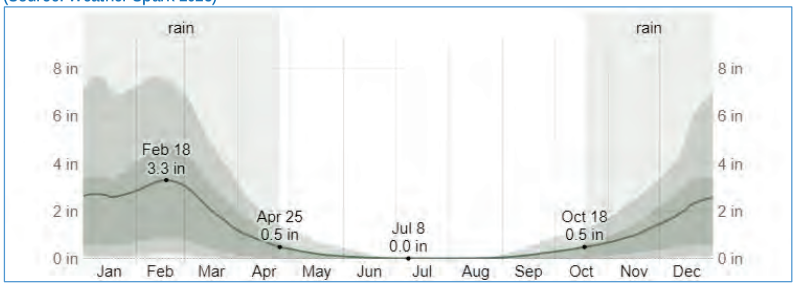
Climate

According to the 2022 General Plan, the area's climate is Mediterranean, like the rest of the Southern California region, with moderate temperatures, rainy winters and dry summers, supporting a wide range of imported vegetation.

Graph: Average High and Low Temperature for the City of Monterey Park
(Source: Weather Spark 2023)



Graph: Average Monthly Rainfall for the City of Monterey Park
(Source: Weather Spark 2023)



Transportation



As identified in the Annual Budget, public transportation services that are available to the community of Monterey Park include a local fixed-route circulator - the Spirit Bus - and regional bus service that is provided by two operators - Los Angeles County Metro Bus and Montebello Bus Lines. Also available to the community are Metrolink commuter trains, local Dial-A-Ride service for

seniors and disabled persons, and regional paratransit service for disabled persons that is provided by Access Services, Inc.

Spirit Bus
The Spirit Bus Service links residential neighborhoods to schools and the commercial and retail areas. The service includes 5 routes that run every 30 to 40 minutes and operates 6 days a week, Monday through Saturday.

Regional Transportation Services
The Metro Bus operates 6 lines in the City: 30/31 (Pico/First Street), 68 (West LA, Montebello Town Center), 70 (LA/El Monte), 170 (Cal State LA, South El Monte Station), 258 (Arizona Ave., Fremont Ave., Alhambra), and 260 (Pasadena, Artesia Blue Line Station).

Commuter Train Service
Commuter train service is provided by Metrolink. The nearest station is located less than half a mile from the city boundary, on Campus Drive at the California State University, Los Angeles (CSULA) campus, adjacent to the Busway Station.

Paratransit Service - Dial A Ride and Access Services
Paratransit service, door-to-door service, is available to senior citizens and disabled persons. Through the Langley Senior Citizen Center, the City operates a local paratransit service (within the City jurisdiction) for residents who are 55 years or older and/or disabled.

Annual Community Events

As identified in the Annual Budget, each year Monterey Park delivers a variety of recreational and leisure time activities to promote the well-being and enjoyment of life for its residents, as well as to light the way for more understanding among residents of its community's multitude of rich cultures.

Monterey Park Birthday – The event is to celebrate the annual birthday of the City of Monterey Park. The event is held in May, featuring a home-town parade and four days of carnival rides, game booths, food, and entertainment.

Cherry Blossom Festival – It is a celebration of the sights, sounds, and tastes of Japanese culture. The two-day event in April features Taiko drumming, martial arts, contemporary Japanese music, crafts, games, and displays.

Spring Egg Hunt – This event provides games, entertainment, and an opportunity to collect some of the over 6,000 plastic eggs with candy and prizes. Eggs are scattered throughout Barnes Park field in designated sections separated by age groups.

Earth Day Festival – This is a joint event with the Cherry Blossom Festival and is held at Barnes Park to celebrate with Bike Ride events, which include the Family Ride and Hill Challenge Ride.

Cinco de Mayo – This Fiesta offers an unforgettable afternoon of Mexican Culture, featuring Mariachi music, Mexican folkloric, and authentic Mexican food.

4th of July – A wide variety of food, spectacular entertainment, fireworks, games, and music are all on tap for Monterey Park's celebration of Independence Day.

Veterans, Military, and Public Safety Recognitions - Ceremonies commence each Memorial Day, Veterans Day, and Patriot Day to recognize and honor those who have served in the armed forces and remember those that have lost their lives.

Monterey Park Community Clean-up Days – Being held throughout the year and in various locations, these free events provide an opportunity for residents to dispose of nonhazardous bulky items and electronic waste.

Farmers Market – Every Thursday night the Monterey Park Farmers Market features the freshest fruits and vegetables, delicious bread, and a number of hot food items, plus entertainment and surprises - a great way to start the weekend.

Monster Mash Halloween Event – Each October the monsters come out to play. This event features carnival games, trick-or-treating, food trucks and live entertainment for all to enjoy.

Holiday Snow Village – Held in early December, this event features over 20 tons of snow, including a play area and two snow sled rides. Bands and choirs from local schools provide entertainment to kick off the holiday season.

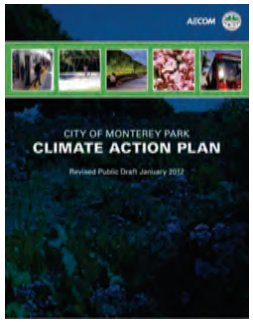
Lunar New Year Festival – Each year the Business Advisory Committee hosts a Lunar New Year celebration by holding street festival along Garvey Avenue. Entertainment, vendors and community organizations are brought together for this two-day event that has attracted over 200,000 people to Monterey Park.

San Gabriel Valley PRIDE – Co-hosted with the Alhambra Teachers Association during LGBTQ Pride Month, this event includes a community march from Mark Keppel High School to a festival at Barnes Park with music, resource booths and giveaways.

Summer Movie Night – Being held throughout the summer months these free events bring the community together to experience movies in various parks throughout the City.

Summer Concerts – Being held during the summer months, these free concerts bring the community together to dance and enjoy live music at the Barnes Park Amphitheater.

Climate Action Plan



The primary purpose of the Climate Action Plan (CAP) is to set forth a comprehensive strategy to address GHG emissions related to land use, transportation, building design, energy use, water demand, and waste generation. A CAP is a city's roadmap to reducing community GHG emissions associated with both existing and future actions and activities. The CAP focuses GHG-reducing efforts to areas that will have the greatest environmental benefit, have the least financial cost (or even savings), and preserve the character of the community.

The CAP provides strategies and programs for government facilities, businesses and residents that can lead to a reduction of GHG emissions from daily activities. The CAP sets goals to reduce GHG emissions produced in the city by 2020, but it will be difficult to meet these goals without your participation.

Daily activities conducted within the city, by residents and businesses, have a toll on the overall environment of the community. Nearly all activities conducted within the city have some form of GHG emission: More than 30% of total GHG emissions in Monterey Park are a result of energy used for commercial and residential buildings.

The transportation of goods and people generate approximately 48% of Monterey Park's GHG emissions (264,920 MT CO2e in 2009). Within Monterey Park, the majority of commute, shopping, and recreational trips are done in private automobiles.

Q&A | ELEMENT B: RISK ASSESSMENT | B-1-e.
Q: Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?
A: See **Climate Change Vulnerability and Adaptation, Environmental Justice** below.

Environmental Justice



The City Council approved the City's Environmental Justice Element in January 2022.

The State of California defines "environmental justice" as "the fair treatment and meaningful involvement of people of all races, cultures and incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Government Code § 65040.12). Environmental justice includes the following:

+ Availability of a healthy environment for all people;

+ Deterrence, reduction, and elimination of pollution burdens for populations and communities experiencing the adverse effects of that pollution, so that the effects of the pollution are not disproportionately borne by those populations and communities;

+ Implementing technical assistance to populations and communities most impacted by pollution to promote their meaningful participation in all phases of the environmental and land use decision-making process; and

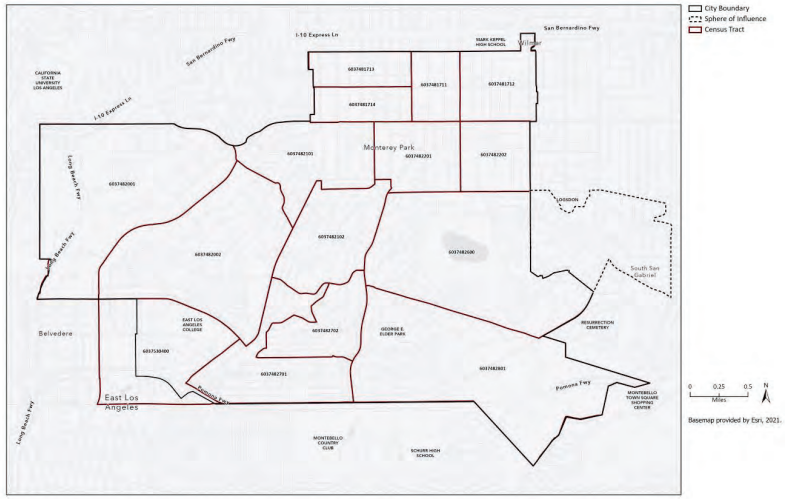
+ The meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions.

Government Code § 65302 requires the City to identify disadvantaged communities within its planning area. Should a disadvantaged community exist, the City must adopt an environmental justice element or integrate related environmental justice goals, policies, and objectives into other elements of the general plan. Health and Safety Code § 39711 requires the California Environmental Protection Agency to identify disadvantaged communities based upon geographic, socioeconomic, public health, and environmental hazard criteria. They may include, without limitation, areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; and areas with concentrations of people that are of low income, high

unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

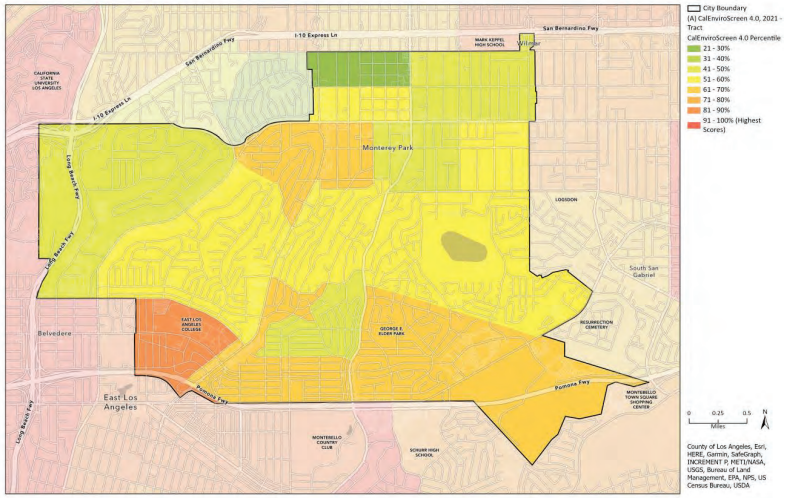
The California Environmental Protection Agency uses CalEnviroScreen to identify disadvantaged communities throughout California. CalEnviroScreen uses a variety of statewide indicators to characterize pollution burden (the average of exposures and environmental effects) and population characteristics (the average of sensitive populations and socioeconomic factors). The model scores each of the indicators using percentiles and combines the scores to determine a CalEnviroScreen score for a given census tract relative to others in the state. Designated disadvantaged communities are those communities that scored within the highest 25 percent of census tracts across California (CalEnviroScreen percentile scores of 75 or higher), in addition to other parameters relating to income status.

Map: Census Tracts in Monterey Park
(Source: General Plan – Environmental Justice Element, 2022)



The City of Monterey Park is comprised of fifteen census tracts as depicted on. There is one designated disadvantaged community within the City. This disadvantaged community is identified as Census Tract 6037530400 which includes East Los Angeles College. This community is located along the southwestern edge of the City boundaries adjacent to the community of East Los Angeles and is shaded orange in Map: Disadvantaged Communities below. The census tract boundaries extend outside of City limits. The remainder of the census tracts within Monterey Park are not considered disadvantaged.

Map: CalEnviroScreen 4.0 Percentile Monterey Park
(Source: GP – Environmental Justice Element, 2022)

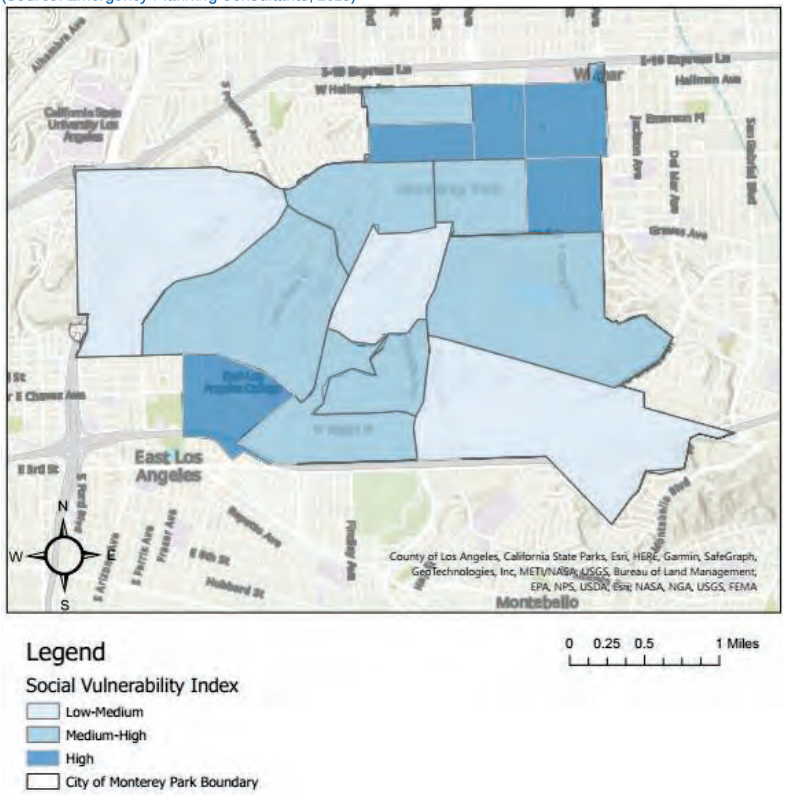


Social Vulnerability

Social vulnerability considerations were included in this plan to identify populations across the City that might be more vulnerable to hazards. Social Vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters such as tornadoes or disease outbreaks, to human caused threats such as toxic chemical spills (CDC/ATSDR, 2020). To better assist emergency planners, the CDC Agency for Toxic Substances and Disease Registry (CDC/ATSDR) developed the Social Vulnerability Index (SVI) as a way to depict the social vulnerability of communities, as the census tract level within a specified county. Tracts with a higher SVI will likely need support before, during and after a hazardous event. The SVI can help public health officials and local planners better prepare for and respond to emergency events by displaying what areas of the jurisdiction has a high vulnerability ranking to low vulnerability ranking.

Map: Social Vulnerability Index for Monterey Park depicts the dispersion of socially vulnerable populations within the City of Monterey Park. There are 5 census tracts within the City boundary that have a high SVI and 7 census tracts that have a medium-high SVI. The high SVI rated census tracts area depicted in the darker blue areas on the map. The medium light blue represents the medium-high SVI census tracts. And the lightest blue represents the low-medium SVI census tracts.

Map: Social Vulnerability Index for Monterey Park
(Source: Emergency Planning Consultants, 2023)



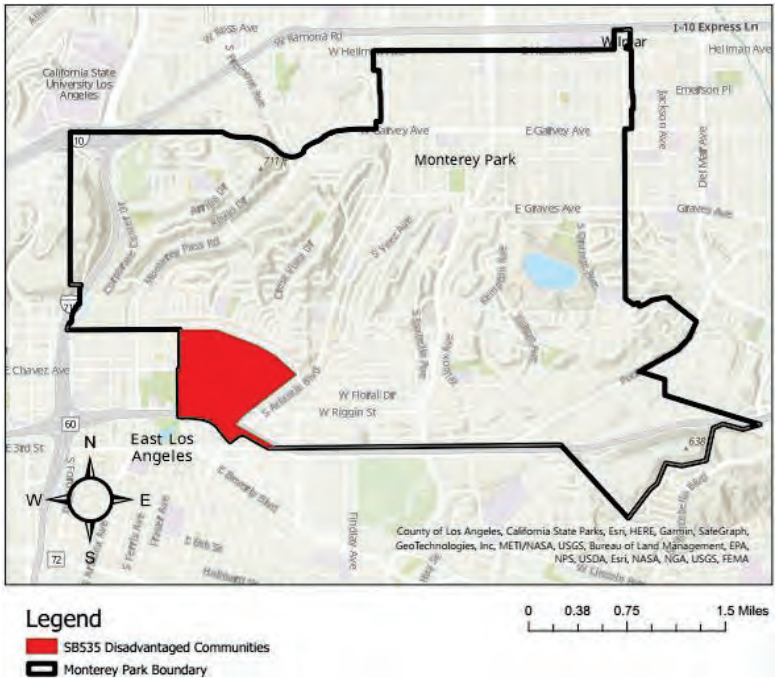
Identification of Disadvantaged Communities

Senate Bill 1000 defines "disadvantaged communities" as areas identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or as an area that is low-income that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. To assist in identifying disadvantaged communities, the State has provided a mapping tool called "CalEnviroScreen." CalEnviroScreen uses several factors, called "indicators" that have been shown to determine whether a community is disadvantaged and disproportionately affected by pollution. Pollution burden indicators measure different types of pollution that

residents may be exposed to, and the proximity of environmental hazards to a community. Population characteristics represent characteristics of the community that can make them more susceptible to environmental hazards.

CalEnviroScreen provides an overall percentile score determined by combining weighted individual scores for all the individual indicators analyzed. SB 1000 considers a 75 percent or higher score in this category to be a qualifier for consideration as a disadvantaged community. The overall scores are represented in a statewide map, with red representing the highest percentile range and green representing the lowest. Areas with higher scores generally experience higher pollution burdens and fare less well on a range of health and socioeconomic indicators than areas with low scores. Census tracts in Monterey Park score between 20 and 90 percent overall for pollution, with 1 of the 15 census tracts within the 75 percent or above category.

The majority of the City of Monterey Park is not considered a disadvantaged community based on the CalEnviroScreen scores. There is one census tract that is considered a disadvantaged community in the City of Monterey Park – tract 6037530400. This tract is depicted in red in the SB 535 map below.



Climate Vulnerability Assessment

According to "California's Fourth Climate Change Assessment" developed by the State of California, continued climate change will have a severe impact on California. Increased temperatures, drought, wildfires, and sea level rise are several of the main concerns related to climate change in the Southwest. Other impacts anticipated from climate change include food insecurity, increases in vector-borne diseases, degradation of air quality, reduced ability to enjoy outdoors, and potential economic impacts due to uncertainty and changing conditions.

Climate change disproportionately affects those with existing disadvantages. Low-income communities and communities of color often live in areas with conditions that expose them to more severe hazards, such as higher temperatures and worse air quality. These communities also have fewer financial resources to adapt to these hazards. For instance, low-income populations may reduce air conditioning usage out of concerns about cost. Outdoor workers, individuals with mobility constraints, and sensitive populations such as the very young, elderly, and poor, as well as those with chronic health conditions, are particularly at risk to climate change hazards.

To understand how climate change might affect the city of Monterey Park, the Cal-Adapt tool was used to analyze data. "Cal-Adapt provides a way to explore peer-revied data that portrays how climate change might affect California at the state and local level" (cal-adapt.com). Below is a summary of the data reviewed for the City of Monterey Park.

Increased Temperature: Annual temperatures in the City are expected to rise steadily through the end of the century. The City's Historical average maximum temperature is based on data from 1961-1990, is 78.3°F. Under the medium emissions scenario, the average annual maximum temperature is projected to increase to 83.5°F. Between 2070 and 2099. The annual average maximum temperature under the high-emission scenario is projected to increase to 86.8°F. Between 2070 and 2099.

More Extreme Heat Days: Extreme Heat Days occur when the maximum temperature is above 100.5°F. Historically Monterey City Park has experienced an average of 4 extreme heat days per year. By mid-century, 2025-2064, the annual number of extreme heat days is expected to rise to 13 under medium emission scenarios and 16 under high emission scenarios. By the end of the centuries, 2070 and 2099, the number of extreme heat days is expected to rise to 17 under medium emission scenarios and 34 under high emission scenarios.

Static Annual Precipitation: Historically the City has experienced an annual average of 16.9 inches of precipitation. Annual precipitation is expected to slightly increase during the mid-century. Under the medium emission scenario, it is expected that the annual precipitation will remain steady at 16.7 inches. Under the high emission scenario, it is expected that the annual precipitation will increase to 17.0 inches. By the end of the century annual precipitation is expected to increase to 17.3 inches under the medium emission scenario and 17.1 inches under the high emission scenario.

Longer and more extreme droughts: The City can expect to see an 11.5% increase in average temperature and a 26% decrease in precipitation during drought conditions. This will lead to longer, more extreme droughts by mid-century.

Steady Wildfire Threat: Based on historical data from 1961–1990, Los Angeles County experiences a decadal average loss of 4,436.1 hectares to wildfire. The probability that a

wildfire will occur in any one year over a10-year period, known as the decadal probability, is projected to remain constant through 2099 under both high-emissions and low emissions scenarios. Under the low-emissions scenario, the decadal average loss to wildfire is expected to increase to 5,719.2 hectares by mid-century and 5662.9 hectares by 2099. Under the high-emissions scenario, the decadal average loss to wildfire is projected to rise to 5,579.7 hectares by 2065 and 5,275.4 hectares by the end of the century.

Risk Assessment

What is a Risk Assessment?

Conducting a risk assessment can provide information regarding: the location of hazards; the value of existing land and property in hazard locations; and an analysis of risk to life, property, and the environment that may result from natural hazard events. Specifically, the five levels of a risk assessment are as follows:

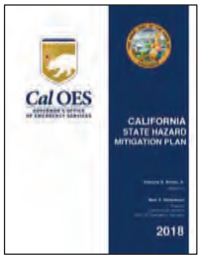
1. *Hazard Identification*
2. *Profiling Hazard Events*
3. *Vulnerability Assessment/Inventory of Existing Assets*
4. *Risk Analysis*
5. *Assessing Vulnerability/Analyzing Development Trends*

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

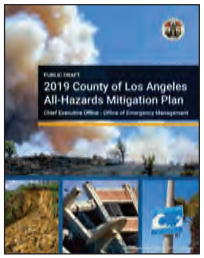
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Hazard Identification** below.

1) Hazard Identification

This section is the description of the geographic extent, potential intensity, and the probability of occurrence of a given hazard. Maps are used in this plan to display hazard identification data. To determine the hazard with significant potential to impact the Planning Team examined three resources: California's 2018 State Hazard Mitigation Plan, 2019 County of Los Angeles All-Hazards Mitigation Plan, and the City's General Plan 2040.

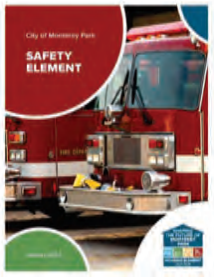


The 2018 State HMP identified hazards posing a threat to communities within the state boundaries. Those hazards include Earthquakes, Floods, Levee Failures, Wildfires, Landslides and Earth Movements, Tsunami, Climate-Related Hazards, Volcanoes, and Other Hazards.



The 2019 County of Los Angeles AHMP identified hazards posing a threat to communities within the county's boundary. Those hazards include Earthquake, Climate Change, Flood, Dam Failure, Drought, Landslide, Tsunami, and Wildfire.

The City's General Plan 2040 identified hazards posing a threat to neighborhoods and communities within the city boundaries. The Safety Element establishes City policies relative to the reduction and mitigation of natural and manmade hazards that must be considered in future planning and decision-making.



State law requires every Safety Element to consider the following: a) the identification, mapping, and appraisal of seismic hazards that should be of concern to planning and future development, including areas subject to liquefaction, ground-shaking, surface rupture or seismic sea waves (Government Code Section 65302(f)); b) an appraisal of mudslides, landslides, and slope stability that might occur as a result of seismic disturbance (Government Code Section 65302(f)); and c) the identification of the potential for fires and other natural and manmade disasters and measures designed to reduce the loss of life, injury, and damage to property (Government Code Section 65302(i)). The natural hazards discussed in the Safety Element include: Climate Change, Geologic and Seismic, and Flood Hazards.

Next, the Planning Team reviewed existing documents to determine which of the hazards posed the most significant threat to the project area and its ability to deliver services. In other words, which hazard would likely result in a local declaration of emergency.

The geographic extent of each of the identified hazards was identified by the Planning Team utilizing maps and data contained in the 2019 County of Los Angeles All-Hazards Mitigation Plan.

The following hazards identified in the AHMP that have been omitted from inclusion in Monterey Park's HMP:

- ✓ Tsunami – Given Monterey Park's distance from the ocean, the Planning Team recognizes there is no need to address vulnerability to tsunami.

The following hazards identified in the 2019 County of Los Angeles AHMP that have not been omitted from the plan but were not fully profiled or CPRI ranked due to their low priority and the organization's limited capability to mitigate.

- ✓ Climate Change – The Planning Team chose to break out what they perceived as climate change impacts into the various Hazard- Specific Sections.
- ✓ Drought – The Planning Team chose to include drought and add extreme heat into a Utility Related Hazard Section.

Based on the reasoning above and discussion by the Planning Team, the following hazards were identified for research and analysis:

Earthquake – Landslide – Urban Flood - Dam Failure – Wildfire – Windstorm – Utility Related

Next, the Planning Team utilized FEMA's Calculated Priority Risk Index (CPRI) ranking technique to quantify the probability, maximum strength, during, and warning time for each of the hazards. The hazard ranking system is described in **Table: Calculated Priority Risk Index**, while the actual ranking is shown in **Table: Calculated Priority Risk Index Ranking for the City of Monterey Park.**

Table: Calculated Priority Risk Index
(Source: Federal Emergency Management Agency)

CPRI Category	Degree of Risk			Assigned Weighting Factor
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 1 in 1,000 years.	1	45%
	Possibly	Rare occurrences. Annual probability of between 1 in 100 years and 1 in 1,000 years.	2	
	Likely	Occasional occurrences with at least 2 or more documented historic events. Annual probability of between 1 in 10 years and 1 in 100 years.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability of greater than 1 every year.	4	
Magnitude/ Severity	Negligible	Negligible property damage (less than 5% of critical and non-critical facilities and infrastructure. Injuries or illnesses are treatable with first aid and there are no deaths. Negligible loss of quality of life. Shut down of critical public facilities for less than 24 hours.	1	30%
	Limited	Slight property damage (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability, and there are no deaths. Moderate loss of quality of life. Shut down of critical public facilities for more than 1 day and less than 1 week.	2	
	Critical	Moderate property damage (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least 1 death. Shut down of critical public facilities for more than 1 week and less than 1 month.	3	
	Catastrophic	Severe property damage (greater than 50% of critical and non-critical facilities and infrastructure). Injuries and illnesses result in permanent disability and multiple deaths. Shut down of critical public facilities for more than 1 month.	4	
Warning Time	> 24 hours	Population will receive greater than 24 hours of warning.	1	15%
	12–24 hours	Population will receive between 12-24 hours of warning.	2	
	6-12 hours	Population will receive between 6-12 hours of warning.	3	
	< 6 hours	Population will receive less than 6 hours of warning.	4	
Duration	< 6 hours	Disaster event will last less than 6 hours.	1	10%
	< 24 hours	Disaster event will last less than 6-24 hours.	2	
	< 1 week	Disaster event will last between 24 hours and 1 week.	3	
	> 1 week	Disaster event will last more than 1 week.	4	

Table: Calculated Priority Risk Index Ranking for the City of Monterey Park
(Source: City of Monterey Park Planning Team)

Hazard	Probability	Weighted 45% (x.45)	Magnitude Severity	Weighted 30% (x.3)	Warning Time	Weighted 15% (x.15)	Duration	Weighted 10% (x.1)	CPRI Total	Hazard Priority Ranking (H-High, M-Medium, L-Low) *
Earthquake	3	1.35	4	1.20	4	.60	1	.10	3.25	H
Wildfire	3	1.35	3	.90	3	.45	2	.20	2.90	H
Urban Flooding	2	.90	3	.90	3	.45	2	.20	2.45	M
Dam Failure	2	.90	2	.60	4	.60	2	.20	2.30	L
Landslide	2	.90	2	.60	3	.45	1	.10	2.05	L
Windstorm	2	.90	2	.60	3	.45	1	.10	2.05	L
Utility Related	2	.90	1	.30	1	.15	4	.40	1.75	L

*Hazard Priority Ranking
High=CPRI score for probability + magnitude/severity (impact) = 6 or higher
Medium=CPRI score for probability + magnitude/severity (impact) = 5
Low=CPRI score for probability + magnitude/severity (impact) = 3 or 4
N/A=CPRI score for probability + magnitude/severity (impact) = 2

2) Profiling Hazard Events

This process describes the causes and characteristics of each hazard and what part of the City of Monterey Park facilities, infrastructure, and environment may be vulnerable to each specific hazard. Although FEMA regulations require profiling of only the hazards prioritized as "high", the Planning Team chose to profile all of the hazards identified and ranked in the CPRI. As such, each of the identified hazards is discussed in detail in its own hazard-specific analysis contained later in the **Risk Assessment**. **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** indicates a generalized perspective of the community's vulnerability of the various hazards according to extent (or degree), location, and probability.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.
Q: Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.
Q: Does the plan include the history of **previous** hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.
Q: Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park** below.

Table: Hazard Profile of Location, Extent, and Probability for the City of Monterey Park
(Source: General Plan 2040, Planning Team)

Hazard	Location (Where)	Extent (How Big an Event)	Probability (How Often) *	Most Recent Previous Occurrences
Earthquake	Citywide	The Southern California Earthquake Center (SCEC) in 2007 concluded that there is a 99.7 % probability that an earthquake of M6.7 or greater will hit California within 30 years. Earthquake would most likely originate from the San Andreas fault.	Likely	The most recent damaging earthquake was the M6.7 Northridge Earthquake in 1994.
Urban Flooding	Localized locations throughout the City.	Blocked storm drains combined with extreme rain events could conceivably result in urban flooding. An overflow or release from a local dam could cause dam inundation.	Possible	On November 12, 2003, at approximately 4:00 pm, Monterey Park experienced heavy rainfall and hail that resulted in more than six inches of floodwater in certain locations within the city.
Dam Failure	Garvey Reservoir	A failure could cause flooded properties to the north and south of Garvey Reservoir.	Possible	None
Landslide	Western portion of project area	Dependent on a broad range of variables including steepness of slope, soil stability, rainfall, vegetation, earthquake.	Possible	2004-2005 winter storms brought the heaviest rainfall in the past 100 years. Over 200 public and private properties suffered slope failures totaling $6 million in damage.
Utility Related	Citywide	Dependent on a broad range of variables.	Possible	Drought: In 2023 City is enforcing Stage 2 water conservation. Electricity: To date, no PSPS.
Wildfire	Adjoining Communities	The area northwest of the City is designated Very High Fire Hazard Severity Zone. The area southeast of the City is designated Moderate Fire Hazard Severity Zone.	Likely	Homes threatened in 2022. See Wildfire Hazard-Specific Section for details.
Windstorm	North and south hillside areas	30-miles per hour or greater.	Possible	2021. See Windstorm Hazard-Specific Section for details.
* Probability is defined as: Unlikely = 1:1,000 years, Possibly = 1:100-1:1,000 years, Likely = 1:10-1:100 years, Highly Likely = 1:1 year				
[1] Uniform California Earthquake Rupture Forecast				

HAZUS-MH

The hazard maps in the Mitigation Plan were generated by Emergency Planning Consultants using FEMA's Hazards United States – Multi Hazard (HAZUS-MH) software program. Please see **Attachments – HAZUS** for complete reports. Once the location and size of a hypothetical earthquake are identified, HAZUS-MH estimates the intensity of the ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems and utilities, the number of people displaced from their homes, and the estimated cost of repair and clean up. It's important to note that the "project are" is based on Census Tracts not jurisdictional boundaries.

As per FEMA's HAZUS Guidebook, HAZUS is a GIS-based software that can be used to estimate potential damage, economic loss, and social impacts from earthquakes, flooding, tsunami and hurricane wind hazards. The HAZUS software includes nationwide general GIS datasets, and a model for the four natural disasters below. The model results can support the risk assessment piece of mitigation planning.

Graphic: Model Results to Support Risk Assessment for Mitigation Planning
(Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)

Earthquake model	Estimates damages and losses to buildings, essential facilities, transportation, and utility lifelines from a single scenario or probabilistic earthquake analysis. There are also tools that allow the user to integrate earthquake hazard data generated outside of Hazus into the earthquake model. This model estimates debris generation, shelter requirements, casualties, and fire following an earthquake disaster.
Flood model	Generates flood hazard data using nationwide hydrological datasets. There are also tools that allow the user to integrate flood hazard data generated outside of Hazus software into the flood model. This model estimates the expected levels of damage to infrastructure and buildings. Debris generation and shelter requirements, as well as agricultural losses, can be calculated with this model.
Tsunami model	Can produce analyses that have several pre-tsunami and/or post-tsunami applications. Use of the methodology will generate an estimate of the consequences to a county or region of a "scenario tsunami," i.e., a tsunami with a specified inundation depth, velocity, and location. The resulting "loss estimate" generally will describe the scale and extent of damage and disruption that may result from the scenario tsunami.
Hurricane wind model	Can create the wind hazard data from a historical or real-time event, probabilistic event, or from a user-defined scenario. Estimates of potential damage and economic loss to buildings can then be calculated. The storm surge analysis combines the wind and coastal flood model to simulate storm surge for historical, and manual hurricanes. The model combines the wind and flood losses.

HAZUS is packaged with datasets that include building inventories and infrastructure for the entire United States. Because HAZUS is currently built on GIS technology, the inventory and infrastructure datasets can be mapped and intersected with the hazard information created from the four models.
Following the intersection, HAZUS determines the effects of wind, ground shaking, and water depths on buildings and infrastructure to calculate losses and damages. The outputs and estimates can be used in hazard mitigation planning, emergency response, and planning for recovery and reconstruction.

Losses estimated in HAZUS are based on the accuracy of input data. Basic analysis can be developed using the default data and parameter data provided within HAZUS. Users can conduct more advanced analysis using more accurate data that is specific to the region, hazard, population, etc. User-supplied data improves the accuracy of inventories and/or parameters.

Advanced-level analyses may also incorporate data from third-party studies. The user must determine the appropriate level of analysis to meet the user's needs and resources.

HAZUS analysis can be performed at three different levels:

• A Level 1 basic analysis can be performed simply using the default data provided. This level of analysis is very coarse, and because the results will be subject to a much higher level of uncertainty, this should serve primarily as a baseline for further study. The user will still be able to produce basic maps and results. Limited additional data will be required to complete the flood analysis. Site specific input data produces more accuracy in vulnerability identification and loss estimation amounts. If the data is available, it is

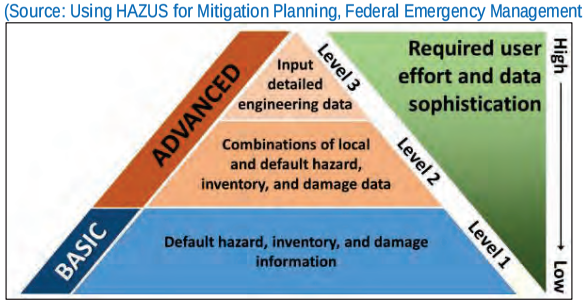
highly recommended that a user integrate site specific data to reduce uncertainty associated with the results of default data. Using a user defined depth grid, in the flood model, against default state data is classified as a level 1 analysis and is the recommendation of HAZUS Program.

• A Level 2 advanced analysis increases the accuracy and precision of an analysis by incorporating user-supplied data relevant to a given hazard. While the data included with the HAZUS software can be utilized to run a basic level one analysis, level two inputs are supplied by local sources and contain a higher level of detail. This can include datasets that model the hazards in more detail, or datasets that increase the accuracy of the inventory information. Incorporating more detailed data will improve the quality of the results. Level 2 is broadly defined as the incorporation of user-defined hazard and updated GBS or site-specific data.

• A Level 3 advanced analysis achieves the highest degree of precision and involves modifying or substituting the model parameters and/or equations, relevant to a given hazard. Users can modify inputs depending on the time and resources available. Keeping track of the data used is suggested so that any relationships between input and results is documented. It is usually done by advanced users experienced with both the hazard and the HAZUS software.

FEMA's Natural Hazard Risk Assessment Program (NHRAP) encourages users to conduct Level 2 or 3 analyses to improve the accuracy of results and recommends the use of user defined data (e.g., depth grids for all flood analysis) for mitigation planning.

Graphic: HAZUS Analysis Levels
(Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)



HAZUS creates credible estimates for losses and damages; datasets created on the local level typically provide greater detail than the datasets that are packaged with HAZUS (Level 1). Incorporating local datasets into the analysis will improve the results.

HAZUS Outputs

The user plays a major role in selecting the scope and nature of the output of a HAZUS analysis. A variety of maps can be generated for visualizing the extent of the losses. Numerical results may be examined at the level of the census block or tract or may be aggregated by

county or region. There are three main categories of HAZUS outputs: direct physical damage, induced damage, and direct losses. Direct physical damage includes general building stock (GBS), essential facilities, high potential loss facilities, transportation systems, utility systems, and user defined facilities. Induced damage includes building debris, tree debris generation and fire following disaster occurrence. Direct losses include losses for buildings, contents, inventory, income, crop damage, vehicle loss, injuries, casualties, sheltering needs and displaced households.

Graphic: HAZUS Outputs
(Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)

Hazus Capabilities	Earthquake Ground Shaking Ground Failure	Flood Frequency | Depth Riverine | Coastal Surge	Hurricane Wind | Surge	Tsunami Depth | Momentum Flux | Runup | Velocity
Inputs				
Historic	✓		✓	
Deterministic	✓	✓	✓	✓
Probabilistic	✓	✓	✓	
User-supplied	✓	✓	✓	✓
Other supported inputs	Real-time & scenario USGS ShakeMaps	Risk MAP, User-supplied depth grids (ArcGRID, GeoTIFF, IMAGINE), HEC-RAS (.FLT)	Hurrevac, User-supplied wind files (.dat)	NOAA PMEL SIFT, State models
Direct Damage				
General Building Stock	✓	✓	✓	✓
Essential Facilities	✓	✓	✓	
Transportation Systems	✓	✓		
Utility Systems	✓	✓		
User-Defined Facilities	✓	✓	✓	✓
Induced Damage				
Fire Following	✓			
Debris Generation	✓	✓	✓	
Direct Losses				
Cost of Repair	✓	✓	✓	✓
Income Loss	✓	✓	✓	✓
Agricultural		✓		
Casualties	✓			✓
Shelter and/or Evacuation Needs	✓	✓	✓	✓
Average Annualized Loss (AAL)	✓	✓	✓	

3) Vulnerability Assessment/Inventory of Existing Assets

A Vulnerability Assessment in its simplest form is a simultaneous look at the geographical location of hazards and an inventory of the underlying land uses (populations, structures, etc.). Facilities that provide critical and essential services following a major emergency are of particular concern because these locations house staff and equipment necessary to provide important public safety, emergency response, and/or disaster recovery functions.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Hazard Proximity to Critical Facilities** below.

Critical Facilities

FEMA separates critical buildings and facilities into the five categories shown below based on their loss potential. All of the following elements are considered critical facilities:

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.

Transportation Systems include airways – airports, heliports; highways – bridges, tunnels, roadbeds, overpasses, transfer centers; railways – trackage, tunnels, bridges, rail yards, depots; and waterways – canals, locks, seaports, ferries, harbors, drydocks, piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power and communication systems.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Table: Hazard Proximity to Critical Facilities below illustrates the hazards with potential to impact critical facilities owned by or providing services to the City of Monterey Park.

Table: Hazard Proximity to Critical Facilities
(Source: Planning Team, Emergency Planning Consultants, 2023)
(Note: "X" indicates affirmative to vulnerability, Dam Failure determination was based on California DWR Dam Breach Inundation Web Portal showing property within the boundaries of the inundation area, Urban Flood determination was based on input from Planning Team, Wildfire determination was based on 2 miles of proximity to a VHFHSZ and Map: Monterey Park Wildfire Threat)

City of Monterey Park Critical Facilities	Earthquake	Urban Flood	Dam Failure	Wildfire	Landslide	Windstorm	Utility Related
City Hall and Police Department 320 W. Newmark Avenue # Staff: 179 # Buildings: 1 Building Value: $16,515,706 Content Value: $2,198,934	X					X	X
Emergency Operations Center – 911 Center 329 W. Newmark Avenue # Staff: 0 # Buildings: 1 Building Value: $494,421 Content Value: $81,274	X					X	X
Fire Station #61 (Headquarters) 350 W. Newmark Avenue # Staff: 15 # Buildings: 1 Building Value: $8,254,467 Content Value: $566,665	X					X	X
Fire Station #62 2001 S. Garfield # Staff: 6 # Buildings:1 Building Value: $719,055 Content Value: $144,488	X	X				X	X
Fire Station #63 704 Monterey Pass Road # Staff: 3 # Buildings: 1 Building Value: $995,615 Content Value: $149,003	X			X	X	X	X
Library 318 S. Ramona Avenue # Staff: 26 # Buildings: 1 Building Value: $14,103,427 Content Value: $5,478,144	X					X	X
City Yard 751 S. Alhambra Avenue # Staff: 8 # Buildings: 1 Building Value: $1,739,505 Content Value: $231,407	X		X	X		X	X

City of Monterey Park Critical Facilities	Earthquake	Urban Flood	Dam Failure	Wildfire	Landslide	Windstorm	Utility Related
Langley Senior Citizen Center (Shelter) 400 W. Emerson Avenue # Staff: 15 # Buildings: 1 Building Value: $7,016,720 Content Value: $458,299	X					X	X
Barnes Park - Gymnasium (Shelter) 350 S. McPherrin Avenue # Staff: 0 # Buildings: 1 Building Value: $3,694,615 Content Value: $176,095	X					X	X
George Elders Park – Community Center (Shelter) 1950 Wilcox Avenue # Staff: 0 # Buildings: 1 Building Value: $2,832,199 Content Value: $195,285	X	X				X	X
Water Storage Reservoir 1A 750 S. Russell, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $2,629,012 Content Value: $0	X					X	X
Water Storage Reservoir 2A 750 S. Russell, Monterey Park # Staff:0 # Buildings: 1 Building Value: $2,385,188 Content Value: $0	X					X	X
Water Storage Reservoir 3 1001 Bradshawe Place, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,526,158 Content Value: $0	X					X	X
Water Storage Reservoir 3A 1001 Bradshawe Place, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,539,705 Content Value: $0	X					X	X
Water Storage Reservoir 4 746 Ridgecrest Street, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,483,264 Content Value: $0	X				X	X	X

City of Monterey Park Critical Facilities	Earthquake	Urban Flood	Dam Failure	Wildfire	Landslide	Windstorm	Utility Related
Water Storage Reservoir 5 1980 Clover Drive, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,929,146 Content Value: $0	X		X			X	X
Water Storage Reservoir 5A 1980 Clover Drive, Monterey Park # Staff: 0 # Buildings:1 Building Value: $1,929,146 Content Value: $0	X		X			X	X
Water Storage Reservoir 6 1140 Highland Drive, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,184,128 Content Value: $0	X				X	X	X
Water Storage Reservoir 6A 1140 Highland Drive, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,184,128 Content Value: $0	X				X	X	X
Water Storage Reservoir 7 1320 Sombrero Drive, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,731,603 Content Value: $0	X				X	X	X
Water Storage Reservoir 8 2167 Arriba Drive, Monterey Park # Staff: 0 # Buildings: 1 Building Value: $1,900,926 Content Value: $0	X				X	X	X

Q&A | ELEMENT D: PLAN UPDATE | E1-a.

Q: Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved? (Requirement 44 CFR § 201.6(d)(3))

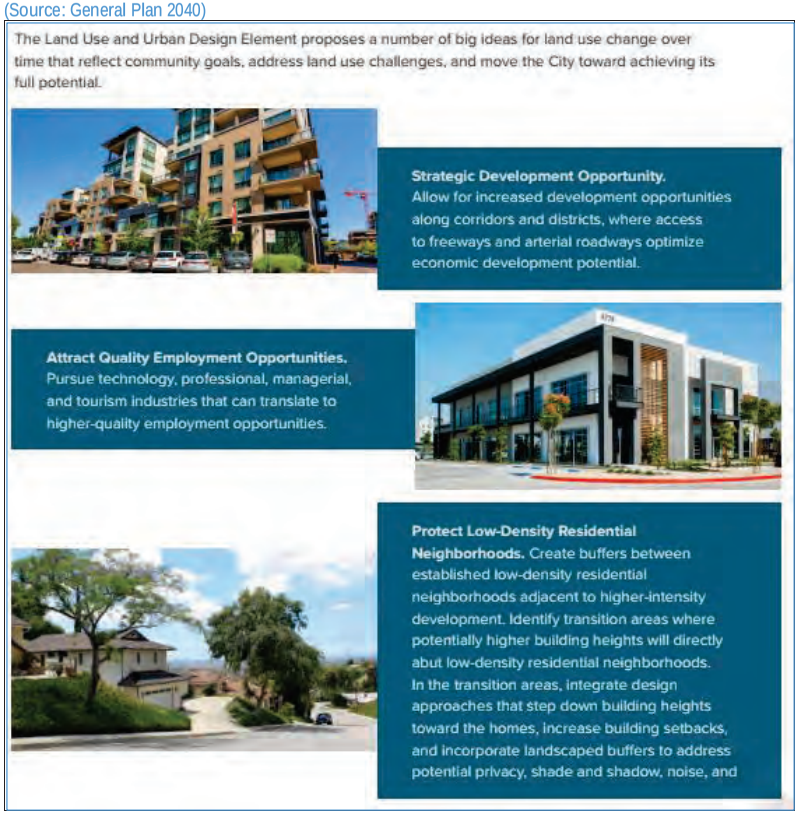
A: See **Changes in Development** below.

Changes in Development

According to the General Plan 2040 Land Use Element, many land use changes are in store for the City over the next 20 years. Whether an increase or decrease in density, all areas will continue to be vulnerable to hazards. The following is a summary of land use changes

identified in the General Plan.

Graphic: Land Use and Urban Design Element Summary
(Source: General Plan 2040)



Pedestrian-Friendly Environments and Outdoor Spaces. Improve streetscape and building frontages—and specifically building store-front transparency—to create vibrant places for the pedestrian experience. Create unique urban public spaces that allow people to socially connect and gather in outdoors spaces. Outdoor dining spaces, comfortable outdoor "living rooms," flexible courtyards and plazas, and innovative of use of streets and sidewalks create exciting and unique destinations.





Environmentally Friendly Design. Promote sustainable building and site design approaches that minimize resource consumption and protect the environment. Approaches include using green building strategies, creating pedestrian-friendly environments to reduce vehicles trips, and integrating renewable energy approaches to minimize greenhouse gases and to sustain limited resources over the long term.

Build on Tourism and Hospitality. Maximize hospitality uses—such as restaurants and hotels—in key areas of the city. Encourage restaurant and ancillary commercial uses along Corporate Drive to complement long-established professional office uses.





Flexible Zoning Options. Emphasize adjusting implementation tools to ensure that flexible zoning options allow for greater development opportunities for developing places that allow mixed-use development, housing, and emerging business types.

Earthquake Hazards

Hazard Definition

Photo: Whittier Narrows Earthquake Damage 1987
(Source: General Plan - Safety Element)



An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of the Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure.

One tool used to describe earthquake intensity is the Magnitude Scale. The Magnitude Scale is sometimes referred to as the Richter Scale. The two are similar but not exactly the same. The Magnitude Scale was devised as a means of rating earthquake strength and is an indirect measure of seismic energy released. The Scale is logarithmic with each one-point increase corresponding to a 10-fold increase in the amplitude of the seismic shock waves generated by the earthquake. In terms of actual energy released, however, each one-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a Magnitude 7 (M7) earthquake is 100 times (10 X 10) more powerful than a M5 earthquake and releases 1,024 times (32 X 32) the energy.

Table: Mercalli Scale and Peak Ground Acceleration Comparison
(Source: USGS)

Modified Mercalli Scale	Perceived Shaking	Potential Structure Damage		Estimated PGA[a] (%g)
		Resistant Buildings	Vulnerable Buildings	
I	Not Felt	None	None	<0.17%
II-III	Weak	None	None	0.17% - 1.4%
IV	Light	None	None	1.4% - 3.9%
V	Moderate	Very Light	Light	3.9% - 9.2%
VI	Strong	Light	Moderate	9.2% - 18%
VII	Very Strong	Moderate	Moderate/Heavy	18% - 34%
VIII	Severe	Moderate/Heavy	Heavy	34% - 65%
IX	Violent	Heavy	Very Heavy	65% - 124%
X – XII	Extreme	Very Heavy	Very Heavy	>124%

a. PGA = peak ground acceleration. Measured in percent of g, where g is the acceleration of gravity
Sources: USGS, 2008; USGS, 2010

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Previous Occurrences of Earthquakes in the City of Monterey Park** below.

Previous Occurrences of Earthquakes in the City of Monterey Park

According to the General Plan – Safety Element, the Whittier Narrows (1987) and Northridge (1994) earthquakes impacted ridge top locations in the City and locations near the margins of alluvial basins.

Previous Occurrences of Earthquakes in Los Angeles County

According to the County of Los Angeles All-Hazards Mitigation Plan (2019), significant earthquakes in the county over the past 50 years included the following:

Date	Location	Impact
July 6, 2019	Ridgecrest (M 7.1)	Fires reported as a result of gas leaks. No reported major injuries, deaths or major building damage.
March 28, 2014	La Habra (M 5.1)	Few injuries and $10 million in damages.
July 29, 2008	Chino Hills (M 5.5)	8 injuries and limited damages.
January 17, 1994	Northridge (M 6.7)	57 deaths, 8,700 injuries and up to $40 billion in damages.
June 28, 1991	Sierra Madre (M 5.6)	1 death, 100+ injuries and up to $40 million in damages.
February 28, 1990	Upland (M 5.7)	30 injuries and $12.7 million in damages.
October 1, 1987	Whitter (M 5.9)	8 deaths, 200 injuries and $358 million in damages.
February 9, 1971	San Fernando (M 6.6)	58 – 65 deaths, 200 – 2,000 injuries and up to $553 million in damages.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Local Conditions** below.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Local Conditions** below.

Local Conditions

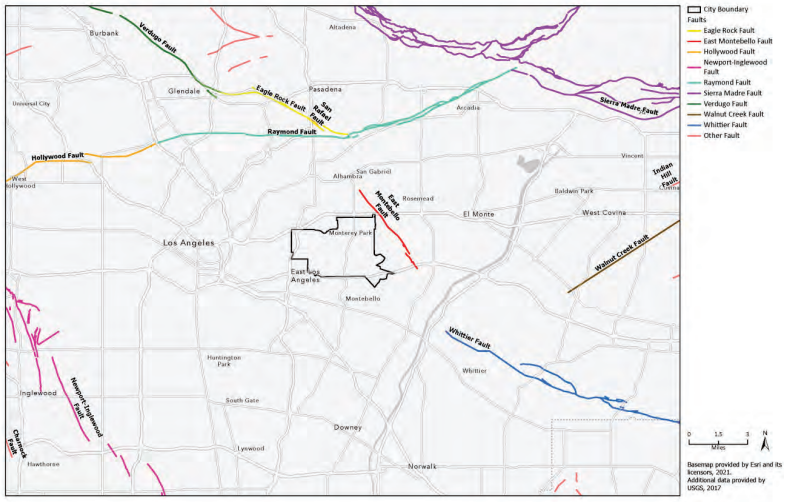
According to the General Plan – Safety Element, Monterey Park lies within a geologic region referred to as the Los Angeles Basin. The geology forming the basin is complex, comprised of several mountain ranges and hill formations and intervening valleys. Monterey Park's distinctive Repetto Hills form part of the San Gabriel Valley's southern boundary and provide evidence of significant geologic structures. Geologic formations underlying the City consist largely of ancient marine and river deposits characterized by sandy and clay-like soils.

On the level ground in northeast Monterey Park, these soil types do not pose any significant development constraints. In hillside areas, however, the soils can be unstable and susceptible to sliding. Beginning with the first hillside development in the 1920s, builders have encountered

challenges and the need to utilize careful grading and slope stabilization techniques. Despite such efforts, the City has experienced several episodes of slope failure during significant rainstorms and because of earthquakes. Past experiences led the City to implement ever more stringent grading and slope stabilization regulations, so that slope failure no longer represents a significant public safety concern.

According to the General Plan, the region has several active faults and therefore is subject to the risks and hazards associated with earthquakes. **Map: Earthquake Faults** shows the geographic relationship of the City to surrounding active and potentially active faults. No active faults have been identified at the ground surface within City limits, nor have any Alquist-Priolo Earthquake Fault zones been designated. However, the City overlies several blind thrust faults.

Map: Earthquake Faults
(Source: General Plan-Safety Element)



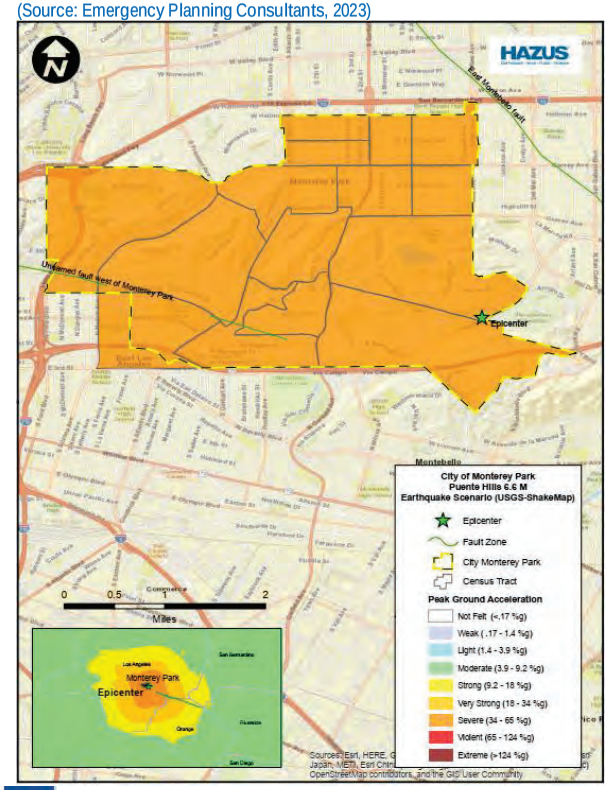
The faults are referred to as blind because they do not intercept the ground surface and therefore cannot be detected visually. These northwest-dipping low-angle faults have been named the Puente Hills thrust, the Elysian Park thrust, and the East Los Angeles thrust (shallowest to deepest). The faults are capable of movement which could produce substantial ground shaking. major faults in the region include Puente Hills and Elsinore-Elysian Park.

The faults in the Los Angeles Basin are very active and have the potential to cause massive destruction if the City is unprepared. After 1993, building codes were changed to ensure that new construction would be safer in the event of an earthquake. The older buildings in the City have a higher risk of being damaged in an earthquake since they were built prior to the new codes.

Puente Hills Fault

The Puente Hills Fault (also known as the Puente Hills Thrust Fault System) is an active geological fault that is located in the Los Angeles Basin in California. The thrust fault was discovered in 1999 and runs about 40 km (25 mi) in three discrete sections from the Puente Hills region in the southeast to just south of Griffith Park in the northwest. The fault is known as a blind thrust fault, as the fault plane does not extend to the surface. Large earthquakes on the fault are relatively infrequent but computer modeling has indicated that a major event could have substantial impact in the Los Angeles area. The fault is now thought to be responsible for one moderate earthquake in 1987 (known as the 1987 Whittier Narrows earthquake) and another light event that took place in 2010, with the former causing considerable damage and deaths.

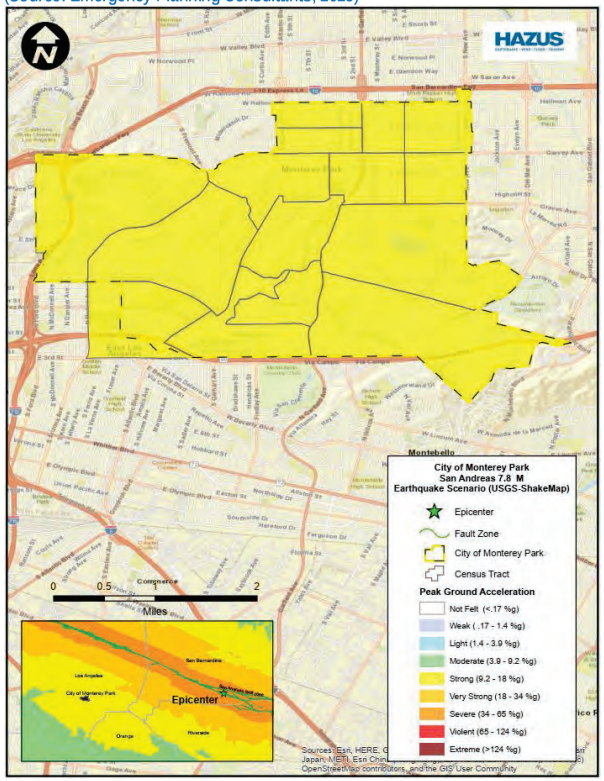
Map: HAZUS – Puente Hills M6.6
(Source: Emergency Planning Consultants, 2023)



San Andreas Fault

The San Andreas Fault Zone extends from the Gulf of California northward to the Cape Mendocino area where it continues northward along the ocean floor. The total length of the San Andreas Fault Zone is approximately 750 miles. The activity of the fault has been recorded during historic events, including the 1906 (M8.0) event in San Francisco and the 1857 (M7.9) event between Cholame and San Bernardino, where at least 250 miles of surface rupture occurred. These seismic events are among the most significant earthquakes in California history. Geologic evidence suggests that the San Andreas Fault has a 50 percent chance of producing a magnitude 7.5 to 8.5 quake (comparable to the great San Francisco earthquake of 1906) within the next 30 years.

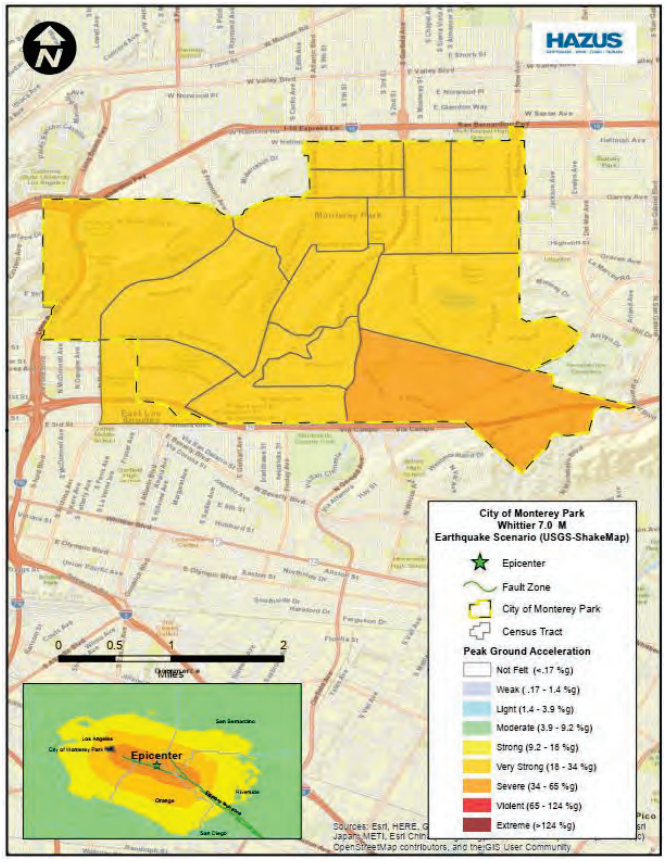
Map: HAZUS – S. San Andreas M7.8
(Source: Emergency Planning Consultants, 2023)



Whittier Fault

The Whittier Fault is a 40-kilometer (25 mi) right-lateral strike-slip fault that runs along the Chino Hills range between the cities of Chino Hills and Whittier. The fault has a slip rate of 2.5 to 3.0 millimeters (0.098 to 0.118 in) per year. It is estimated that this fault could generate a quake of Mw6.0–7.2 on the moment magnitude scale.

Map: HAZUS – Whittier Fault M7.0
(Source: Emergency Planning Consultants, 2023)



Earthquake Related Hazards

Ground shaking, landslides, and liquefaction are the specific hazards associated with earthquakes. The severity of these hazards depends on several factors, including soil and slope conditions, proximity to the fault, earthquake magnitude, and the type of earthquake.

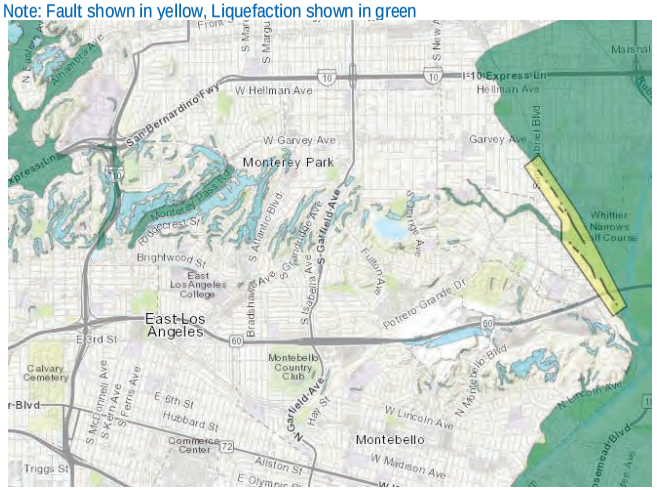
Ground Shaking

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter (where the earthquake originates). Buildings on poorly consolidated and thick soils will typically see more damage than buildings on consolidated soils and bedrock.

Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other events. Liquefaction occurs in saturated soils, which are soils in which the space between individual soil particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake, the water pressure is relatively low. However, earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. Because liquefaction only occurs in saturated soil, its effects are most commonly observed in low lying areas. Typically, liquefaction is associated with shallow groundwater, which is less than 50 feet beneath the earth's surface.

Map: Liquefaction Areas
(Source: California Department of Conservation – Earthquake Zones of Required Information, 2022)
Note: Fault shown in yellow, Liquefaction shown in green



Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Impacts from Earthquakes in Monterey Park** below.

Impact of Earthquakes to Monterey Park

Based on the risk assessment, it is evident that earthquakes will continue to have potentially devastating economic impacts to the City of Monterey Park. Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life,
- ✓ Commercial and residential structural damage,
- ✓ Disruption of and damage to public infrastructure,
- ✓ Secondary health hazards e.g., mold and mildew,
- ✓ Damage to roads/bridges resulting in loss of mobility,
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community,
- ✓ Negative impact on commercial and residential property values, and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Earthquakes

Important issues associated with an earthquake include the following:

- ✓ A significant portion of the community is prone to liquefaction.
- ✓ Structures on these soils may experience significant structural damage.
- ✓ It is estimated more than a third of the planning area's building stock was built prior to 1975, when seismic provisions became uniformly applied through building code applications. Many structures may need seismic retrofits in order to withstand a moderate earthquake. Residential retrofit programs, such as Earthquake Brace+Bolt, may be able to assist in the costs of these efforts.
- ✓ Due to limitations in current modeling abilities, the risk to critical facilities in the planning area from the earthquake hazard is likely understated. A more thorough review of the age of critical facilities, codes they were built to, and location on liquefiable soils should be conducted.
- ✓ Damage to transportation systems in the planning area after an earthquake has the potential to significantly disrupt response and recovery efforts and lead to isolation of populations.
- ✓ Earthquakes can cause fires in wooden homes and the collapse of essential buildings such as fire stations.
- ✓ Landslides and tsunamis are major secondary hazards that could have a widespread effect on the county.
- ✓ Citizens are expected to be self-sufficient up to two weeks after a major earthquake without government response agencies, utilities, private-sector services, and infrastructure components. Education programs are currently in place to facilitate development of individual, family, neighborhood, and business earthquake preparedness. It takes individuals, families, and communities working in concert with one another to be prepared for disaster.
- ✓ After a major seismic event, the planning area is likely to experience disruptions in the

flow of goods and services resulting from the destruction of major transportation infrastructure across the broader region.
- ✓ A seismic event can damage communication systems, complicating efforts to coordinate response to the event.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability to Earthquakes** below.

Summary of Vulnerability to Earthquakes

The following is a summary of vulnerability to earthquakes. All of Monterey Park's 252 staff would be impacted by an earthquake. In addition, all of the City-owned facilities would be impacted by an earthquake including City Hall, Emergency Operations Center, Police Department, Fire Station #61, Fire Station #62, Fire Station #63, Library, City Yard, Langley Senior Citizen Center, Barnes Gym, George Elders Park – Community Center, and Reservoirs 1A, 2A, 3, 3A, 4, 5, 5A, 6, 6A, 7, and 8. Altogether, this includes a total of approximately 22 buildings, and property/contents valued at $85,467,728. These estimates are based on 2023.

The combination of plate tectonics and associated geology generates earthquakes as a result of the periodic release of tectonic stresses. Los Angeles County's terrain lies in the center of the North American and Pacific tectonic plate activity. There have been earthquakes as a result of this activity in the historic past, and there will continue to be earthquakes in the future of California. Fault ruptures themselves contribute very little to damage unless the structure or system element crosses the active fault; however, liquefaction can occur further from the source of the earthquake. In general, newer construction is more earthquake resistant than older construction due to enforcement of improved building codes. Manufactured buildings are very susceptible to damage because their foundation systems are rarely braced for earthquake motions. Locally generated earthquake motions and associated liquefaction, even from very moderate events, tend to be more damaging to smaller buildings, especially those constructed of unreinforced masonry (URM) and soft story buildings.

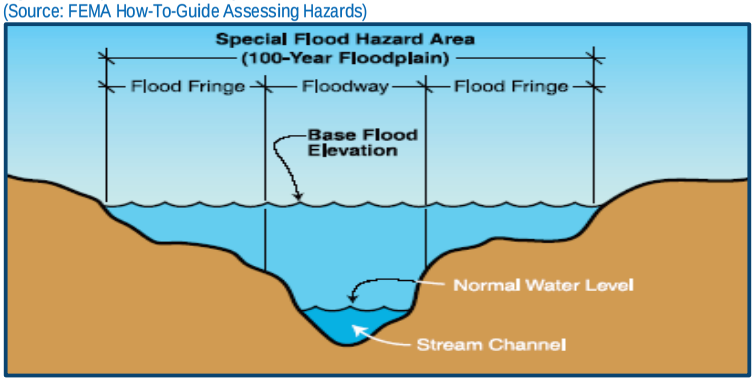
Impacts from earthquakes in Monterey Park will vary depending on the fault that the earthquake occurs on, the depth of the earthquake strike, and the intensity of shaking. Should ground shaking be intense, City facilities and critical infrastructure could be damaged or destroyed. Of greater risk than the building is the students and staff who occupy those buildings; injury or loss of life could occur during a significant event. In addition to earthquakes causing structural damage, the City has multiple non-structural components that may be damaged during earthquake shaking. Non-structural components include furnishings and equipment, electrical and mechanical fixtures, and architectural features such as suspended ceilings, partitions, cabinets, and shelves. In general, nonstructural components and building contents become hazards when they slide, break, fall, or tip over during an earthquake. Securing the nonstructural components and building contents will improve safety and security of the facility.

Urban Flood Hazards

Hazard Definition

A floodplain is a land area adjacent to a river, stream, lake, estuary, or other water body that is subject to flooding. This area, if left undisturbed, acts to store excess flood water. The floodplain is made up of two sections: the floodway and the flood fringe. The 100-year flooding event is the flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood. Schematic: Floodplain and Floodway shows the relationship of the floodplain and the floodway.

Figure: Floodplain and Floodway
(Source: FEMA How-To-Guide Assessing Hazards)



Types of Flooding

Two types of flooding primarily affect the region: slow-rise or flash flooding. Slow-rise floods may be preceded by a warning period of hours or days. Evacuation and sandbagging for slow-rise floods have often effectively lessened flood related damage. Conversely, flash floods are most difficult to prepare for, due to extremely limited, if any, advance warning and preparation time.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.
Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Previous Occurrences of Flooding in the City of Monterey Park** below.

Previous Occurrences of Flooding in the City of Monterey Park

The City of Monterey Park is susceptible to localized flooding from severe storms and urban run-off. A much greater concern is the widespread flooding that might occur from the catastrophic failure of the Garvey Reservoir (see Dam Failure Hazards Section).

Historic Flooding in Southern California

According to the 2019 County of Los Angeles All-Hazard Mitigation Plan, historic flooding records in Los Angeles County show that since 1811, the Los Angeles River has flooded 30 times, on average once every 6.1 years. But averages are deceiving, for the Los Angeles basin goes through periods of drought and then periods of above average rainfall. Between 1889 and 1891, the river flooded every year, from 1941 to 1945, the river flooded 5 times. Conversely, from 1896 to 1914, and again from 1944 to 1969, a period of 25 years, the river did not have serious floods.

Average annual precipitation in Los Angeles County ranges from 13 inches on the coast to approximately 40 inches on the highest point of the Peninsular Mountain Range that transects the county. Several factors determine the severity of floods, including rainfall intensity and duration. A large amount of rainfall over a short time span can result in flash flood conditions. A sudden thunderstorm or heavy rain, dam failure, or sudden spills can cause flash flooding. The National Weather Service's definition of a flash flood is a flood occurring in a watershed where the time of travel of the peak of flow from one end of the watershed to the other is less than six hours.

The towering mountains that give the Los Angeles region its spectacular views also bring a great deal of rain out of the storm clouds that pass through. Because the mountains are so steep, the rainwater moves rapidly down the slopes and across the coastal plains on its way to the ocean.

"The Santa Monica, Santa Susana and Verdugo Mountains, which surround three sides of the valley, seldom reach heights above three thousand feet. The western San Gabriel Mountains, in contrast, have elevations of more than seven thousand feet. These higher ridges often trap eastern-moving winter storms. Although downtown Los Angeles averages just fifteen inches of rain a year, some peaks in the San Gabriel Mountains receive more than forty inches of precipitation annually, as much as many locations in the humid eastern United States" (Source: The Los Angeles River: It's Life, Death, and Possible Rebirth, Gumprecht 2001).

Naturally, this rainfall moves rapidly downstream, often with severe consequences for anything in its path. In extreme cases, flood-generated debris flows will roar down a canyon at speeds near 40 miles per hour with a wall of mud, debris and water, tens of feet high. Flooding occurs when climate, geology, and hydrology combine to create conditions where water flows outside of its usual course.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Local Conditions** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Local Conditions** below.

Local Conditions

According to the 2022 General Plan-Safety Element, regional drainage improvements adequately protect the City from flooding associated with major storm events. The maintains a Drainage Master Plan and the Public Works staff is aware of identified local drainage issues. The problems are most often present where storm water runoff enters culverts or goes underground into storm sewers. Inadequate maintenance can also contribute to flood hazards in the urban areas.

As land is converted from fields or woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization of a watershed changes the hydrologic systems of the basin. Heavy rainfall collects and flows faster on impervious concrete and asphalt surfaces. The water moves from the clouds, to the ground, and into streams at a much faster rate in urban areas. Adding these elements to the hydrological systems can result in flood waters that rise very rapidly and peak with violent force.

Almost 75 percent of the area in the City of Monterey Park has a high concentration of impermeable surfaces that either collect water or concentrate the flow of water in unnatural channels. During periods of urban flooding, streets can become swift moving rivers and basements can fill with water. Storm drains often back up with vegetative debris causing additional, localized flooding.

Q&A | ELEMENT C. MITIGATION STRATEGY | C2
Q: Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii)) **A:** See **National Flood Insurance Program Participation** below.

National Flood Insurance Program Participation

The City of Monterey Park participates in the National Flood Insurance Program (NFIP). Created by Congress in 1968, the NFIP makes flood insurance available in communities that enact minimum floodplain management rules consistent with the Code of Federal Regulations §60.3.

Flood maps and Flood Insurance Studies (FIS) are often used to identify flood-prone areas. The NFIP was established in 1968 as a means of providing low-cost flood insurance to the nation's flood-prone communities. The NFIP also reduces flood losses through regulations that focus on building codes and sound floodplain management. In the City of Monterey Park, the

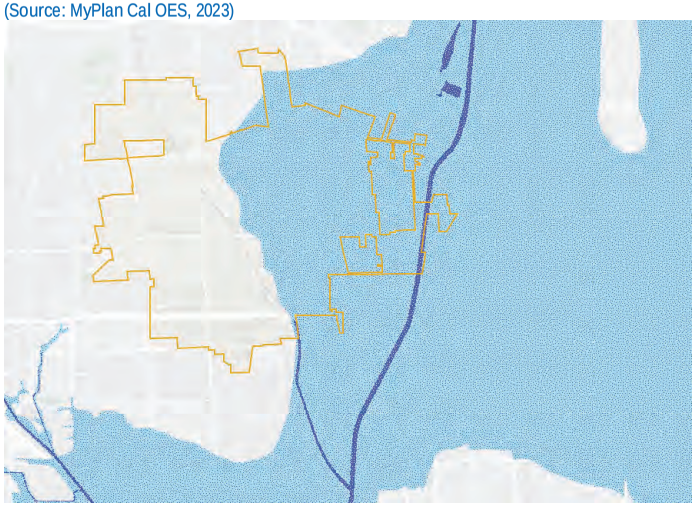
NFIP and related building code regulations went into effect on March 1, 1978. NFIP regulations (44 Code of Federal Regulations (CFR) Chapter 1, Section 60, 3) require that all new construction in floodplains must be elevated at or above base flood level.

The City's Community Number is 065047. The City's current effective map is designated No Specific Flood Hazard Area (NSFHA). The City entered the regular phase of the National Flood Insurance Program on November 30, 1979.

Although it may not be subject to the 100-year flood, floods of greater magnitude could occur here. In addition, certain structures may be damaged by local drainage problems. The entire community is Zone "X" for flood insurance rating purposes.

Below is **Map: MyPlan City of Monterey Park** showing the areas at risk of flooding.

Map: MyPlan City of Monterey Park
(Source: MyPlan Cal OES, 2023)



Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.

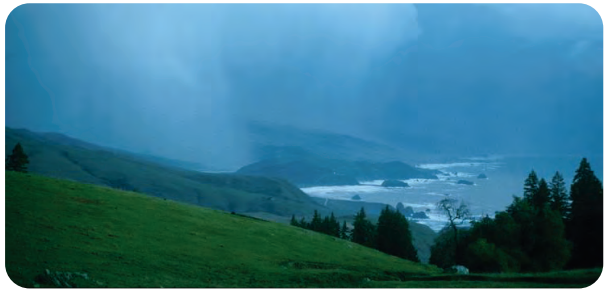
ZONE	DESCRIPTION
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

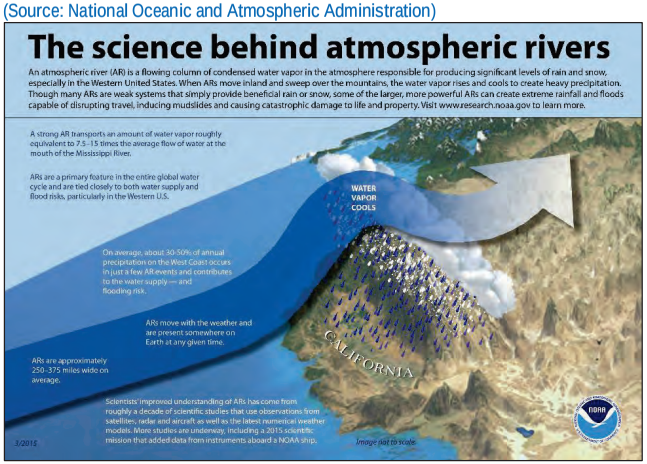
Atmospheric Rivers

According to the National Oceanic and Atmospheric Administration (NOAA), atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. These columns of vapor move with the weather, carrying an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.



Although atmospheric rivers come in many shapes and sizes, those that contain the largest amounts of water vapor and the strongest winds can create extreme rainfall and floods, often by stalling over watersheds vulnerable to flooding. These events can disrupt travel, induce mudslides, and cause catastrophic damage to life and property. A well-known example is the "Pineapple Express," a strong atmospheric river that can bring moisture from the tropics near Hawaii over to the U.S. West Coast.

Graphic: Atmospheric Rivers
(Source: National Oceanic and Atmospheric Administration)



While atmospheric rivers are responsible for great quantities of rain that can produce flooding, they also contribute to beneficial increases in snowpack. A series of atmospheric rivers fueled the strong winter storms that battered the U.S. West Coast from western Washington to southern California from December 10–22, 2010, producing 11 to 25 inches of rain in certain areas. These rivers also contributed to the snowpack in the Sierras, which received 75 percent of its annual snow by December 22, the first full day of winter.

NOAA research (e.g., NOAA Hydrometeorological Testbed and Cal Water) uses satellite, radar, aircraft and other observations, as well as major numerical weather model improvements, to better understand atmospheric rivers and their importance to both weather and climate.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Impacts of Urban Flooding in Monterey Park** below.

Impact of Urban Flooding in Monterey Park

Floods and their impacts vary by location and severity of any given flood event, and likely only affect certain areas of the region during specific times. Based on the risk assessment, it is evident that dam inundation and urban floods will continue to have potential economic impacts to the City of Monterey Park. Impacts that are not quantified, but anticipated in future events, include:

- ✓ Injury and loss of life,

- ✓ Commercial and residential structural damage,
- ✓ Disruption of and damage to public infrastructure,
- ✓ Secondary health hazards e.g., mold and mildew,
- ✓ Damage to roads/bridges resulting in loss of mobility,
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community,
- ✓ Negative impact on commercial and residential property values, and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Urban Flooding

- ✓ Structures in the planning area built before any regulations existed on floodplain development may be particularly vulnerable to the flood hazard.
- ✓ The accuracy of the existing flood hazard mapping produced by FEMA in reflecting the true flood risk within the planning area is questionable.
- ✓ The extent of the flood-protection currently provided by flood control facilities (dams, etc.) is not known due to the lack of an established national policy on flood protection standards.
- ✓ The risk associated with the flood hazard overlaps the risk associated with other hazards such as earthquake, landslide, and severe weather. This provides an opportunity to seek mitigation alternatives with multiple objectives that can reduce risks from multiple hazards.
- ✓ There is no area-wide degree of consistency in land-use and floodplain management practices.
- ✓ There needs to be a sustained effort to gather historical damage data, such as high-water marks on structures and damage reports, to measure the cost-effectiveness of future mitigation projects.
- ✓ Ongoing flood hazard mitigation will require funding from multiple sources.
- ✓ Coordinated hazard mitigation efforts among jurisdictions affected by flood hazards in the county are recommended.
- ✓ Residents and businesses near the floodplain (channels) should continue to be educated about flood preparedness and the resources available during and after floods.
- ✓ The concept of residual risk should be considered in the design of future capital flood control projects and should be communicated with residents living in the floodplain.
- ✓ The promotion of flood insurance as a means of protecting private property owners from the economic impacts of frequent flood events should continue.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability to Urban Flooding** below.

Summary of Vulnerability to Urban Flooding

The following is a summary of vulnerability to urban flooding. Many of Monterey Park's staff could be impacted by urban flooding – particularly those with field assignments. At present, City-owned facilities prone to urban flooding include Fire Station #62 and Elders Community

Center. Altogether, this includes a total of approximately 2 buildings, and property/contents valued at $3,891027.

Although the existing Los Angeles River channels protect Monterey Park from flooding in the floodplain, excessive rain and blocked or insufficient storm drains can result in damage to buildings and infrastructure. Structures can also be damaged from trees falling as a result of water-saturated soil. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of schools. The City could be required to reroute traffic or even close access to impacted neighborhoods.

Another concern associated with stormwater flooding includes impacts to infrastructure that provides a means of ingress and egress throughout the City. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways, and other critical infrastructure. Standing water can cause damage to roads and can also damage building foundations.

Dam Failure Hazards

Hazard Definition

Dam failure results from a number of natural or human causes, including earthquakes, erosion of the face or foundation, rapidly rising flood waters, improper sitting, and structural/design flaws.

Since 1929, the State of California has been responsible for overseeing dams to safeguard life and property (California Department of Resources, 1995). This legislation was prompted by the 1928 failure of St. Francis Dam located in Los Angeles County. In 1965, the law was amended to include off-stream storage reservoirs due to the 1963 failure of Baldwin Hill Reservoir. In 1973, Senate Bill 896 was enacted to require dam owners, under the direction of Cal OES, to show the possible inundation path in the event of a dam failure.

Dam failure could require governmental assistance to continue over an extended period. These efforts could require the removal of debris and clearing of roadways, demolishing unsafe structures, assisting in reestablishing public services and utilities, and providing continuing care and welfare for the affected population including, as required, temporary housing for displaced persons.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Previous Occurrences of Dam Failure in Monterey Park** below.

Previous Occurrences of Flooding in Monterey Park

There is no history of dam failure impacting the City of Monterey Park.

Historic Dam Failure in Southern California

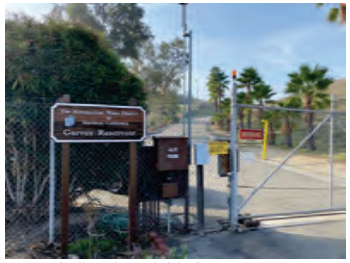
Since the 19th century, a total of 45 dam failures have occurred in California. The significant dam failures in Southern California are listed below in Table: Dam Failures in Southern California.

Table: Dam Failures in Southern California
(Source: http://cee.engr.ucdavis.edu/faculty/lund/dams/Dam_History_Page/Failures.htm)

Sheffield 1925	Santa Barbara	Earthquake-induced slide
Puddingstone 1926	Pomona	Overtopping during construction
Lake Hemet 1927	Palm Springs	Overtopping
St. Francis 1928	San Francisquito Canyon	Sudden failure at full capacity through foundation, 426 deaths
Cogswell 1934	Monrovia	Breaching of concrete cover
Baldwin Hills 1963	Los Angeles	Leak through embankment turned into washout, 3 deaths

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Local Conditions** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) **A:** See **Local Conditions** below.

Local Conditions



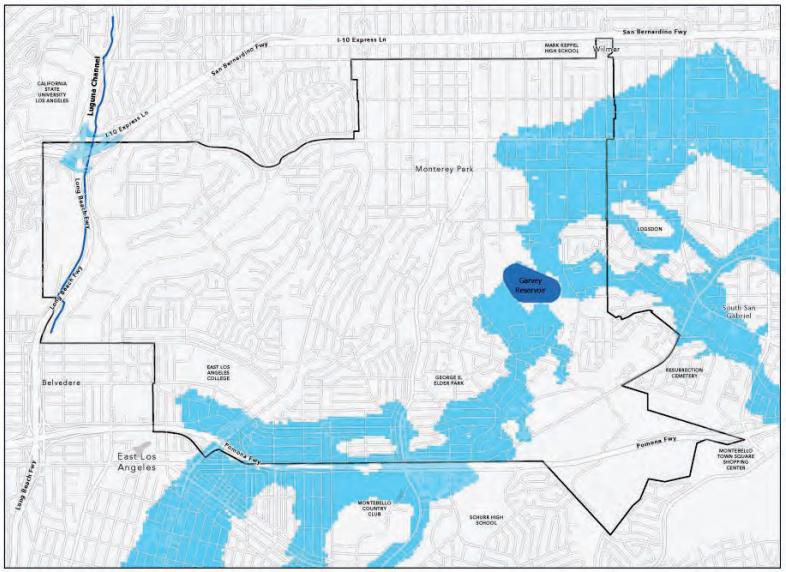
According to the 2022 General Plan-Safety Element, the possibility of failure of Garvey Reservoir poses a threat to the City of Monterey Park as well as other surrounding communities. Garvey Reservoir, owned by the Metropolitan Water District of Southern California (MWD), stores municipal water supplies for MWD customers. The Laguna Basin is a flood control facility integral to the regional system maintained by the Los Angeles County Department of Public Works. A major seismic event has the potential result in dam failure or seiche conditions at these facilities. A seiche can occur because of ground vibrations initiating water wave motion. If wave amplitude is high enough, the water may slosh over the shore or barrier containing the water body and flow onto surrounding properties.

Garvey Reservoir

Map: Inundation Area - Garvey Reservoir and Laguna Basin identifies the flood inundation areas for Garvey Reservoir and the Laguna Basin that would result from dam catastrophic failure. As illustrated for the Laguna Basin, the inundation area is limited to the interchange of Interstate 710 (Long Beach Freeway) and Interstate 10 (San Bernardino Freeway). Thus, private property within the City is not threatened by this hazard.

Garvey Reservoir lies impounded behind a north dam and a south dam. MWD completed a substantial overhaul of the facility in 1999 to address seepage and ensure overall reservoir integrity. The State Department of Conservation, Division of Dam Safety conducts periodic dam inspections to verify the dams' ability to withstand seismic stresses. In the unlikely event of a conjectured catastrophic failure at Garvey Reservoir, properties to the north and south could be flooded. As shown on **Map: Inundation Area - Garvey Reservoir and Laguna Basin**, failure of the north dam would create two flood zones: the first affecting the steep, undeveloped valley immediately east of the reservoir and the second flowing north, impacting properties roughly between Alhambra and New Avenues to Garvey Avenue. The estimated average flood depth is five feet. If the south dam failed, flood waters of average depth six to seven feet would cascade down the slope bank and into the residential neighborhoods below. At the Pomona Freeway, the water would spread laterally along the north side of the freeway before flowing through freeway under crossings.

Map: Inundation Area - Garvey Reservoir and Laguna Basin
(Source: City of Monterey Park General Plan – Safety Element, 2022)



City Boundary
Dam Innundation Area
Reservoir
Luguna Channel

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.
Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii)) **A:** See **Impacts of Dam Failure in Monterey Park** below.

Impact of Dam Failure in Monterey Park

Dam failure and their secondary impacts vary by location and severity and will likely have a catastrophic impact on areas in and abutting the identified dam inundation area. Impacts that are not quantified, but anticipated could include:

- ✓ Injury and loss of life,
- ✓ Commercial and residential structural damage,

- ✓ Disruption of and damage to public infrastructure,
- ✓ Secondary health hazards e.g., mold and mildew,
- ✓ Damage to roads/bridges resulting in loss of mobility,
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community,
- ✓ Negative impact on commercial and residential property values, and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Dam Failure

- ✓ The extent of the flood-protection currently provided by flood control facilities (dams, etc.) is not known due to the lack of an established national policy on flood protection standards.
- ✓ The risk associated with the flood hazard overlaps the risk associated with other hazards such as earthquake, landslide, and severe weather. This provides an opportunity to seek mitigation alternatives with multiple objectives that can reduce risks from multiple hazards.
- ✓ Ongoing dam failure hazard mitigation will require funding from multiple sources.
- ✓ Coordinated hazard mitigation efforts among jurisdictions affected by dam failure hazards in the region are recommended.
- ✓ Residents and businesses located in the dam inundation areas should be educated about notification and preparedness and the resources available during and after an event.
- ✓ The concept of residual risk should be considered in the design of future capital flood control projects and should be communicated with residents living in the potential inundation area.
- ✓ The promotion of flood insurance as a means of protecting private property owners from the economic impacts of a catastrophic event should continue.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.
Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability to Dam Failure** below.

Summary of Vulnerability to Dam Failure

The following is a summary of vulnerability to dam failure. All of Monterey Park's staff could be either indirectly or directly impacted by a dam failure. In addition, some of the City-owned facilities could be directly impacted by dam failure including City Yard, Reservoirs 5 and 5A. Together, this includes a total of approximately 3 structures, and structures/contents valued at $5,829,204. These estimates are based on 2023.

Dam failure events are infrequent and usually coincide with or follow events such as earthquakes, landslides and excessive rainfall and snowmelt. Although the recent Oroville event in northern California raised public concern about dam failure, the probability of such failures remains low in today's regulatory environment. No recorded failures have occurred on dams that impact the planning area, so no estimate of frequency or probability of future occurrence can be developed based on the historical record.

All dams face a "residual risk" of failure, which represents the risk that conditions may exceed those for which the dam was designed. For example, dams may be designed to withstand a probable maximum precipitation, defined as "theoretically, the greatest depth of precipitation for a given duration that is physically possible over a given storm area at a particular geographical location at a certain time of the year" (Hansen 1982). The chance of occurrence of a precipitation event of a greater magnitude than that represents residual risk for such dams. This in turn represents a theoretical probability of future occurrence for a dam failure event, though the probability of an event exceeding the assumed maximum is not generally calculated as part of dam design.

Warning time is another major factor in survivability. Warning time for dam failure varies depending on the cause of the failure. Events of extreme precipitation or massive snowmelt can be predicted in advance, so evacuations can be planned with sufficient time. In the event of a structural failure due to earthquake, there may be no or limited warning time. The USGS Earthquake Hazards Program has several dam-safety related earthquake programs, including dam-specific earthquake monitoring programs in California to help monitor safety concerns following seismic events.

The process of the dam failure affects warning time. Earthen dams do not tend to fail completely or instantaneously. Once a breach is initiated, discharging water erodes the breach until either the reservoir water is depleted, or the breach resists further erosion. Concrete gravity dams also tend to have a partial breach as one or more monolith sections are forced apart by escaping water. The time of breach formation ranges from a few minutes to a few hours. Also, the number of people to be alerted and evacuated in the event of impending dam failure can vary widely.

Wildfire Hazards

Hazard Definition

Photo: Modoc July Complex Fire
Source: CAL OES



Wildfire is an uncontrolled fire spreading through vegetative fuels and exposing or possibly consuming structures. They often begin unnoticed and spread quickly. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A wildland/urban interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

Photo: Modoc July Complex Fire
Source: CAL OES



Wildfire Characteristics

There are three categories of wildland/urban interface fire: The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings. The occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought, and development.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.
Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Previous Hazard Events in Monterey Park** below

Previous Hazard Events in Monterey Park

According to the Planning Team, other than mutual aid involvement and ash from regional wildfires, Monterey Park has never been directly impacted by wildfire. However, according to the Chair of the Planning Team, in June 2022, several homes in Monterey Park were threatened by wildfire which required a mutual aid response of 10 engines, a quint, a water tender, and 4 Battalion Chiefs to prevent the spread of a wildfire.

Previous Hazard Events in Los Angeles County

The most recent significant wildfire event to impact Los Angeles County was the Tick Fire in October 2019. The fire burned 4,615 acres in the Canyon County area. The combination of warm and dry Santa Ana winds and critically dry vegetation allowed for significant fire growth. The fire destroyed 23 homes and damaged 40 other residences. During the incident, four firefighter injuries were reported.

According to the NOAA Storm Events Database, some of the counties' most destructive fires have occurred since 2018, including:

Table: Wildfires Impacting Los Angeles County 2018-2023
(Source: NOAA Storm Events Database)

County	Date	Fire	Damage
County of Los Angeles	10/24/2019	The Tick Fire	Burned 4,615 acres in the Canyon County area of Los Angeles county. The fire destroyed 23 homes and damaged 40 other residences. During the incident, four firefighter injuries were reported.
County of Los Angeles	10/10/2019	The Saddle Ridge Fire	Burned 8,799 acres across the foothills of the San Fernando Valley as well as the Santa Clarita Valley and the Los Angeles county mountains. The fire destroyed 19 residences and damaged 88 additional residences. One civilian death was reported (due to cardiac arrest) and eight firefighters were injured.
County of Los Angeles	11/8/2018	The Woolsey Fire	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.
County of Los Angeles	6/4/2018	The Stone Fire	Burned 1,352 acres in the mountains of Los Angeles County.

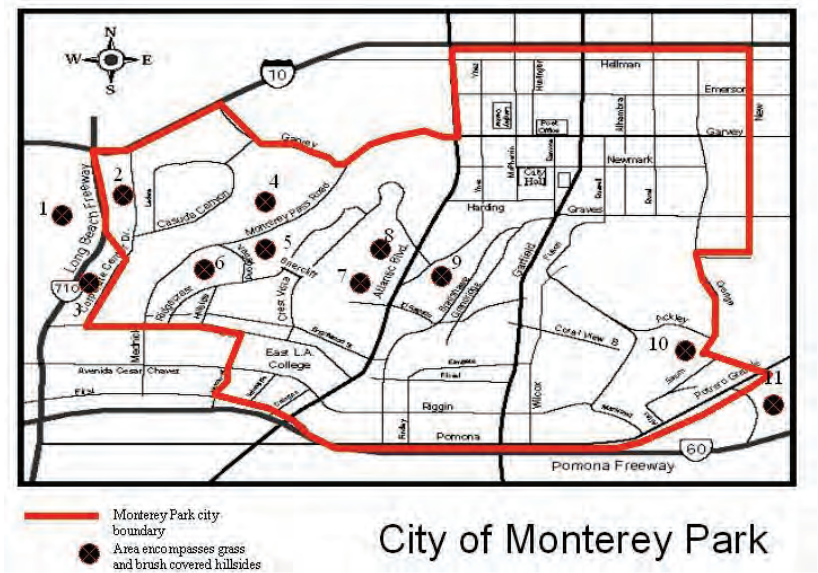
Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.

Local Conditions

According to the 2008 Hazard Mitigation Plan and Chair of the Planning Team, the City of Monterey Park hillside community is always under threat of wildfire. Most of the community is near the wildland urban interface. Heavy to thick brush is prevalent in the northwest and southeast hillside neighborhoods.

According to the 2008 HMP and accuracy confirmed by the Chair of the Planning Team in 2023, residential and commercial vulnerability lies within each area identified on **Map: Wildfire Threat to Monterey Park** should a brush fire break out. The areas identified on the map as #s 1, 2 and 3 are commercial areas. Area #1 is populated by numerous Los Angeles County facilities including Los Angeles County Children's Courthouse, Cybil Brand Institute, and the Los Angeles County Sheriff's Headquarters. The areas identified by #s 2 and 3 are known as our Corporate Center area with numerous commercial structures. The areas identified by #4 through 11 are populated with residential structures.

Map: Wildfire Threat to Monterey Park
(Source: 2008 Monterey Park HMP)



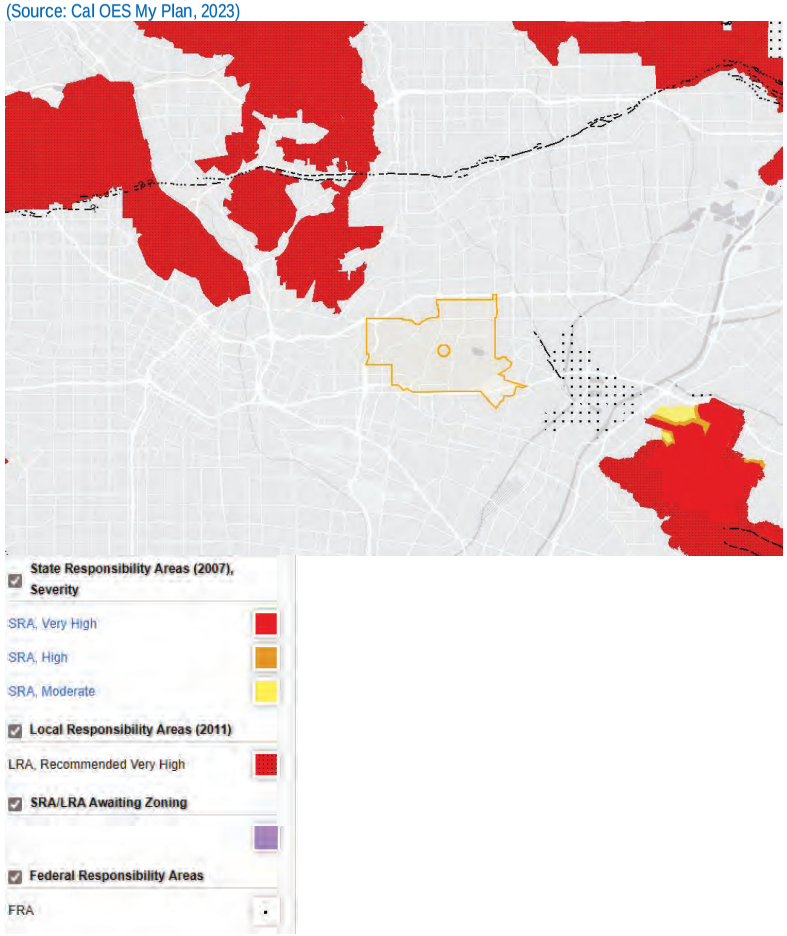
The areas identified on Map: Wildfire Threat to Monterey Park address several areas of both residential and commercial population that would have a severe economic impact in this jurisdiction. The areas identified as #s 4, 5, 6, 7, 8, 9, 10, and 11 are areas covered with residential structures. The economic impact of a wildfire in any one of those areas should homes be lost would be in the millions. The economic impact of a fire in the areas identified as #1, 2, and 3 would be markedly different. This area is primarily commercial. Therefore, should a fire break out in any one of these areas and cause structural damage, not only is there the physical damage in dollars but also the economic impact to the businesses. The numerous commercial structures in these areas would equate to tens of millions of dollars in physical damage. The impact of interruption of business would be difficult to quantify.

There are three Monterey Park Fire Department fire stations in the City, located on Monterey Pass Road (Station 63), Garfield Avenue (Station 62) and Newmark Avenue (City Hall, Station 61). As of 2013, the MPFD average response time for fire calls is 5.01 minutes, with an average of 4,300 calls per year. There are a variety of emergency call types that range between 5-minute-response times and 20-minute-response times. This level of protection has allowed the City to historically receive a very high rating from the Insurance Services Organization (ISO). The City has currently achieved an ISO rating of Class 1 (on a 1 to 10 scale, with 1 representing the highest rating).

A local meteorological phenomenon, known as the Santa Ana winds, contributes to the high incidence of wildfires in each 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 extremely 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.

As shown below in **Map: Fire Hazard Severity Zone** and verified in the General Plan – Safety Element, there are no "very high" or "high" fire hazard severity zones in or near the boundaries of the City of Monterey Park.

Map: Fire Hazard Severity Zones
(Source: Cal OES My Plan, 2023)



Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Impacts of Wildfire on Monterey Park** below.

Impacts of Wildfire on Monterey Park

Wildfires and their impact vary by location and severity of any given wildfire event. Based on the risk assessment, it is evident that wildfires will continue to have potentially devastating economic impacts to Monterey Park in the event a wildfire spreading beyond the wildland urban interface. Impacts that are not quantified, but anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary health hazards (e.g., mold and mildew)
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Wildfire

Wildfire is an inevitable and normal ecological process in the fire-adapted landscape of Los Angeles County. Nearly 100 years of aggressive fire suppression has contributed to the high wildfire risk of today. Absent fire for many years, wildland areas became overstocked with highly flammable vegetation. At the same time, expansion of homes into rural WUI areas increased the number of homes in high-risk areas. Typically, residential property owners do not maintain forested lands, exacerbating wildfire potential. On public lands, availability of budget for large-scale wildland fuels maintenance is an ongoing issue. Overcrowded conditions degrade overall forest health and degrade the environmental values provided by forest ecosystems. While in a few areas, recent wildfires burned hot enough to damage wildland ecosystems, in general wildland ecosystems have not sustained irrevocable damage. In many cases fires were beneficial. Large, uncontrolled wildfires can cause significant damage to ecosystem services, however life, home and economic losses to residents and communities must be considered along with environmental consequences.

Research shows that home loss in wildland fires is primarily driven by two equally important factors:

1 - The vulnerabilities of buildings that make them prone to ignition are the embers that cause 80 percent of wildland fire home ignitions. The following elements are most vulnerable to embers but can be retrofitted on existing homes to reduce risk of ignition:

- ✓ Non-Class A roofs
- ✓ Roof edges and soffits
- ✓ Combustible plants and materials within 5 feet of house walls
- ✓ Non-WUI approved venting products that allow for ember entry into structures
- ✓ Wooden attachments, such as fences and decks

- ✓ Non-WUI rated windows
- ✓ Siding

2 - The vegetative fuels within 100 feet of structures (the area referred to as defensible space)—Good defensible space, wherein vegetation has been reduced to reduce fire intensity and spread, is critical to reduce ignition.

Outside of the home and the 100-foot defensible space zone, surrounding wildland fuels can play a role in home destruction, as fire and embers can spread from nearby wildland areas into communities. It is in this area that vegetation management can come into play. This refers to actions taken to alter natural vegetation or plant communities that abut communities, usually on the scale of 10's to 1,000's of acres. Vegetation management can include prescribed fire, prescribed grazing, timber harvest techniques, invasive plant removal, or mechanical treatment to remove fine fuels, dense stands of fire-prone species, shrubs, and dead and dying vegetation. Fuels are reduced in order to create "community calming zones" or restore ecosystems to fewer flammable conditions. Strategically placed calming zones can reduce near-community fire intensity and spread, provide safe anchors that firefighters can use to stop forward progress of the fire, and supplement and support near-home mitigation strategies. Roadside fuels treatment can support emergency ingress and egress, increasing community and firefighter safety.

Although the patterns of land use, natural plant communities, topography, weather, soils, and geology vary across the landscapes of Los Angeles County, notable patterns are discernible. An approach is needed for deploying existing techniques at the scale of whole communities. Such an approach would be informed by the principles of landscape ecology. It would view the natural lands where fires tend to originate and the built infrastructure of human communities that abut the natural landscapes as a coupled system. Mitigating large-scale loss of life and property can be achieved using relatively well-established techniques of home hardening, defensible space and vegetation management at the scale of whole communities and the natural landscapes that surround them.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.
Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability to Wildfire** below.

Summary of Vulnerability to Wildfire

The following is a summary of vulnerability to wildfire. Many of Monterey Park's staff could be indirectly impacted by wildfire in the event of a spread from the wildland urban interface. In addition, the following City-owned facilities are within 2 miles of a Very High Fire Hazard Severity Zone including Fire Station #63 and the Reservoirs 4, 6, 6A, 7, and 8. Together, this includes a total of approximately 6 structures with structure/contents valued at $8,629,152. These estimates are based on 2023.

The wildfire hazard is one of the highest priority hazards in Los Angeles County and is the hazard with the greatest potential for catastrophic loss. High fuel loads throughout the County, along with geographical and topographical features, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with

natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and sometimes catastrophic fires. The more urbanized areas within the County are not immune from fire. The dry vegetation and hot and sometimes windy weather, combined with continued growth in the Wildland Urban Interface (WUI) areas, results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County, especially in these interface areas, the risk and vulnerability to wildfires will likely increase. Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and timber; and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the Monterey Park community. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact Monterey Park by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in Monterey Park; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damage and casualties arising from wildland-urban interface fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused Southern California Edison to initiate Public Safety Power Shutoffs (PSPSs) which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

Windstorm Hazards

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Previous Hazard Events** below.

Previous Hazard Events

Severe windstorms can pose a significant risk to life and property by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. High winds can and do occasionally cause tornado-like damage to local homes and businesses in and near the community. High winds can have destructive impact, especially to trees, power lines, and utility services.

According to the Planning Team and the Pasadena Star-News, the most significant high windstorm event impacting Monterey Park occurred on November 30 and December 1, 2021. A fierce 70-mph windstorm pummeled Temple City, Pasadena, Altadena, Arcadia, Sierra Madre, Monrovia, San Marino, Alhambra, San Gabriel, Monterey Park, Rosemead, Azusa, Irwindale, West Covina, Covina, Glendora and other Valley cities. Several of them declared states of emergency, and schools from Pasadena to Glendora were closed. Damage to the public sector from the windstorm was estimated at $33 million. Specific damage data for Monterey Park is not available.

More recently, in 2023 an EF1 tornado touched down in nearby Montebello. No damage was experienced within Monterey Park.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.



Local Conditions

According to the Planning Team, Monterey Park is at increased risk of windstorm damage – especially from falling trees.

Recent drought conditions have significantly increased the vulnerability of trees due to lack of necessary water. Additionally, eucalyptus trees within Monterey Park are specifically and currently prone to pest infestation. The infected, dying trees are increasingly vulnerable to severe Santa Ana wind conditions.

Historically, high wind conditions have caused injury, death, property damage, and fanned wildfires. Windstorms with significant intensity have been responsible for the sinking of watercraft and the downing of aircraft resulting in the loss of life. The most common wind condition is the Santa Ana Wind. Regionally, this condition has generated winds that have exceeded 100 mph. Wind velocities of up to 111 mph have been generated from the same Santa Ana wind, resulting in the loss of life due to flying debris.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Impacts of Windstorms** below.

Impacts of Windstorms

Based on the risk assessment, it is evident that windstorms continue to have the potential to result in significant economic impact to certain areas of Monterey Park.

Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary Health hazards e.g., mold and mildew
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability** below.

Summary of Vulnerability

The following is a summary of vulnerability to windstorms. All of Monterey Park's 252 staff could be impacted by a high wind event. In addition, all of the City-owned facilities could be impacted by severe wind including City Hall, Emergency Operations Center, Police Department, Fire Station #61 (Headquarters), Fire Station #62, Fire Station #63, Library, City Yard, Langley Senior Citizen Center, Barnes Gym, George Elders Community Center, and 11 Reservoirs. Altogether, this includes a total of approximately 22 structures with structure/contents valued at $85,467,728. These estimates are based on 2023.

Landslide Hazards

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.
Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Previous Occurrences of Landslides** below.

Previous Occurrences of Landslides

According to the General Plan – Safety Element, the community was most recently impacted in 2004-2005 when winter storms brought the heaviest rainfall in the last 10 years. Over 200 public and private properties suffered slope failures totaling $6 million in damage.

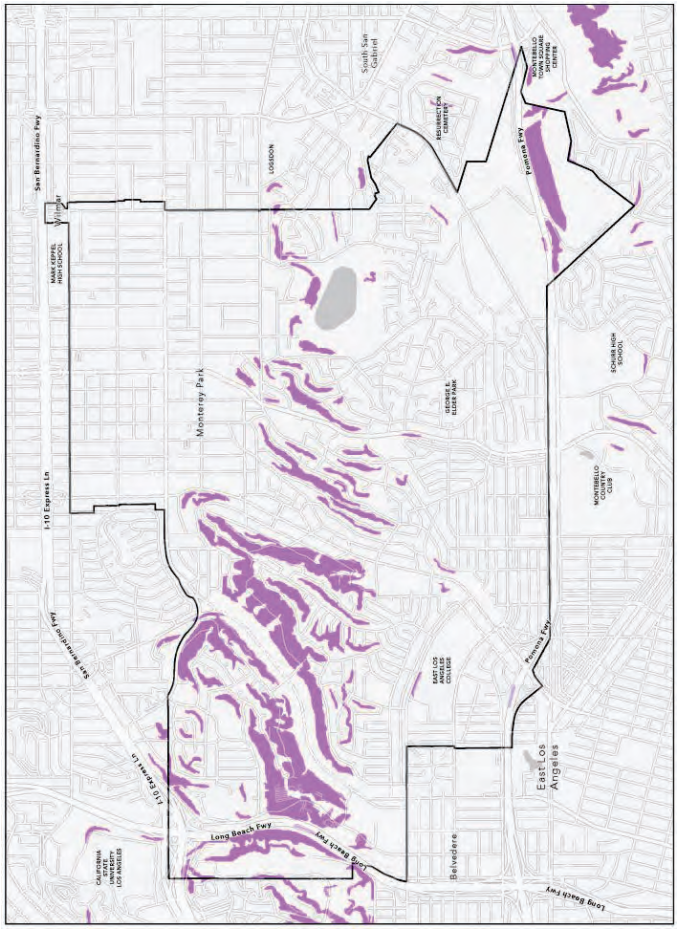
Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.

Local Conditions

According to the General Plan – Safety Element, landslides can result from earthquake-related ground shaking or failure of steep slopes due to water saturation or unstable soil conditions. Landslides can overrun structures and other property and cause human injury or death. They can sever utility lines and block roads, thereby hindering rescue operations following an earthquake. The Seismic Hazards Mapping Act requires identification of landslide zones in which the stability of hill slopes must be evaluated. Areas that previously experienced landslide movement and/or local topographic, geological, geotechnical, and groundwater conditions may indicate the potential for future, permanent ground displacements. If confirmed during site geotechnical analyses, site mitigation would be required.

As shown on **Map: Landslide Hazard Areas**, the areas found susceptible to landslides are found across the central area of Monterey Park. Geotechnical analyses were prepared for these developments, and risks associated with landslides were mitigated to reduce their potential impacts.

City Boundary
Landslide Hazard Zone



Map: Landslide Hazard Areas
(Source: General Plan – Safety Element)

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))
A: See **Impacts of Landslides in Monterey Park** below.

Impacts of Landslides on Monterey Park

Based on the risk assessment, it is evident that landslides continue to have potentially devastating economic impact to certain areas of the City.

Impacts that is not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary health hazards (e.g., mold and mildew)
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values
- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed

Issues Relating to Landslides

Important issues associated with landslides in the planning area include the following:

- ✓ An accurate picture of where landslides occurred during previous storms is vital in making intelligent land use planning and mitigation decisions.
- ✓ Landslides may result in isolation of neighborhoods and communities, due to the fact that large portions of the transportation infrastructure are in areas of high and moderate slope instability. Isolation may result in food shortages, loss of power, and severely reduced economic productivity.
- ✓ There are critical facilities in areas of unstable slopes that could result in interruption to utility services, particularly water and power. This creates a need for mitigation and for continuity of operations planning to develop procedures for providing services without access to essential facilities.
- ✓ Landslides may result in loss of water quality to the environment and for drinking purposes, due to increased sediment delivery into surface waterways.
- ✓ There are existing homes in landslide hazard areas throughout the planning area. The degree of vulnerability of these structures depends on the codes and standards the structures were constructed to. Information to this level of detail is not currently available.
- ✓ The impact of climate change on landslides is uncertain. If climate change impacts the timing and intensity of rain event, then the frequency of landslide events may increase.
- ✓ The risk associated with the landslide hazard overlaps the risk associated with other hazards such as earthquake, flood, and wildfire. This provides an opportunity to seek mitigation alternatives with multiple objectives that can reduce risks for multiple hazards.

- ✓ California's Disclosures in Real Property Transactions law requires disclosure if a property is in a landslide hazard area. Such disclosure is dependent upon knowledge by the seller or the seller's real estate agent or the posting of a landslide hazard map at the offices of the County recorder, County assessor, and County planning agency and a notice identifying the location of the map and any changes to it.
- ✓ Future development could lead to more homes in landslide risk areas.
- ✓ Mapping and assessment of landslide hazards are constantly evolving. As new data and science become available, assessments of landslide risk should be reevaluated.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability** below.

Summary of Vulnerability to Landslides

The following is a summary of vulnerability to landslides. Many of Monterey Park's staff could be either indirectly or directly impacted by landslides. In addition, some of the City-owned facilities could be impacted by landslides including Fire Station #63 and Reservoirs 4, 6, 6A, 7, and 8. Together, this includes a total of approximately 6 structures with structure/contents valued at $8,628,667. These estimates are based on 2023.

Although landslides are primarily associated with slopes greater than 15 percent, they can also occur in relatively flat areas and as cut-and-fill failures, river bluff failures, lateral spreading landslides, failures associated with quarries, and open-pit mines, as well as within post-fire areas. Landslides may be triggered by both natural- and human-caused activity. In the vulnerable locations, landslides could cause damage to structures, as well as cause transportation issues for the staff and park visitors. Utilities may be impacted, which could cut power or water to the facilities.

Utility Related Hazards

Hazard Definition

Utility providers provide communities with vital services. Because of training and rigorous safety programs, delivery of services is typically very reliable and without incident. However, in certain hazardous circumstances, like an earthquake or high wind, utility providers are impacted just like their customers. In an effort to minimize this vulnerability, power utility providers have developed protocols like Public Safety Power Shutoff while water and gas utility providers encourage the use of emergency shutoff devices. Source supply issues can also arise with utility provides and are discussed in this section.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.
Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Previous Occurrences** below.

Previous Occurrences

Power Failure/Stoppages

Southern California Edison (SCE) provides utility service to Monterey Park. There have been brief power failures but no records of Public Safety Power Shutoff impacting homes and businesses. If severe weather threatens a portion of the electric system, it may be necessary for SCE to turn off electricity in the interest of public safety.



Droughts and Loss of Water Supply

Fortunately, there is no history of severe drought impacting Monterey Park. Even so, the City has embraced state-level requirements to conserve water. At present, the City is enforcing State 2 water conservation standards.

Natural Gas Pipelines

There have been no pipeline incidents that have posed a significant threat to Monterey Park.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.
Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See **Local Conditions** below.

Local Conditions

Power Failure and Stoppages

Power failure is defined as any interruption or loss of electrical service caused by disruption of power transmission caused by accident, sabotage, natural hazards, or equipment failure (also referred to as a loss of power or power outage). A significant power failure is defined as any incident of a long duration, which would require the involvement of the local and/or State emergency management organizations to coordinate provision of food, water, heating, cooling, and shelter. Power failures in the planning area are usually localized and are usually the result of a natural hazard event involving high winds or storms. Electricity throughout the project area is provided by Southern California Edison (SCE).

The massive 2011 Southern California electricity outage brought to light many critical issues surrounding the state's power generation and distribution system, including its dependency on out-of-state resources. Although California has implemented effective energy conservation programs, the state continues to experience both population growth and weather cycles that contribute to a heavy demand for power.

Hydro-generation provides approximately 25% of California's electric power, with the balance coming from fossil fuels, nuclear, and green sources. As experienced in 2000 and 2001, blackouts can occur due to losses in transmission or generation and/or extremely severe temperatures that lead to heavy electric power consumption.

The effects of an energy shortage would affect all occupants of the project area. Perhaps most at risk would be medically challenged individuals with health care equipment reliant on electricity (e.g., oxygen), businesses, emergency service locations, and vulnerable population centers (e.g., schools).

In 2018, the California Public Utilities Commission (CPUC) directed California's three largest energy companies to coordinate to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, electric power may now be shut off for reasons of public safety. This new protocol is referred to as Public Safety Power Shutoff (PSPS).

Drought

Drought is defined as a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. Drought should be considered relative to some long-term average condition of balance between precipitation and evapotranspiration (i.e., evaporation + transpiration) in a particular area, a condition often perceived as "normal". It is also related to the timing (e.g., principal season of occurrence, delays in the start of the rainy season, occurrence of rains in relation to principal crop growth stages) and the effectiveness of the rains (e.g., rainfall intensity, number of rainfall events).

Other climatic factors such as high temperature, high wind, and low relative humidity are often associated with it in many regions of the world and can significantly aggravate its severity. Drought should not be viewed as merely a physical phenomenon or natural event. Its impacts on society result from the interplay between a natural event (less precipitation than expected resulting from natural climatic variability) and the demand people place on water supply.

Human beings often exacerbate the impact of drought. Recent droughts in both developing and developed countries and the resulting economic and environmental impacts and personal hardships have underscored the vulnerability of all societies to this natural hazard.

One dry year does not normally constitute a drought in California but serves as a reminder of the need to plan for droughts. California's extensive system of water supply infrastructure — its reservoirs, groundwater basins, and inter-regional conveyance facilities — mitigates the effect of short-term dry periods for most water users. Defining when a drought begins is a function of drought impacts to water users. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users elsewhere, or for water users having a different water supply. Individual water suppliers may use criteria such as rainfall/runoff, amount of water in storage, or expected supply from a water wholesaler to define their water supply conditions.

Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Most natural disasters, such as floods or forest fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, over a multiyear period. There is no universal definition of when a drought begins or ends. Impacts of drought are typically felt first by those most reliant on annual rainfall -- ranchers engaged in dry land grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable source. Criteria used to identify statewide drought conditions do not address these localized impacts. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline.

There are four different ways that drought can be defined:

- **Meteorological** - a measure of departure of precipitation from normal. Due to climatic differences, what is considered a drought in one location may not be a drought in another location.
- **Agricultural** - refers to a situation when the amount of moisture in the soil no longer meets the needs of a particular crop.
- **Hydrological** - occurs when surface and subsurface water supplies are below normal.
- **Socioeconomic** - refers to the situation that occurs when physical water shortage begins to affect people.

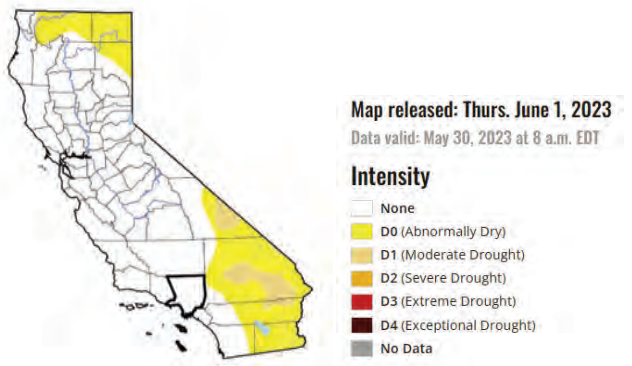
The U.S. Drought Monitor (USDM) is a map that is updated weekly to show the location and intensity of drought across the country. The USDM uses a five-category system (USDM, 2021):

- D0—Abnormally Dry
  - Short-term dryness slowing planting, growth of crops
  - Some lingering water deficits
  - Pastures or crops not fully recovered
- D1—Moderate Drought
  - Some damage to crops, pastures
  - Some water shortages developing
  - Voluntary water-use restrictions requested
- D2—Severe Drought
  - Crop or pasture loss likely
  - Water shortages common
  - Water restrictions imposed
- D3—Extreme Drought

  - Major crop/pasture losses
  - Widespread water shortages or restrictions
- D4—Exceptional Drought
  - Exceptional and widespread crop/pasture losses
  - Shortages of water creating water emergencies

The USDM categories show experts' assessments of conditions related to drought. These experts check variables including temperature, soil moisture, stream flow, water levels in reservoirs and lakes, snow cover, and meltwater runoff. They also check whether areas are showing drought impacts such as water shortages and business interruptions. Associated statistics show what proportion of various geographic areas are in each category of dryness or drought, and how many people are affected. U.S. Drought Monitor data go back to 2000.

U.S. Drought Monitor – Los Angeles County, California
(Source: Website – U.S. Drought Monitor 6.6.2023)



Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2023-05-30	100.00	0.00	0.00	0.00	0.00	0.00	0
Last Week to Current	2023-05-23	100.00	0.00	0.00	0.00	0.00	0.00	0
3 Months Ago to Current	2023-02-28	10.93	89.07	30.90	0.00	0.00	0.00	120
Start of Calendar Year to Current	2022-12-27	0.00	100.00	100.00	73.04	12.60	0.00	286
Start of Water Year to Current	2022-09-27	0.00	100.00	100.00	96.75	26.28	0.04	323
One Year Ago to Current	2022-05-31	0.00	100.00	100.00	96.75	33.86	0.04	331

Additionally, the long-term effects of climate change on regional water resources are unknown, but global water resources are already stressed without climate change. Current stresses on water resources include:

- Growing populations
- Increased competition for available water
- Poor water quality
- Environmental claims
- Uncertain reserved water rights
- Groundwater overdraft
- Aging urban water infrastructure

With a warmer climate, droughts could become more frequent, more severe, and longer lasting. The drought of the late 1980s showed what the impacts might be if climate change leads to a change in the frequency and intensity of droughts across the United States. From 1987 to 1989, losses from drought in the United States totaled $39 billion (OTA, 1993). More frequent extreme events such as droughts and floods could end up being more cause for concern than the long-term change in temperature and precipitation averages.

Loss of Water Supply

According to the General Plan-Safety Element, the desert-like conditions of Southern California make water a precious resource. Historically, growth throughout the region has been supported by imported water supplies, as local resources often fall far short of meeting urban water demands. Monterey Park represents an anomaly in that the City relies solely upon local groundwater supplies to meet customers' needs. For emergencies, the City can turn to the Metropolitan Water District of Southern California and the California Water Services Company.

The 2012 *Water Master Plan* provides an assessment of the existing water production and transmission system in Monterey Park. The plan outlines projected demand/supply and identifies existing deficiencies in the City's aging water production and transmission system. The *Water Master Plan* outlines capital improvement programs to address water line maintenance and replacement needs to accommodate a gradual population increase and avoid contamination from volatile organic compounds (VOCs) in the future.

Natural Gas Pipelines

There are several major natural gas pipelines that traverse the planning area as shown on **Map: California Natural Gas Utility Service Area**. While pipelines are often thought of as presenting risks to communities, natural hazards can impact the integrity of pipelines. According to the U.S. Department of Transportation, although natural hazards are cited as the cause in fewer than ten percent (10%) of pipeline incidents, the failure of a large-diameter, high-pressure natural gas or hazardous liquid transmission pipeline during an earthquake can significantly complicate a communities' ability to respond and recover from the event. Natural gas is supplied to the planning area by Southern California Gas Company (SoCalGas).

In Northern California on September 9, 2010, a 30-inch steel natural gas transmission pipeline owned and operated by PG&E ruptured and exploded in the City of San Bruno residential neighborhood. The blast and ensuing inferno resulted in 8 confirmed deaths, 66 reported

injuries, 34 destroyed structures, and 8 damaged structures. Cal OES has identified preliminary damage estimates at $15.4 million, including $2.5 million for debris removal, $10.2 million for protective measures, $2.1 million for roads and bridges, and $0.6 million for utilities and other facilities. Investigations into the cause of the explosion are under way by the National Safety Transportation Board (NSTB), the California Public Utilities Commission (CPUC), and PG&E. Although it will not be confirmed until official investigations are completed, initial speculation points to the weakening of the 60-year-old pipeline due to corrosion. The day after the explosion, the CPUC asked PG&E to provide a list of its top 100 high-priority projects to upgrade or replace portions of the pipeline for reasons of public safety, as well as information on the status of listed projects. The list was published on September 21, 2010. Although targeted for repair several years ago, the San Bruno pipeline was not on the list.

Virtually all natural gas, which accounts for about 28 percent of energy consumed annually, is transported by transmission pipelines. Although California is a leader in exploring and implementing alternative energy sources such as wind and solar, the expansion of traditional energy sources, such as natural gas, continues. There are natural gas transmission pipelines within the Project Area, as well as adjoining communities.

Map: California Natural Gas Utility Service Area
(Source: California Energy Commission, Date: 2020)



Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.
Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))
A: See **Impacts of Utility Related Hazards** below.

Impacts of Utility Related Hazards

Based on the risk assessment, it is evident that utility related hazards will continue to have potentially devastating impacts on the community.

Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life,
- ✓ Commercial and residential structural damage,
- ✓ Disruption of and damage to public infrastructure,
- ✓ Significant economic impact,
- ✓ Negative impact on commercial and residential property values, and
- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed.

Issues Relating to Utility Related Hazards

Important issues associated with utility related events include the following:

- ✓ A large percentage of the service area could be impacted all at the same time which would significantly impact emergency services capabilities.
- ✓ In the event of a power outage, it may be necessary for the utility provider to assist certain properties with reactivation.
- ✓ In the event of an outage of natural gas or propane, the utility provider may be required to assist customers with reactivation.
- ✓ Transportation systems in the planning area after an outage has the potential to significantly disrupt response and recovery efforts and lead to isolation of populations.
- ✓ Results loss of heating and air conditioning systems can impact comfort and safety levels for building occupants.
- ✓ Infrastructure-related computer systems are vulnerable to power outages.
- ✓ Schools and other educational facilities would be expected to be self-sufficient during outages and may be compromised as to decreased services from government response agencies, utilities, private-sector services, and infrastructure components.
- ✓ Lack of refrigeration would impact storage of onsite medicines, food, and other supplies.
- ✓ The flow of goods and services could result due to impacts to major transportation infrastructure across the broader region.
- ✓ A power outage can compromise or damage communication systems, complicating efforts to coordinate response to the event.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.
Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See **Summary of Vulnerability** below.

Summary of Vulnerability

The following is a summary of vulnerability to utility related events. All of Monterey Park's staff could be impacted by a utility related event. In addition, all of the City-owned facilities would be impacted by a utility related event including City Hall, Emergency Operations Center, Police Department, Fire Station #61 (Headquarters), Fire Station #62, Fire Station #63, Library, City Yard, Langley Senior Citizen Center, Barnes Gym, George Elders Community Center, and Reservoirs ___ . Altogether, this includes a total of approximately ___ staff, _ buildings, and property/contents valued at $_____ million. These estimates are based on 2023.

Public Safety Power Shutoff (PSPS) can be initiated by SCE for a range of reasons including wildfire, high wind, severe weather, flooding, and earthquake. The power shutoffs are initiated in large areas within the county so property may not even be impacted by the initial event but still impacted by the power shutoff.

PART III: MITIGATION STRATEGIES

Mitigation Strategies

Overview of Mitigation Strategy

As the cost of damage from disasters continues to increase nationwide, the City of Monterey Park recognizes the importance of identifying effective ways to reduce vulnerability to disasters. Mitigation Plans assist communities in reducing risk from natural hazards by identifying resources, information and strategies for risk reduction, while helping to guide and coordinate mitigation activities at the City of Monterey Park facilities.

The plan provides a set of action items to reduce risk from hazards through education and outreach programs, and to foster the development of partnerships. Further, the plan provides for the implementation of preventative activities.

The resources and information within the Mitigation Plan:

1. Establish a basis for coordination and collaboration among agencies and the public in the City of Monterey Park.
2. Identify and prioritize future mitigation projects.
3. Assist in meeting the requirements of federal assistance programs.

The Mitigation Plan is integrated with other City plans including the City of Monterey Park Emergency Operations Plan, General Plan, Capital Improvement Projects, as well as department-specific standard operating procedures.

Mitigation Measure Categories

Following is FEMA's list of mitigation categories. The activities identified by the Planning Team are consistent with the six broad categories of mitigation actions outlined in FEMA publication 386-3 *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies*.

- ✓ **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement projects, open space preservation, and storm water management regulations.
- ✓ **Property Protection:** Actions that involve modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- ✓ **Public Education and Awareness:** Actions to inform and educate citizens, property owners, and elected officials about hazards and potential ways to mitigate them.

  Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

- ✓ **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. Examples include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- ✓ **Emergency Services:** Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.
- ✓ **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, retaining walls, and safe rooms.

Q&A | ELEMENT C. MITIGATION STRATEGY | C3-a.
Q: Does the plan include goals to reduce the risk from the hazards identified in the plan? (Requirement 44 CFR § 201.6(c)(3)(i)) **A:** See **Goals** below.
Q&A | ELEMENT E. PLAN UPDATE | E2-a.
Q: Does the plan describe how it was revised due to changes in community priorities? (Requirement 44 CFR § 201.6(d)(3)) **A:** See **Goals** below.

Ensuring Goals Benefit the Whole Community

The following content was gathered from FEMA's 2023 Local Hazard Mitigation Policy Guidance.

Individuals and groups within your community have differing needs, preferences and strengths. When your most underserved and socially vulnerable residents can participate in and benefit from your plan and your projects, the rest of your community will too. Pick a planning approach in which you set large-scale goals for the entire community, but then use targeted approaches to meet those goals for even the most underserved and socially vulnerable populations.

For example, you could set a goal of making sure that all residents, workers and visitors have the ability to access safe, cool spaces during a heat wave. While the wealthiest residents most likely have access to private homes with air conditioning, lower-income residents may lack such resources. Also, anyone can be affected by storms or other disruptions to cooling systems.

To resolve this disparity and achieve the overarching goal of community resilience to high heat events, your community may decide to create public cooling centers. However, this may not meet the need. These spaces also need to be accessible to those who need them. Consider accessibility to people with disabilities, public transit availability and proximity. Also consider ways to provide travel vouchers, availability of wi-fi and charging stations (including power cords), access to potable water and facilities, and staff cultural or language competencies. It is also important to think about the potential consequences of your plan as it may have unintended impacts on socially vulnerable populations. For instance, while many mitigation measures increase property values and improve neighborhood livability, these effects can contribute to gentrification. Gentrification often displaces low-income residents and disrupts the social fabric of a community. This could decrease the overall resilience of already-at-risk groups. By thinking through potential impacts like these, you can proactively work to address them.

Goals

The Planning Team identified the overall goals to guide the direction of future activities aimed at reducing risk and preventing loss from natural hazards. Also, goals were established based on the risk assessment that represent a long-term vision for hazard reduction and enhanced mitigation capabilities.

Each goal is supported by mitigation action items. The Planning Team developed these action items through its knowledge of the local area, risk assessment, review of past efforts, identification of mitigation activities, and qualitative analysis.

The five mitigation goals and descriptions are listed below.

Protect Life and Property

Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural, human-caused, and technological hazards.

Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.

Improve hazard assessment information to make recommendations for avoiding new development in high hazard areas and encouraging preventative measures for existing development in areas vulnerable to natural, human-caused, and technological hazards.

Public Awareness

Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.

Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

Natural Systems

Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.

Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

Partnerships and Implementation

Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.

Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

Emergency Services

Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.

Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

How are the Mitigation Action Items Organized?

The action items are a listing of activities in which City agencies and citizens can be engaged to reduce risk.

The action items are organized within the following Mitigation Actions Matrix, categorized by hazard. Data collection and research and the public participation process resulted in the development of these action items. The Matrix includes the following information for each action item:

Lead Department

The Mitigation Actions Matrix assigns primary responsibility for each of the action items. The hierarchies of the assignments vary – some are positions, departments, or committees. The primary responsibility for implementing the action items falls to the entity shown as the "Lead Department". This department has the regulatory responsibility to address hazards, or is able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation.

Timeline

The mitigation plan will be updated every 5 years according to FEMA regulations. However, there are projects and programs in the Mitigation Actions Matrix that will require more than 5 years to complete.

Funding Source

External Resources could include a range of FEMA mitigation grants perhaps including HMGP, FMA, and BRIC.

Internal Resources could include general fund, capital improvement budgets, impact fees, human capital, in-kind resources, etc.

Plan Goals Addressed

The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.

The plan goals are organized into the following five areas:

- ✓ Protect Life and Property
- ✓ Enhance Public Awareness

- ✓ Preserve Natural Systems
- ✓ Encourage Partnerships and Implementation
- ✓ Strengthen Emergency Services

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-b.

Q: Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated? (Requirement 44 CFR § 201.6(c)(4)(ii))

A: See **Planning Mechanism** below.

Planning Mechanism

It's important that each action item be implemented. Perhaps the best way to ensure implementation is through integration with one or many of the City's existing "planning mechanisms" including the "internal resources" including the General Plan, Capital Improvement Projects, General Fund, and "external resources" including Grants. Opportunities for integration will be simple and easy in cases where the action item is already compatible with the content of the planning mechanism. As an example, if the action item calls for the creation of a floodplain ordinance and the same action is already identified in the General Plan's policies, then the General Plan will assist in implementation. On the contrary, if preparation of a floodplain ordinance is not already included in the General Plan policies, then the item will need to be added during the next update to the General Plan.

The Capital Improvement Program, depending on the budgetary environment, is updated every 5 years. The CIP includes infrastructure projects built and owned by the City. As such, the CIP is an excellent medium for funding and implementing action items from the Mitigation Plan. The Mitigation Actions Matrix includes several items from the existing CIP. The authors of the CIP served on the Planning Team and are already looking to funding addition Mitigation Plan action items in future CIPs.

The Annual Budget is the document that guides all of the City's expenditures and is updated on an annual basis. Although primarily a funding mechanism, it also includes descriptions and details associated with tasks and projects.

Grants come from a wide variety of sources – some annually and others triggered by events like disasters. Whatever the source, the City uses the Annual Budget to identify successful grants as funding sources.

Building and Infrastructure

This addresses the issue of whether or not a particular action item results in the reduction of the effects of hazards on new and existing buildings and infrastructure.

Comments

The purpose of the "Comments" is to capture the notes and status of the various action items. Since Planning Team members frequently change between plan updates and annual reviews, the Comments provide a sort of history to help in tracking the progress and status of each action.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))

A: See **Benefit/Cost Ratings** below.

Benefit/Cost Ratings

The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project will be performed in the future as needed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

Cost ratings were defined as follows:

High: Existing funding within the jurisdiction will not cover the cost of the action item so outside sources of revenue would be required.

Medium: The action item could be funded through existing jurisdictional funding but would require budget modifications.

Low: The action item could be funded under existing jurisdictional funding within the assigned lead department.

Benefit ratings were defined as follows:

High: The action item will provide short-term and long-term impacts on the reduction of risk exposure to life and property.

Medium: The action item will have long-term impacts on the reduction of risk exposure to life and property.

Low: The action item will have only short-term impacts on the reduction of risk exposure to life and property.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))
A: See **Priority Rating** below.

Priority Rating

The Planning Team utilized the following rating tool to establish priorities. Designations of "High", "Medium", and "Low" priority have been assigned to all of the action item using the following criteria:

Does the Action:
- ☐ solve the problem?
- ☐ address Vulnerability Assessment?
- ☐ reduce the exposure or vulnerability to the highest priority hazard?
- ☐ address multiple hazards?
- ☐ benefits equal or exceed costs?
- ☐ implement a goal, policy, or project identified in the General Plan or Capital Improvement Project?

Can the Action:
- ☐ be implemented with existing funds?
- ☐ be implemented by existing state or federal grant programs?
- ☐ be completed within the 5-year life cycle of the LHMP?
- ☐ be implemented with currently available technologies?

Will the Action:
- ☐ be accepted by the community?
- ☐ be supported by community leaders?
- ☐ adversely impact segments of the population or neighborhoods?
- ☐ require a change in local ordinances or zoning laws?
- ☐ positive or neutral impact on the environment?
- ☐ comply with all local, state and federal environmental laws and regulations?

Is there:
- ☐ sufficient staffing to undertake the project?
- ☐ existing authority to undertake the project?

As mitigation action items were updated or written the Planning Team, representatives were provided worksheets for each of their assigned action items. Answers to the criteria above determined the priority according to the following scale.

- 1-6 = Low priority
- 7-12 = Medium priority
- 13-18 = High priority

Q&A | ELEMENT C: MITIGATION STRATEGY | C4-a.

Q: Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))
A: See **Mitigation Actions Matrix (Action Items)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C4-b.

Q: Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))
A: See **Mitigation Actions Matrix (Action Items)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(ii))
A: See **Mitigation Actions Matrix (Priority, Goals)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C5-b.

Q: Does the plan identify the position, office, department, or agency responsible for implementing/administering the identified mitigation actions, as well as potential funding sources and expected time frame? (Requirement 44 CFR § 201.6(c)(3)(iii)))
A: See **Mitigation Actions Matrix (Lead Department/Position, Timeline, Funding Source)** below.

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.

Q: Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))
A: See **Mitigation Actions Matrix (Planning Mechanism)** below.

Q&A | ELEMENT E: PLAN UPDATE | E2-b.

Q: Does the plan include a status update for all mitigation actions identified in the previous mitigation plan? (Requirement 44 CFR § 201.6(d)(3))
A: See **Mitigation Actions Matrix (Comments)** below.

Q&A | ELEMENT E: PLAN UPDATE | E2-c.

Q: Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms? (Requirement 44 CFR § 201.6(d)(3))
A: See **Integration into other Planning Mechanisms (Comments)** below.

Mitigation Actions Matrix

Following is **Table: Mitigation Actions Matrix** which identifies the existing and future mitigation activities developed by the Planning Team.

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
Multi-Hazard Mitigation Action Items														
MH-1 Integrate the goals and action items from the City of Monterey Park Hazard Mitigation Plan into existing regulatory documents and programs, where appropriate.	PT	As Regulatory Updates Occur				X		AB	AB	Y	H	L	H	
MH-2 Identify and pursue funding opportunities to develop and implement local	Fire	Ongoing				X		AB	AB	Y	H	L	H	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
mitigation activities.														
MH-3 Establish a formal role for the Hazard Mitigation Planning Team to develop a sustainable process for implementing, monitoring, and evaluating citywide mitigation activities.	PT	1-2 years				X		AB	AB	Y	H	L	H	
MH-4 Identify, improve, and sustain collaborative programs focusing on the real estate and insurance industries, public and private sector organizations,	Planning	1-2 years	X	X		X		AB	AB	Y	H	L	H	

Mitigation Action Item											
Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development											
Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High
and individuals to avoid activity that increase risk to natural hazards.											
MH-5 Develop public and private partnerships to foster the mitigation program in the City of Monterey Park.	Planning	1-2 years			X	AB		Y	H	L	H
MH-6 Develop inventory of at-risk buildings and infrastructure and prioritize mitigation projects.	Planning	1-2 years	X			AB	AB	Y	H	L	H
MH-7 Strengthen emergency services preparedness and response by linking emergency services	Fire	Ongoing				X	AB	Y	H	L	H

Mitigation Action Item											
with local hazard mitigation programs, and enhancing public education on a regional scale.											
MH-8 Develop, enhance, and implement education programs aimed at mitigating hazards, and reducing the risk to citizens, public agencies, private property owners, businesses, and schools.	Fire, Police	Ongoing	X	X		AB	AB	Y	H	L	H
MH-9 Use technical knowledge of natural	Planning	Ongoing			X						

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
ecosystems and events to link natural resource management and land use organizations to mitigation activities and technical assistance.														
MH-10 Identify swimming pools that can be used for drafting water for firefighting.	Fire	1-5 years	X	X	X		X	AB	AB	Y	H	L	H	
MH-11 Strengthen (e.g., harden, retrofit) City facilities.	PW	1-5 years	X	X	X		X	AB	AB	Y	H	L	H	
MH-12 Research and seek consultant to develop a Debris Management Plan.	Fire	1-5 years	X	X	X		X	AB	AB	Y	H	L	H	
MH-13 Purchase and	PW	1-2 years	X	X	X		X	CIP,	CIP,	Y	H	H	H	Note: City Hall,

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
install fixed generators or other forms of backup power at all City facilities. Priority is Water Treatment Plant and Wells.								HMGP, BRIC	HMGP, BRIC					Police, Fire Stations, and EOC already have backup power.
Earthquake Mitigation Action Items														
EQ-1 Integrate new earthquake hazard mapping data for the City of Monterey Park.	PW	Ongoing	X			X	X	AB	AB	Y	H	L	L	
EQ-2 Identify funding sources for City-owned structural and nonstructural retrofitting of structures that are identified as seismically vulnerable.	PW	1-5 years	X	X	X	X	X	AB	AB	Y	H	L	M	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
EQ-3 Provide earthquake hazard insurance information at public counters.	Fire	Ongoing	X	X		X		AB	AB	Y	H	L	H	
EQ-4 Conduct seismic strength evaluations of City-owned critical facilities and infrastructure.	PW	1-5 years	X				X	AB	AB	Y	M	H	H	
EQ-5 Encourage reduction of non-structural and structural earthquake hazards in homes, schools, businesses, and government offices.	Fire, ED	Ongoing	X	X	X			AB	AB	Y	H	L	H	
Urban Flood Mitigation Action Items														
UF-1 Seek funding and	PW	5 years	X			X		HMGP,	HMGP,	Y	M	H	H	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
complete a Drainage Master Plan.								BRIC	BRIC					
Landslide Mitigation Action Items														
LND-1 Improve knowledge of landslide hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas.	PW	Ongoing	X					AB	AB	Y	H	L	H	
LND-2 Continue to enforce Grading Ordinance.	PW	Ongoing	X	X				AB	AB	Y	H	L	H	
LND-3 Identify safe evacuation routes in landslide areas.	PW, Fire	1 year	X	X				AB	AB	Y	H	L	H	
LND-4 Review local ordinances regarding	Planning	2 years	X	X				AB	AB	Y	H	L	H	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
building and development in landslide prone areas.														
Wildfire Mitigation Action Items														
WF-1 Enhance emergency services to increase the efficiency of wildfire response and recovery activities.	Fire	Ongoing	X	X	X	X	X	AB	AB	Y	H	L	H	
WF-2 Educate personnel on federal cost-share and grant programs, Fire Protection Agreements and other related federal programs so the full array of assistance available to local	Fire	1 year	X			X		AB	AB	Y	H	L	H	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
agencies is understood.														
WF-3 Inventory alternative firefighting water sources and encourage the development of additional sources.	PW	Ongoing	X	X	X	X	X	ENT	ENT	Y	H	L	H	
WF-4 Improve access of fire hazard maps to residents and businesses. Include information on importance of following directions during a wildfire evacuation.	Fire	Ongoing	X	X	X	X	X	AB	AB	Y	H	L	H	
WF-5 Enhance outreach and education programs aimed at	Fire	Ongoing	X	X	X	X	X	AB	AB	Y	H	L	H	

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager' s Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
mitigating wildfire hazards.														
WF-6 Encourage hardening of structures against wildfire.	Fire													
WF-7 Continue to promote defensible space practices.	Fire													
WF-8 Continue weed abatement program.	Fire													
Windstorm Mitigation Action Items														
WS-1 Continue public awareness campaign regarding protection of life and property before, during, and after a windstorm.	Fire	Ongoing	X	X										
WS-2 Coordinate with	PW, Fire	Ongoing	X											

Mitigation Action Item	Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager' s Office, ED-Economic Development	Timeline	Goal: Protect Life and Property	Goal: Encourage Public Awareness	Goal: Protect Natural Systems	Goal: Enhance Partnerships and Implementation	Goal: Protect Emergency Services	Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds	Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	Comments 2023
utilities on awareness program for tree pruning.														
WS-3 Continue with Chipper Day to promote tree trimming.	PW, Fire	Ongoing					X							
Utility Related Mitigation Action Items														
UT-1 Continue to improve knowledge of surface and groundwater issues and understanding of vulnerability and risk to life and property within Monterey Park.	PW	1-2 years	X	X	X	X	X	AB	AB	Y	M	L	H	
UT-2 Prepare a Water Master Plan.	PW	Completed												
UT-3 Continue to	PW, CM	1-3 years												Note: 2023 stage 2

Mitigation Action Item											
Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development											
Timeline											
Goal: Protect Life and Property											
Goal: Encourage Public Awareness											
Goal: Protect Natural Systems											
Goal: Enhance Partnerships and Implementation											
Goal: Protect Emergency Services											
Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds											
Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant											
Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)											
Benefit: L-Low, M-Medium, H-High											
Cost: L-Low, M-Medium, H-High											
Priority: L-Low, M-Medium, H-High											
Comments 2023											
Mitigation Action Item	enforce City's water conservation regulations.	UT-4 Replace and upgrade approximately 15,600 linear feet old and undersized mainlines in the distribution system.	**Dam Failure Mitigation Action Items**								
Lead Department: A-Administration, Planning-Planning Department, CS-Community Services, PW-Public Works, Fire-Fire, Police-Police, Building-Building Safety, PT-Planning Team, IT-Information Technology, CM-City Manager's Office, ED-Economic Development		PW	Fire	DAM-1 Add link on City's website to DWR Inundation Maps.	DAM-2 Inform property owners in the dam inundation zone of the availability of the DWR Inundation Maps on the City's website.						
Timeline	which limits residential watering to 2 days/week	3 years	1-2 years	1-2 years	1-2 years						
Goal: Protect Life and Property				X	X	X	X				
Goal: Encourage Public Awareness				X	X	X	X				
Goal: Protect Natural Systems											
Goal: Enhance Partnerships and Implementation											
Goal: Protect Emergency Services		X									
Funding Source: AB-Annual Budget, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure and Communities, ENT-Enterprise Funds				AB	AB	AB	AB				
Planning Mechanism: GP-General Plan, CIP, AB-Annual Budget, GR-Grant											
Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y) or No (N)				Y	Y	Y	Y				
Benefit: L-Low, M-Medium, H-High				H	H	H	H				
Cost: L-Low, M-Medium, H-High				L	L	L	L				
Priority: L-Low, M-Medium, H-High				H	H	H	H				
Comments 2023											

Plan Maintenance

The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years. This section describes how the City of Monterey Park will integrate public participation throughout the plan maintenance process.

Q&A | ELEMENT D: PLAN MAINTENANCE | D2-a.

Q: Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i))

A: See **Local Mitigation Officer, Method and Scheduling of Plan Implementation, Monitoring and Implementing the Plan** below.

Local Mitigation Officer

The Planning Team that was involved in research and writing of the Plan will also be responsible for implementation. The Planning Team will be led by the Planning Team Chair Battalion Chief Chris Thompson who will be referred to as the Local Mitigation Officer. Under the direction of the Local Mitigation Officer, the Planning Team will take responsibility for plan maintenance and implementation. The Local Mitigation Officer will facilitate the Planning Team meetings and will assign tasks such as updating and presenting the Plan to the members of the Planning Team. Plan implementation and evaluation will be a shared responsibility among all of the Planning Team members. The Local Mitigation Officer will coordinate with the City of Monterey Park leadership to ensure funding for 5-year updates to Plan as required by FEMA.

The Planning Team will be responsible for coordinating the implementation of plan action items and undertaking the formal review process. The Local Mitigation Officer will be authorized to make changes in assignments to the current Planning Team.

The Planning Team will meet no less than annually. Meeting dates will be scheduled once the final Planning Team has been established. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. The Local Mitigation Officer or designee will be responsible for contacting the Planning Team members and organizing the quarterly meetings.

Plan updates will need to be approved by FEMA every 5 years. However adequate time should be allowed to secure grant funding (if necessary), allow adequate time for a thorough planning process, and time for the formal review by Cal OES and FEMA. All said, if grant funding is going to be needed, the update timeline should begin 3 years prior to the plan's due date to FEMA.

Method and Scheduling of Plan Implementation

	Year 1	Year 2	Year 3	Year 4	Year 5
Monitoring	X	X	X	X	X
Evaluating					
Internal Planning Team Evaluation	X	X	X	X	X
Cal OES and FEMA Evaluation					X
Updating					X

Monitoring and Implementing the Plan

Monitoring the Plan

The Local Mitigation Officer will hold bi-annual meetings with representatives from the coordinating agencies (as identified in the Mitigation Actions Matrix) in order to gather status updates on the mitigation action items. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. See the **Annual Implementation Report** discussed below which will be a valuable tool for the Planning Team to measure the success of the Hazard Mitigation Plan. The focus of the quarterly meeting will be on the progress and changes to the Mitigation Action Items.

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.

Q: Does the plan describe each community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))

A: See **Integration into Other Planning Mechanisms** below.

Integration into Other Planning Mechanisms

The City of Monterey Park addresses statewide planning goals and legislative requirements through the General Fund, Capital Projects, and Grants. The Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs. The City of Monterey Park will implement recommended mitigation action items through existing programs and procedures.

The City of Monterey Park is responsible for adhering to the State of California's Building and Safety Codes. In addition, the City of Monterey Park may work with other agencies at the state level to review, develop and ensure Building and Safety Codes are adequate to mitigate or present damage by hazards. This is to ensure that life-safety criteria are met for new construction.

Some of the goals and action items in the Mitigation Plan will be achieved through activities recommended in the strategic and other budget documents. The various departments involved in developing the Plan will review it on an annual basis. Upon annual review, the Planning Team will work with the departments to identify areas that the Mitigation Plan action items are consistent with the strategic and budget documents to ensure the Mitigation Plan goals and action items are implemented in a timely fashion.

Upon FEMA approval, the Planning Team will begin the process of incorporating risk information and mitigation action items into existing planning mechanisms including the General Fund (Operating Budget and Capital Projects - see Mitigation Actions Matrix for links between individual action items and associated planning mechanism). The quarterly meetings of the Planning Team will provide an opportunity for Planning Team members to report back on the progress made on the integration of mitigation planning elements into the City of Monterey Park's planning documents and procedures.

Specifically, the Planning Team will utilize the updates of the following documents to implement the Mitigation Plan:

- ✓ Risk Assessment, City Profile, Planning Process (stakeholders) – Emergency Operations Plan, etc.
- ✓ Mitigation Actions Matrix – General Fund, Capital Projects, Grants

Annual Implementation Report

The Annual Implementation Matrix is the same as the Mitigation Actions Matrix but with a column added to track the quarterly status of each Action Item. Upon approval and adoption of the Plan, the Annual Implementation Reports will be added to the Plan's **Attachments**. Following is a view of the Annual Implementation Matrix:

Insert here

An equal part of the monitoring process is the need to maintain a strategic planning process which needs to include funding and organizational support. In that light, at least one year in advance of the FEMA-mandated 5-year submission of an update, the Local Mitigation Officer will convene the Planning Team (as well as any other departments with responsibilities on the Mitigation Actions Matrix) to discuss funding and timing of the update planning process. On the fifth year of the planning cycles, the Planning Team will broaden its scope to include discussions and research on all of the sections within the Plan with particular attention given to goal achievement and public participation.

Economic Analysis of Mitigation Projects

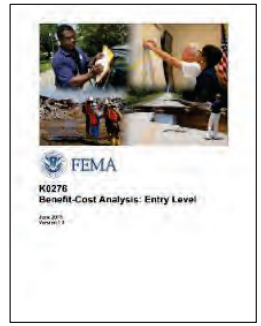
FEMA's approach to identifying costs and benefits associated with hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis.

Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Given federal funding, the Planning Team will use a FEMA-approved benefit/cost analysis approach to identify and prioritize mitigation action items. For other projects and funding sources, the Planning Team will use other approaches to understand the costs and benefits of each action item and develop a prioritized list.

The "benefit", "cost", and overall "priority" of each mitigation action item was included in the Mitigation Actions Matrix located in Part III: Mitigation Strategies. A more technical assessment will be required in the event grant funding is pursued through the Hazard Mitigation Grant Program. FEMA Benefit-Cost Analysis Guidelines are discussed below.

FEMA Benefit-Cost Analysis Guidelines



The Stafford Act authorizes the President to establish a program to provide technical and financial assistance to state and local governments to assist in the implementation of hazard mitigation measures that are cost effective and designed to substantially reduce injuries, loss of life, hardship, or the risk of future damage and destruction of property. To evaluate proposed hazard mitigation projects prior to funding FEMA requires a Benefit-Cost Analysis (BCA) to validate cost effectiveness. BCA is the method by which the future benefits of a mitigation project are estimated and compared to its cost. The end result is a benefit-cost ratio (BCR), which is derived from a project's total net benefits divided by its total project cost. The BCR is a numerical expression of the cost effectiveness of a project. A project is considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs.

Although the preparation of a BCA is a technical process, FEMA has developed software, written materials, and training to support the effort and assist with estimating the expected future benefits over the useful life of a retrofit project. It is imperative to conduct a BCA early in the project development process to ensure the likelihood of meeting the cost-effective eligibility requirement in the Stafford Act.

The BCA program consists of guidelines, methodologies, and software modules for a range of major natural hazards including:

- ✓ Flood (Riverine, Coastal Zone A, Coastal Zone V)
- ✓ Hurricane Wind
- ✓ Hurricane Safe Room
- ✓ Damage-Frequency Assessment
- ✓ Tornado Safe Room
- ✓ Earthquake
- ✓ Wildfire

The BCA program provides up to date program data, up to date default and standard values, user manuals and training. Overall, the program makes it easier for users and evaluators to conduct and review BCAs and to address multiple buildings and hazards in a single BCA module run.

Evaluating and Updating the Plan

Q&A | ELEMENT D: PLAN MAINTENANCE | D2-b.
Q: Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible. (Requirement 44 CFR § 201.6(c)(4)(i))
A: See **Evaluation** below.

Evaluation

As discussed at the beginning of this section, the representatives from the lead departments (as identified in the Mitigation Actions Matrix) will meet twice a year to gather status updates on the mitigation action items. At the conclusion of the Annual Implementation Meeting each year, the Local Mitigation Officer will lead a discussion with the lead departments on the success (or failure) of the Mitigation Plan to be effective and to meet the plan goals. Examples of measuring the plan's effective will include assessing effectiveness include evaluating whether new hazards have emerged, whether community vulnerability has shifted, and whether stated mitigation strategies are still appropriate for the community's circumstances. The plan goals are defined in the beginning of the Mitigation Strategies Section and each of the mitigation action items is aligned with a goal or goals.

The results of that discussion will be added to the Evaluation portion of the Annual Implementation Report and inclusion in the 5-year update to the Plan. Efforts will be made immediately by the Local Mitigation Officer to address any failed plan goals.

Q&A | ELEMENT D: PLAN MAINTENANCE | D2-c.

Q: Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i))
A: See **Formal Update Process** below.

Formal Update Process

As identified above, the Mitigation Action Items will be monitored for status on a bi-annual basis as well as an evaluation of the Plan's goals. The Local Mitigation Officer or designee will be responsible for contacting the coordinating agency members and organizing the annual meetings which will take place based on the month of the Plan's approval. Planning Team members will also be responsible for participating in the formal update to the Plan every fifth year of the planning cycle. In the event the City desires to seek grant funding for the update, the application process should begin 2 years in advance of the plan's expiration. Even without grant funding, the planning process should begin at least 1.5 years ahead of the plan's expiration.

The Planning Team will begin the update process with a review the goals and mitigation action items to determine their relevance to changing situations within the City of Fontana as well as changes in state or federal policy, and to ensure they are addressing current and expected conditions. The Planning Team will also review the Plan's **Risk Assessment** portion of the Plan to determine if this information should be updated or modified, given any new available data. The lead departments responsible for the various action items will report on the status of their projects, including the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised. Amending will be made to the Mitigation Actions Matrix and other sections in the Plan as deemed necessary by the Planning Team.

Q&A | ELEMENT D: PLAN MAINTENANCE | D1-a.

Q: Does the plan describe how communities will continue to seek future public participation after the plan has been approved? (Requirement 44 CFR § 201.6(c)(4)(iii))
A: See **Continued Public Involvement** below.

Continued Public Involvement

The City of Monterey Park is dedicated to involving the public directly in the continual review and updates to the Mitigation Plan. Copies of the plan will be made available at the City of Monterey Park City Hall and on the City's website. The existence and location of these copies will be publicized in the City's monthly newsletter "Cascades" and on the website. This site will also contain an email address and phone number where people can direct their comments and concerns. At the discretion of the Local Mitigation Officer, a public meeting may be held after the Annual Implementation Meeting. The meeting would provide the public with a forum in which interested individuals and/or agencies could express their concerns, opinions, or ideas about the plan.

The Local Mitigation Officer will be responsible for using the City of Monterey Park resources to publicize any public meetings and always free to maintain public involvement through the public access channel, web page, and newspapers.

Plan Review, Adoption and Approval

The plan is required to go through a formal review with Cal OES and FEMA. Once the Planning Team has reviewed the First Draft Plan and revisions made, the Second Draft Plan will be made available to the general public and external agencies. The plan will be posted and notices distributed advertising the plan's available for input. See **Planning Process** for details.

Comments gathered on the Second Draft Plan were incorporated into the Third Draft Plan which will be submitted to Cal OES along with a completed FEMA Plan Review Tool. In the event changes are required, Cal OES will update the Plan Review Tool and mandated changes will be incorporated into the Fourth Draft Plan. Once Cal OES deems the plan compliant with the mitigation planning regulations, the document will be forwarded to FEMA for a final review. Upon acceptance by FEMA, an Approvable Pending Adoption notice will be sent to the City requesting that the Final Draft Plan be submitted to the City Council for adoption. Once proof of adoption is forwarded to FEMA, a Letter of Approval will be issued. The Letter of Approval will be entered into the Final Plan.

Q&A | ELEMENT F: PLAN ADOPTION | F1-a.
Q: Does the participant include documentation of adoption? (Requirement 44 CFR § 201.6(c)(5))
A: See **Plan Adoption Process** below.

Plan Adoption Process

Adoption of the plan by the local governing body demonstrates the City of Monterey Park's commitment to meeting mitigation goals and objectives. Governing body approval legitimizes the plan and authorizes responsible agencies to execute their responsibilities.

The City Council must adopt the Hazard Mitigation Plan before the Plan can be approved by FEMA.

The Third Draft Plan was submitted to Cal OES and FEMA for review and approval. FEMA issued an Approvable Pending Adoption notice on _____ requiring the adoption of the Plan by the City Council. The adoption resolution was submitted to FEMA along with a request for a FEMA Letter of Approval.

In preparation for the public meeting with the City Council, the Planning Team posted the Third Draft Plan on the City's website. Notification of the Plan's availability was also distributed via the mediums utilized during the community outreach phase. Also, the Team prepared a Staff Report including an overview of the Planning Process, Risk Assessment, Mitigation Goals, and Mitigation Actions. The staff presentation concluded with a summary of the input received during the public review of the document. The meeting participants were encouraged to present their views and make suggestions on possible mitigation actions.

The City Council heard the item on _____. The City Council voted to adopt the Hazard Mitigation Plan. The Resolution of adoption by the City Council is below:

Plan Approval

Upon adoption by the City Council, the resolution was forwarded to FEMA. The FEMA Letter of Approval was issued on _____. FEMA issued a Letter of Approval on _____and is below:

Attachments

Web Posting and Notifications

City Website

Facebook

X

Instagram

Secondary Stakeholders Involvement

Entity	Name of Recipient	Job Title of Recipient	Email/Mail of Recipient
Jurisdictions			
Alhambra Fire Department	Jeffrey Ragusa	Fire Chief	jragusa@alhambrafire.org
Alhambra Planning Department	Andrew Ho	Director of Community Development	andrewho@cityofalhambra.org
Alhambra School District	Denise R. Jaramillo	Superintendent	djaramillo@alhambra.k12.ca.us
El Monte Planning Department	Betty Donavanik	Community & Economic Development Director	bdonavanik@elmonteca.gov
Los Angeles County Fire Prevention Division	Claudia Soiza	Inspector	Claudia.Soiza@fire.lacounty.gov
Los Angeles County Public Health Department	Kathryn Barger	Board Supervisor	kathryn@bos.lacounty.gov
Los Angeles County Public Works Department	Toan Duong	Supervisor	tduong@dpw.lacounty.gov
Los Angeles County Sheriff	Shawn Kehoe	PIO	skehoe@lasd.org
Montebello Fire Department	Fernando Pelaez	Fire Chief	fpelaez@montebelloca.gov
Montebello Planning Department	Joseph Palombi	Director of Planning	jpalombi@montebelloca.gov
Service Organizations			
American Red Cross	Ryan Chan	Program Manager	Ryan.chan2@Redcross.org
Utilities			
California Public Utilities Commission	Nico Procos	Energy Supervisor	nbp@cpuc.ca.gov
Golden State Water - Planning/Environmental Review, Foothill District	Kyle Snay	Operations Engineer	Kyle.snay@gswater.com
Southern California Gas	Fernando Rojo	Supervisor	Frojo@socalgas.com
Southern California Edison	Patrick Conrad	Supervisor	Patrick.conrad@sce.com
Educational Institutions			
East Los Angeles College	Alberto J. Roman	President	romanaj@elac.edu
Garvey School District	Anita Chu	Superintendent	achu@garvey.k12.ca.us
Los Angeles Unified School District	Alberto Carvalho	Superintendent	superintendent@lausd.net
Rosemead School District	Alejandro Ruvalcaba	Superintendent	aruvalcaba@rosemead.k12.ca.us
Hospitals			

Entity	Name of Recipient	Job Title of Recipient	Email/Mail of Recipient
Garfield Hospital	Nana Deeb	CEO	ndeeb@ahmchealth.com
Monterey Park Hospital	Nana Deeb	CEO	ndeeb@ahmchealth.com
Houses of Worship			
The Church in Monterey Park	Unknown	Unknown	612 N. Alhambra Avenue Monterey Park, CA 91755
United Methodist Church	Unknown	Unknown	333 S. Garfield Avenue Monterey Park, CA 91754
St. Gabriels Episcopal Church	Unknown	Unknown	133 E. Graves Ave. Monterey Park, CA 91755
Chinese Evangelical Free Church	Unknown	Unknown	1111 S. Atlantic Blvd. Monterey Park, CA 91754
Good Shepherd Presbyterian Church	Unknown	Unknown	606 S. Atlantic Boulevard Monterey Park, CA 91754
Cantonese Baptist Church	Unknown	Unknown	119 S. Moore Avenue Monterey Park, CA 91754
Home of Christians	Unknown	Unknown	400 N. Garfield Avenue Monterey Park, CA 91754
St. Paul's Evangelical Lutheran Church	Unknown	Unknown	2009 S. Garfield Avenue Monterey Park, CA 91754
Shepherd of the Hills	Unknown	Unknown	2233 Findlay Avenue Monterey Park, CA 91754
First Molokan Christian Church	Unknown	Unknown	1501 Vagabond Drive Monterey Park, CA 91754
St. Stephen Martyr Catholic Church	Unknown	Unknown	320 W. Garvey Avenue Monterey Park, CA 91754
Faith Lutheran Church - Chinese Faith Church	Unknown	Unknown	115 W. Newmark Avenue Monterey Park, CA 91754
Grace Community Church of Monterey Park	Unknown	Unknown	337 W. Pomona Boulevard Monterey Park, CA 91754
Trinity Church	Unknown	Unknown	1954 S. Garfield Avenue Monterey Park, CA 91754
St. Thomas Aquinas Church	Unknown	Unknown	1501 S. Atlantic Boulevard Monterey Park, CA 91754
Christ Lutheran Church	Unknown	Unknown	417 N. Garfield Avenue

Entity	Name of Recipient	Job Title of Recipient	Email/Mail of Recipient
			Monterey Park, CA 91754
Monterey Park Foursquare Church	Unknown	Unknown	201 S. New Avenue Monterey Park, CA 91755
Los Angeles Family Church	Unknown	Unknown	2301 Findlay Avenue Monterey Park, CA 91754
Church of Jesus Christ Latter-Day Saints	Unknown	Unknown	2316 Hillview Avenue Monterey Park, CA 91754
Monterey Park Prajna Buddhist Mission	Unknown	Unknown	527 S. Atlantic Boulevard Monterey Park, CA 91754
Sky City Christian Reformed Church	Unknown	Unknown	332 N. New Avenue Monterey Park, CA 91755

External Agencies Letter of Invitation

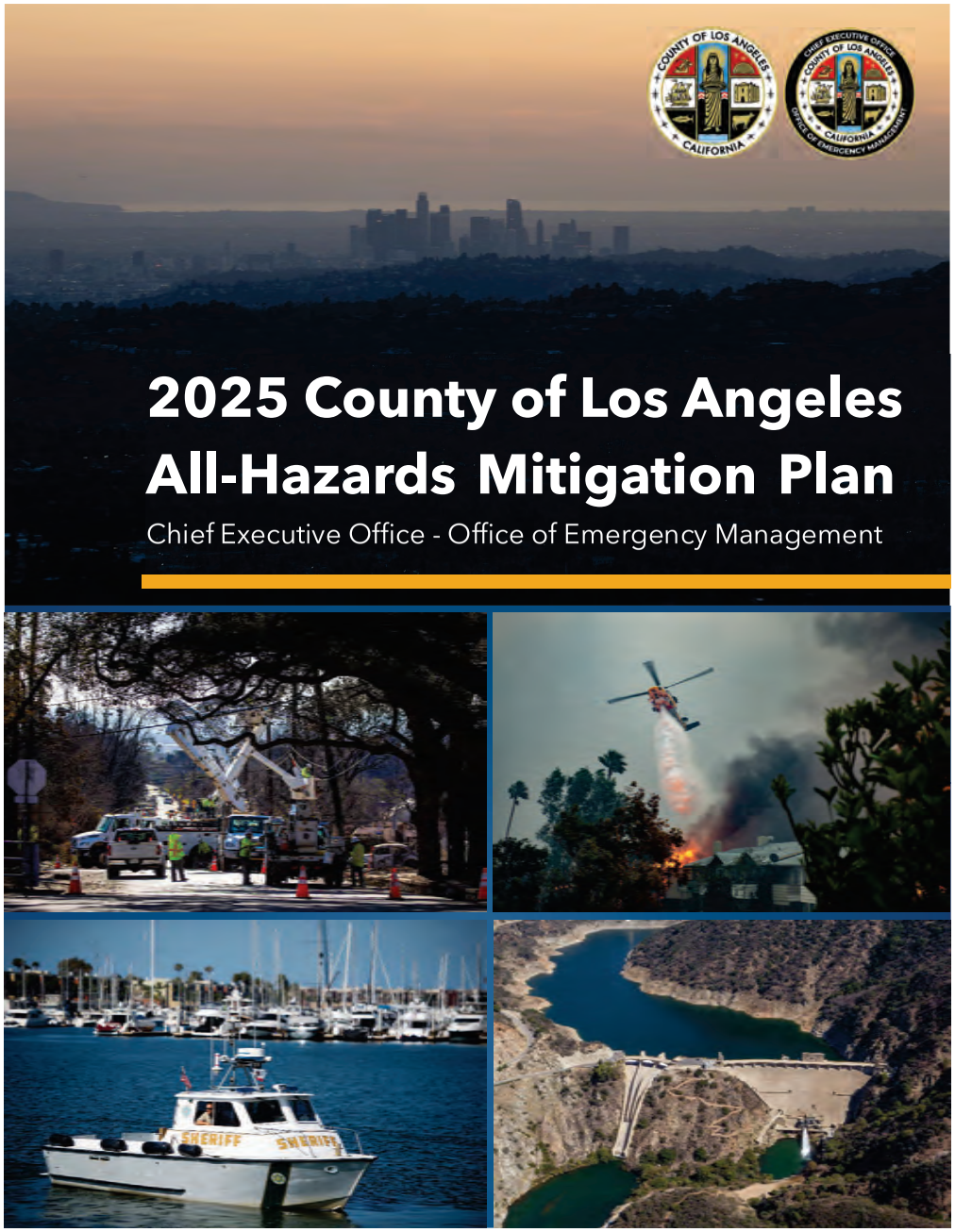
External agencies listed above were invited via email and provided with an electronic link to the City of Monterey Park website posting of the Second Draft Plan. Following is the email distributed to the external agencies. A pdf of the Plan was attached.

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX J

LOS ANGELES COUNTY ALL-HAZARDS MITIGATION PLAN



Acknowledgement

The Los Angeles County Board of Supervisors gratefully acknowledges the following agencies/jurisdictions who contributed to the development of this plan.

County Departments

Aging and Disabilities
Chief Executive Office
Chief Sustainability Office
Beaches and Harbors
Economic Opportunity
Health Services
Human Resources
Parks and Recreation
Public Health
Public Social Services
Public Works
Regional Planning
Fire (LACoFD)
Internal Services
Sheriff (LASD)

Disaster Management Area Coordinators

State of California

California Governor's Office of Emergency Services (Cal OES)
California State Council on Developmental Disabilities (SCCD)

External Partners

Access Services
Alzheimer's Association
Catholic Charities
City of Beverly Hills
City of Long Beach
Disability Community Resource Center
Eastern Los Angeles Regional Center
Emergency Network Los Angeles
Habitat for Humanity
Harbor Regional Center
Lanterman Regional Center
Los Angeles County Office of Education
Los Angeles County Sanitation Districts
Los Angeles County Metropolitan Transportation Authority
Los Angeles Regional Food Bank
Neighborhood Legal Services of Los Angeles County
Puente Hills Habitat Preservation Authority
South Central Los Angeles Regional Center
Westside Regional Center

Cover Photo Credits: Los Angeles County Chief Executive Office, Countywide Communications Branch; Los Angeles County Department of Public Works

Letter of Promulgation

To: Residents, Officials, and Employees of Los Angeles County

Preservation of life and property is an inherent responsibility of local, state, and federal government. The County of Los Angeles produced this updated 2025 All-Hazard Mitigation Plan (AHMP) to delineate mitigation responsibilities of County departments and describe mitigation support to communities.

While no plan can guarantee prevention of death and destruction, a well-developed AHMP can guide mitigation efforts aimed at decreasing the amount of loss experienced after an emergency. The Federal Disaster Mitigation Act of 2000 (DMA 2000) requires that local jurisdictions have an updated mitigation plan in order to be eligible for mitigation project activities. The intent of the 2025 AHMP also ensures that mitigation actions are based on sound planning processes that account for the risks and capabilities of communities within Los Angeles County of Mitigation plans are strategic and policy level documents, forming the foundation of a community's long-term strategy to reduce disaster losses.

The AHMP should be reviewed on an annual basis and approved every five years. The AHMP conforms to the requirements set forth the by the Federal Emergency Management Agency (FEMA) and the California Governor's Office of Emergency Services (Cal OES). The Los Angeles County Board of Supervisors gives its full support to the 2025 All-Hazards Mitigation Plan and urges all residents, officials, and employees to collectively share in our commitment to hazard mitigation.

This letter promulgates the 2025 All-Hazards Mitigation Plan which becomes effective upon approval by the Los Angeles County Board of Supervisors.

Kathryn Barger

Kathryn Barger, Chair
Los Angeles County Board of Supervisors

9/9/25
Date

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1 Introduction, Purpose, and Scope

1.1 Purpose

The 2025 All-Hazard Mitigation Plan (AHMP) was developed in collaboration with a wide range of stakeholders representing County Departments and other external stakeholders from cities, local utilities, non-governmental organizations, and state agencies. The purpose of this AHMP is to form the strategic-level foundation for hazard mitigation efforts undertaken by the County of Los Angeles. The 2025 AHMP is an update to the 2020 version of the plan and seeks to maintain the County's continuing commitment to hazard mitigation as a critical step in reducing hazard risks, making communities safer, and building countywide resilience.

1.2 Scope

Hazard mitigation is defined in the Code of Federal Regulations (CFR) as "any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards." This AHMP identifies and profiles hazards, analyzes the people and critical infrastructure at risk, and provides a series of mitigation strategies aimed at reducing hazard risk. The plan also describes actions to integrate vulnerable communities including people with Access and Functional Needs (AFN) into hazard mitigation planning and other efforts. The AHMP is intended to function as a strategic plan for hazard mitigation and, while not an emergency plan, complements the Los Angeles County Operational Area Emergency Operations Plan. This plan contains mitigation strategies for County-owned facilities or other areas under the jurisdiction of the County of Los Angeles. Hazard mitigation strategies for incorporated cities within Los Angeles County may be found in that city's hazard mitigation plan.

1.3 Legal Authority and Requirements

Historically local hazard mitigation planning has been driven by federal law. The Disaster Mitigation Act (DMA) of 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 with new requirements for hazard mitigation. The DMA of 2000 emphasized the need for state, tribal, and local entities to closely coordinate on hazard mitigation efforts and formed the legal basis for the Federal Emergency Management Agency's (FEMA) current mitigation plan requirements in order to utilize Hazard Mitigation Assistance grant programs. This plan was prepared

pursuant to the requirements set forth in the DMA of 2000 and other FEMA hazard mitigation policy guidance.

1.4 Plan Organization

The AHMP is organized into nine (9) sections, excluding the Appendices, including:

1. **Introduction:** Discusses the purpose, scope, and legal authority of the plan.
2. **Planning Process:** Describes the planning process that was undertaken by the Hazard Mitigation Planning Committee to create this updated 2025 AHMP.
3. **Community Profile:** Overviews the unique geographic, climatic, environmental, and socioeconomic factors that make up Los Angeles County and their implications for hazard mitigation planning.
4. **Climate Change:** Outlines the impacts of climate change in Los Angeles County and potential mitigation and adaptation measures.
5. **Integrating AFN into Hazard Mitigation:** Discusses strategies for integrating people with Access and Functional Needs (AFN) into prevention and hazard mitigation efforts.
6. **Hazard Identification and Risk Assessment:** Identifies and profiles nine (9) natural and four (4) human-caused hazards that may impact Los Angeles County including: wildfire, earthquake, extreme heat, drought, flooding, dam failure, land movement, tsunami, severe wind and tornado, mass violence, cybersecurity incidents, transportation incidents, and public health emergencies.
7. **Mitigation Strategy:** Delineates the overall strategy for the County's hazard mitigation efforts including goals and objectives, existing mitigation capabilities, and an analysis of mitigation actions.
8. **Plan Maintenance:** Outlines how the plan will be maintained annually ahead of the next full plan update in five years.
9. **Plan Adoption:** Discusses updates to the plan and implementation following plan adoption.

Following these sections, there are an additional six (6) appendices with supporting materials such as hazard maps, meeting minutes from planning meetings, and information about the public engagement efforts during the planning process.

2 Planning Process

2.1 Overview of the Planning Process

The 2025 Los Angeles County All-Hazard Mitigation Plan (AHMP) update builds upon the robust all-hazard planning framework established by the 2020 All-Hazards Mitigation Plan, while incorporating new methodologies, stakeholder engagement, and compliance requirements. The planning process for this update emphasized inclusivity, transparency, and the integration of emerging climate adaptation considerations.

This planning process followed a structured, phased approach aligned with FEMA's Local Mitigation Planning Policy Guide (2022), 44 CFR requirements, and guidance from the California Governor's Office of Emergency Services (Cal OES). This approach began with project initiation where the scope, timeline, and stakeholders were defined. Stakeholder and public engagement were prioritized to ensure representation from diverse groups, including historically underrepresented communities and climate-vulnerable populations.

Data collection and analysis leveraged updated hazard, climate, and vulnerability data from local, state, and federal sources, providing a foundation for enhanced risk and vulnerability assessments. Hazard profiles were updated to include climate projections and cascading impact scenarios. Mitigation strategies were revised and prioritized with a renewed focus on climate resilience and nature-based solutions. Strategies were also developed incorporating people with access and functional needs throughout each component of the AHMP. Finally, methods for monitoring and evaluation of mitigation efforts were defined in the plan maintenance and implementation strategy. Table 2-1 provides a timeline of the major plan update tasks and milestones over the planning process.

Table 2-1 AMHP Planning Timeline

Date	Tasks	People Involved
February 2025	Reviewed the 2020 AHMP and identified components that require update.	OEM AHMP Project Team
	Collected and reviewed existing documents, including the Threat and Hazard Identification and Risk Assessment (THIRA) along with resources for people with access and functional needs and people experiencing homelessness.	OEM AHMP Project Team

Date	Tasks	People Involved
February 2025	Met with state Hazard Mitigation Planning Team.	OEM AHMP Project Team, Cal OES Mitigation Division
	Identified the initial list of stakeholders and ensured organizations that work with and represent people with access and functional needs were engaged in the planning process. External stakeholders include neighboring communities, local and regional agencies, and others.	OEM AHMP Project Team
	Conducted 2025 AHMP Kickoff Meetings with internal stakeholders.	OEM AHMP Project Team, Internal County Stakeholder Group, Cal OES Mitigation Division
	Determined hazards to be profiled including both natural (i.e., wildland fire, earthquake, etc.) and human-caused (i.e., cybersecurity, terrorism, etc.).	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group
	Drafted initial sections of the 2025 AHMP.	OEM AHMP Project Team
	Shared drafts of initial sections with internal and external stakeholders for their review.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division
	Met with internal and external stakeholders to obtain feedback on draft plan elements.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division

Date	Tasks	People Involved
March 2025	Developed the Public Outreach Engagement Plan to collect feedback from the public on the public draft of the 2025 AHMP.	OEM AHMP Project Team, Cal OES Mitigation Division
	Drafted subsequent sections of the 2025 AHMP including updating existing mitigation actions and developing new mitigation actions as needed.	OEM AHMP Project Team
	Shared drafts of the subsequent sections with internal and external stakeholders for their review.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division
	Met with internal and external stakeholders to obtain feedback on subsequent draft plan elements.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division
April/May 2025	Drafted final sections of the 2025 AHMP and produced a Final Draft AHMP.	OEM AHMP Project Team
	Shared Final Draft of the AHMP with internal and external stakeholders for their review.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division
	Met with internal and external stakeholders to obtain feedback on subsequent Final Draft AHMP.	OEM AHMP Project Team, Internal County Stakeholder Group, External Stakeholder Group, Cal OES Mitigation Division
	Produced Final AHMP.	OEM AHMP Project Team

2.2 Stakeholder Engagement

Inclusive stakeholder involvement was essential to the planning process. The County ensured broad representation and participation, consistent with the "Whole Community Approach" outlined in the 2023 Operational Area Emergency Operations Plan (OAEOP). Key stakeholders that comprised the Hazard Mitigation Advisory Committee included:

- County departments such as, but not limited to, Public Works, Public Health, and Regional Planning.
- Cities within the operational area (OA) and neighboring communities through Disaster Management Area Coordinators (DMACs) and city representation.
- Non-governmental organizations (NGOs), including environmental and disability advocacy groups.
- Special District partners managing critical infrastructure.
- Representatives of academia and school districts.
- Community representatives from Access and Functional Needs (AFN) populations and historically underrepresented populations.

Regular meetings, workshops, and focus groups were held to gather input and refine mitigation strategies. Stakeholders were contacted and invited to participate in the 2025 AHMP planning process through email (please see email template in Appendix B-3). Stakeholder feedback was documented and incorporated into the plan, ensuring diverse perspectives informed the process. Tables 2-2 and 2-3 includes a list of representatives of each agency that contributed to the planning process.

Table 2-2 Hazard Mitigation Advisory Committee – Internal Stakeholder Group

Department/ Agency	Name	Title	Planning Contribution
Los Angeles County Office of Emergency Management (OEM AHMP Project Team)	Michael Morin	Emergency Management Coordinator	Functioned as lead planners, led planning meetings, drafted plan, reviewed mitigation actions submitted by departments.
	Matthew Topoozian	Emergency Management Coordinator	

Department/ Agency	Name	Title	Planning Contribution
	Karen Haro	Emergency Management Coordinator	
	Girma Wollela	Emergency Management Coordinator	
Los Angeles County Department of Aging and Disabilities	Mike Tsao	Administrative Deputy	Attended planning meetings, reviewed section drafts, and provided feedback.
	Henry Lopez	Program Manager	
	Carin Anderson	Administrative Services Manager	
	Keilah Kelso	Administrative Services Manager	
Los Angeles County Chief Executive Office – Anti-Racism, Diversity, and Inclusion Initiative	Cesar Sanchez	Senior Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Chief Executive Office – Homeless Initiative	Onnie Williams III	Principal Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Chief Sustainability Office	Matthew Gosner	Climate Resilience Officer	Attended planning meetings, reviewed section drafts, and provided feedback.

Department/ Agency	Name	Title	Planning Contribution
Los Angeles County Department of Beaches and Harbors	Katharine de la Cruz	Administrative Services Manager	Attended planning meetings, reviewed section drafts, and provided feedback.
	Vanessa Huerta	Safety Officer	
Los Angeles County Department of Economic Opportunity	Maritza Dubie	Human Services Administrator	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Department of Health Services	Elaine Forsyth	Senior Nursing Instructor	Attended planning meetings, reviewed section drafts, and provided feedback.
	Isabel Sanchez	Disaster Services Specialist	
Los Angeles County Department of Human Resources	Kevin Halbritter	Deputy Compliance Officer	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Department of Parks and Recreation	Ramon Bernal	Disaster Services Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Department of Public Health	Elizabeth Rubin	Epidemiologist	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Department of Public Social Services	Manuel Gutierrez	Disaster Services Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.

Department/ Agency	Name	Title	Planning Contribution
Los Angeles County Department of Public Works	Joseph Marble	Disaster Services Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.
	Loni Eazell	Disaster Services Specialist	
Los Angeles County Department of Regional Planning	Thuy Hua	Supervising Planner	Attended planning meetings, reviewed section drafts, and provided feedback.
	Edgar De La Torre	Principal Regional Planner	
Los Angeles County Fire Department	Nick Duvally	Deputy Fire Chief	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Internal Services Department	Juan-Raul Cardenas	GIS Analyst	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Sheriff's Department	Jordan Kennedy	Sergeant	Attended planning meetings, reviewed section drafts, and provided feedback.

Table 2-3 Hazard Mitigation Advisory Committee – External Stakeholder Group

Department/Agency	Planning Contribution
Access Services	Attended planning meetings, reviewed section drafts, and provided feedback.
Alzheimer's Association California	Attended planning meetings, reviewed section drafts, and provided feedback.
California Governor's Office of Emergency Services	Attended planning meetings, reviewed section drafts, and provided feedback.
Catholic Charities	Attended planning meetings, reviewed section drafts, and provided feedback.

Department/Agency	Planning Contribution
City of Beverly Hills Emergency Management Division	Attended planning meetings, reviewed section drafts, and provided feedback.
City of Long Beach Disaster Preparedness & Emergency Communications	Attended planning meetings, reviewed section drafts, and provided feedback.
City of Los Angeles Emergency Management Department	Attended planning meetings, reviewed section drafts, and provided feedback.
Disability Community Resource Center	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area A	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area B	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area C	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area D	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area E	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area F	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area G	Attended planning meetings, reviewed section drafts, and provided feedback.
Disaster Management Area Coordinator, Area H	Attended planning meetings, reviewed section drafts, and provided feedback.
Eastern Los Angeles Regional Center	Attended planning meetings, reviewed section drafts, and provided feedback.
Emergency Network Los Angeles	Attended planning meetings, reviewed section drafts, and provided feedback.
Habitat for Humanity	Attended planning meetings, reviewed section drafts, and provided feedback.

Department/Agency	Planning Contribution
Harbor Regional Center	Attended planning meetings, reviewed section drafts, and provided feedback.
Lanterman Regional Center	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Office of Education	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles County Sanitation Districts	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles Metropolitan Transportation Authority	Attended planning meetings, reviewed section drafts, and provided feedback.
Los Angeles Regional Food Bank	Attended planning meetings, reviewed section drafts, and provided feedback.
Neighborhood Legal Services of Los Angeles County	Attended planning meetings, reviewed section drafts, and provided feedback.
Puente Hills Habitat Preservation Authority	Attended planning meetings, reviewed section drafts, and provided feedback.
South Central Los Angeles Regional Center	Attended planning meetings, reviewed section drafts, and provided feedback.
Westside Regional Center	Attended planning meetings, reviewed section drafts, and provided feedback.

2.3 Public Involvement and Outreach

Public outreach efforts aimed to foster transparency, inclusivity, and fortify public trust. The County engaged the public during the planning process through multiple media formats to share information and collect feedback taking into account language and other access and functional needs. A rolling outreach strategy was used to ensure that as each section was drafted and reviewed by planning stakeholders, it was concurrently made available for public commentary. To accomplish this, each section was posted to the Los Angeles County Hazard Mitigation Program website as it was completed by the planning team. A survey designed to gauge community perceptions of hazard risks and mitigation priorities was used on the website (Appendix D). This approach ensured that the public was a key partner in every step of the planning process and had a voice as

each section was being developed by the planning team. A social media campaign using all LA County OEM social media channels was initiated to direct the public to the survey.

To address equity, targeted outreach efforts focused on engaging historically underrepresented communities and AFN populations, using multilingual and accessible materials and culturally appropriate techniques. Aside from public outreach, stakeholders that work with or represent people with access and functional needs, people experiencing homelessness, and a diverse array of cultural groups were targeted to participate in the Hazard Mitigation Advisory Committee. These measures ensured that the public had meaningful opportunities to participate in shaping the plan.

2.4 Review and Incorporation of Existing Plans and Reports

The planning process included a comprehensive review of existing documents and protocols to ensure consistency and alignment. The 2020 All-Hazards Mitigation Plan served as the foundational document for this update. Additionally, key concepts from the 2023 Operational Area Emergency Operations Plan (OAEOP), such as Emergency Support Functions (ESFs) and disaster management areas, were integrated. The Los Angeles County Climate Vulnerability Assessment provided valuable insights into climate risks and social sensitivity, while local Climate Action Plans ensured alignment with municipal climate adaptation initiatives. Furthermore, the 2021 UASI THIRA (Threat and Hazard Identification and Risk Assessment) provided critical data for identifying evolving threats and capability targets, enhancing the accuracy and relevance of the plan. The demographic data from the 2020 U.S. Census was utilized to ensure an accurate representation of Los Angeles County's population, now estimated at over 10 million residents. The demographic breakdown includes 48% Hispanic or Latino, 26% White, 15% Asian, 8% African American, and 3% other, with over 40% speaking a language other than English at home, emphasizing the need for multilingual and culturally appropriate outreach.

Table 2-4 Existing Plans, Maps, and Reports

Plan, Map, or Report	Information to be Incorporated into the 2025 Updated AHMP
Los Angeles County Operational Area Emergency Operations Plan (2023)	Used to inform Section 6: Hazard Identification and Risk Assessment and Section 7: Mitigation Strategy
Los Angeles County 2035 General Plan (2024)	Safety element mitigation policies used to inform Section 7 – Mitigation Strategy
Los Angeles County Comprehensive Floodplain Management Plan (2021)	Used to inform Section 6: Hazard Identification and Risk Assessment and Section 7: Mitigation Strategy for elements related to flood hazards
County of Los Angeles Floodplain Management Plan Progress Report from (2024)	Used to inform Section 6: Hazard Identification and Risk Assessment and Section 7: Mitigation Strategy for elements related to flood hazards
County of Los Angeles Repetitive Loss Area Analysis Progress Report (2021)	Used to inform Section 6: Hazard Identification and Risk Assessment and Section 7: Mitigation Strategy for elements related to flood hazards
Los Angeles County 2045 Climate Action Plan (2024)	Used to inform Section 6: Hazard Identification and Risk Assessment, Section 7: Mitigation Strategy, and Section 4: Climate Change for elements related to hazard risk posed by climate change
Los Angeles County Fire Department Fire Plan (2023)	Used to inform Section 6: Hazard Identification and Risk Assessment and Section 7: Mitigation Strategy for elements related to wildland fire hazards
Our County: Los Angeles Countywide Sustainability Plan (2019)	Used to inform Section 6: Hazard Identification and Risk Assessment, Section 7: Mitigation Strategy, and Section 4: Climate Change for elements related to hazard risk posed by climate change
Los Angeles County Homeless Initiative Strategy Plan (2022)	Used to inform vulnerable populations information across all sections of the plan.
Disability Among Adults in Los Angeles County (2019)	Used to inform vulnerable populations information across all sections of the plan.
Southern California Earthquake Data Center's Earthquake Catalogs (Current as of 2025)	Historical seismic information used in Section 6: Hazard Identification and Risk Assessment.

Plan, Map, or Report	Information to be Incorporated into the 2025 Updated AHMP
Maritime Tsunami Response Playbooks: Background Information and Guidance for Response and Hazard Mitigation Use (2016)	Historical tsunami information used in Section 6: Hazard Identification and Risk Assessment.
FEMA Flood Insurance Study, Los Angeles County, California (2020)	Historical flood information used in Section 6: Hazard Identification and Risk Assessment.
U.S. Geological Survey (USGS): Rainfall and Landslides in Southern California (2015)	Historical landslide information used in Section 6: Hazard Identification and Risk Assessment.
Burn Scar Information and Maps	Historical fire information used in Section 6: Hazard Identification and Risk Assessment.

3 Community Profile

3.1 Los Angeles County Overview



Los Angeles County is the most populous county in the United States, encompassing a diverse array of communities, landscapes, and infrastructure. According to the most recent census data, Los Angeles County has a population of approximately 10 million residents of which more than 1 million reside in unincorporated areas. The County's demographics, geographic features, and economic activities present both unique opportunities and significant challenges for hazard mitigation planning. This updated community profile integrates insights from the 2023 Operational Area Emergency Operations Plan (OAEOP) and reflects changes in population trends, infrastructure development, and climate risks.

The County Operational Area (OA) consists of all political subdivisions within the geographical boundaries of Los Angeles County. It encompasses five supervisorial districts, eight Disaster Management Areas (DMAs), 88 incorporated cities, 80 school districts, and approximately 142 special districts.

3.2 Geography and Land Use



Spanning over 4,000 square miles, Los Angeles County features diverse terrain, including coastal plains, valleys, mountains, islands, and deserts. The County's varied geography includes multiple microclimates that influence its exposure to natural hazards, such as earthquakes, tsunamis, wildfires, floods, and landslides. Urban areas, particularly the City of Los Angeles and its surrounding metropolitan region, are densely populated and heavily developed. In contrast, rural and unincorporated areas often face unique vulnerabilities due to limited infrastructure and resources. Rural areas include the Angeles and Los Padres National Forests, which have small communities, campgrounds, and day use areas. There are also two islands within the County, Santa Catalina and San Clemente. The County also includes a significant amount of Wildland Urban Interface (WUI) areas where residential and commercial development meets underdeveloped wildland with vegetative fuels. Land use within the County is equally diverse, with a mix of residential, commercial, industrial, agricultural, and open spaces. Recent urban development in densely populated areas has increased impervious surfaces like concrete and asphalt, which retain heat and create urban heat islands (UHI) that are much hotter than nearby rural areas. This phenomenon elevates temperatures, especially in low-income communities lacking green spaces for cooling. Additionally, urbanization affects stormwater management by reducing natural drainage and exacerbating flooding risks in low-lying areas.

These trends underscore the need for sustainable planning strategies, such as promoting green infrastructure, enhancing stormwater systems, and mitigating heat islands through tree planting and reflective materials. The County's diverse land use must be carefully managed to reduce vulnerabilities while supporting economic growth and environmental sustainability.

3.3 Social Vulnerability

Social vulnerability is a crucial component to Los Angeles County's hazard mitigation planning. The County is home to a diverse population with disparities in income, housing stability, and access to resources. The Los Angeles County Anti-Racism, Diversity, and Inclusion (ARDI) Initiative created a comprehensive Equity Explorer, which is a geospatial tool that explores multiple equity data points across Los Angeles County. The ARDI Equity Explorer includes various layers that visualize social equity, economic opportunity, housing and homelessness, health, justice, built environment, and disaster recovery data. The public can access this data at ceo.lacounty.gov/ardi/tools. Maps created using data from the ARDI Equity Explorer are in Appendix A-8.

The US Centers for Disease Control and Prevention (CDC) defines social vulnerability as a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters to human caused threats. The CDC's Social Vulnerability Index (Figure 3.1) is designed to identify and quantify communities experiencing social vulnerability.

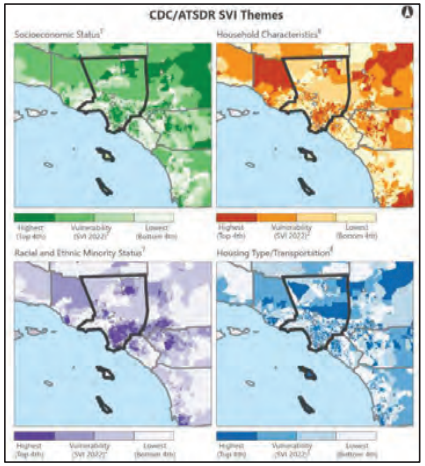


Figure 3.1 CDC Social Vulnerability Index (CDC 2022)

The most recent CDC Social Vulnerability Index score from 2022 for Los Angeles County indicated a high level of vulnerability across four themes: socioeconomic status, household characteristics, racial and ethnic minority status, and housing type/transportation.

Vulnerable populations identified for Los Angeles County that will be considered in the AHMP include:

- **Low-Income Residents**: Individuals living below or near the poverty line are often disproportionately affected by disasters due to limited financial resources for emergency preparedness, response, and recovery.

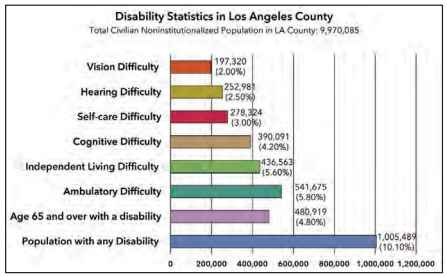


Figure 3.2 Disability Statistics in Los Angeles County (OAEOP 2023)

- **People with Access and Functional Needs (AFN)**: Individuals with Access and Functional needs have increased challenges in preparedness, evacuation, sheltering, accessing emergency services and recovery. Access and Functional Needs include but are not limited to people who have any combination in varying degree of: physical disabilities, intellectual disabilities, developmental disabilities, mental health-related issues, visual impairments, hearing impairments/deaf, mobility impairments, or chronic conditions. AFN also include older adults, infants and children, people living in institutionalized settings, people living below the poverty line or experiencing homelessness, people with limited English proficiency or are non-English speakers, or people who are transportation disadvantaged.



Figure 3. 3 Breakdown of Language at Home in Los Angeles County (OAEOP 2023)

- **People Experiencing Homelessness (PEH)**: With an estimated over 75,000 individuals experiencing homelessness, this population is particularly at risk during extreme weather events and other disasters.
- **Immigration Status**: Fear of engaging with government services based on immigration status can prevent residents from accessing critical resources.

- **Limited English Proficiency:** Over 40% of residents speak a language other than English at home, highlighting the need for multilingual and culturally appropriate outreach efforts. Language accessibility is critical to ensure all residents and visitors can obtain information and services during a disaster. See Figure 3.3 for a breakdown of languages spoken at home in Los Angeles County not including American Sign Language.

The figure below highlights certain variables in Los Angeles County that may increase vulnerability to emergencies and disasters. To address these vulnerabilities, the County's mitigation planning includes equitable strategies designed to reduce risk and enhance resilience among these populations. Targeted outreach, improved access to resources, preparedness education events, and collaboration with community organizations are integral to these efforts.

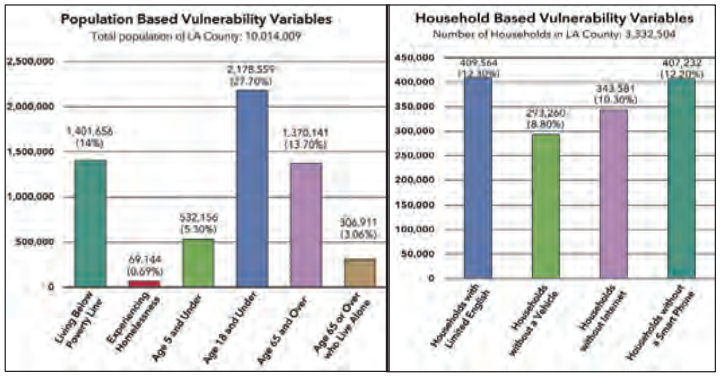


Figure 3.4 Los Angeles County Vulnerability Variables (OAEOP 2023)

The Federal Emergency Management Agency (FEMA) maintains the National Risk Index, a mapping tool that assesses 18 possible hazards a jurisdiction is susceptible to in combination with the amount of loss that could result from those hazards. Los Angeles County ranks as the community with the most risk in the United States according to the FEMA National Risk Index. According to the National Risk Index, hazards with the highest risk for Los Angeles County include earthquake, wildfires, extreme heat, flooding, high winds, and landslides.

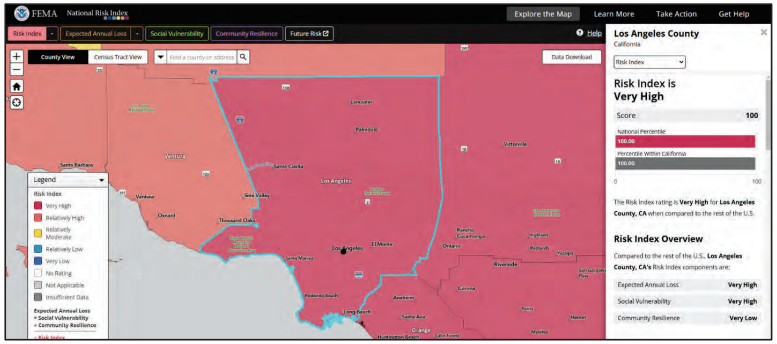


Figure 3.5 FEMA National Risk Index (2025)

3.4 Economy and Critical Infrastructure

Los Angeles County is a global economic hub, hosting industries such as entertainment, technology, manufacturing, and international trade. The Port of Los Angeles and the Port of Long Beach collectively form one of the world's busiest trade gateways, underscoring the importance of protecting critical infrastructure from hazards including those exacerbated by climate change. Critical facilities provide services and functions essential to a community, especially during and after a disaster. Common types of critical facilities include but are not limited to fire stations, police stations, hospitals, schools, and utilities. Critical facilities may also include places that can be used for sheltering, cooling centers, staging purposes, or other large public gathering spots such as community centers and libraries. Critical facilities include those operated by non-governmental and business partners vital for redevelopment or

economic security. When these are affected by a disaster, the County provides businesses and workers impacted by the disaster with vital information and resources. This allows them to maneuver effectively through disaster response toward recovery using its network of job centers and business hubs.

Other critical infrastructure includes the facilities and industries that enable all facets of society to function, including but not limited to the following community lifelines:

- **Safety and Security**: The myriad of local law enforcement, fire and rescue, emergency management, schools, and other government services that maintain public safety and security.
- **Communications:** The interconnected network of infrastructure owners and operators of communications systems such as internet, telephone, cellular and other communications towers, cable, satellite, and more.
- **Transportation Networks**: The County's extensive network of roadways, highways, railways, transit systems, and airports is essential for daily operations and disaster response.
- **Energy Systems**: Power generation facilities, energy distribution networks, and pipelines are vulnerable to multiple types of hazards and threats.
- **Water and Wastewater Systems**: Drought conditions and aging infrastructure at the over 220 different water agencies in Los Angeles County pose risks to water availability and quality.
- **Healthcare Facilities**: Over 100 hospitals and numerous clinics serve the County, requiring robust contingency plans to maintain operations during disasters.
- **Food and Shelter:** The vast system of food production (i.e., agriculture), distribution, and retail along with community housing or sheltering.

3.5 Climate and Environmental Conditions

Los Angeles County faces escalating risks from climate change, significantly impacting its environment, economy, and communities. These challenges include rising temperatures, prolonged droughts, more frequent and severe extreme weather events, and their cascading effects. These risks highlight the critical need for adaptive planning to protect vulnerable populations, infrastructure, and natural resources. Key climate-

related considerations referenced in the Los Angeles County Climate Action Plan that will be addressed in this AHMP include, but are not limited to:

- **Extreme Weather Events:** Extreme temperatures in the Los Angeles region are expected to increase. Both dry and wet extremes are projected to intensify, leading to longer dry periods than historically experienced. These dry periods are expected to be followed by significantly wetter conditions, including atmospheric rivers bringing more intense rainfall. This pattern may result in increased water scarcity, mudslides, and flooding.
- **Sea-Level Rise**: Coastal communities are at heightened risk of flooding and erosion, threatening homes, businesses, and critical infrastructure. Sea level rise can exacerbate the impacts of high tides, storm surges, and heavy precipitation, and can lead to increased coastal flooding and shoreline erosion.
- **Increasing Wildfire Risk**: Climate change has intensified wildfire seasons, particularly in the County's mountainous, wildland urban interface (WUI), and new and undeveloped regions. Wildfires are projected to increase in frequency and intensity including in some areas not historically impacted by wildfire.

In response, the County has prioritized integrating climate adaptation strategies into its hazard mitigation planning, as outlined in the Climate Vulnerability Assessment and the OAEOP.

3.6 Regional Collaboration and Planning Efforts

Los Angeles County's size and complexity necessitates collaboration with numerous jurisdictions, agencies, and community organizations. The County is designated as the Operational Area Coordinator and functions as an intermediate level in the State of California's Standardized Emergency Management System (SEMS). In accordance with SEMS, the County serves as the communications and coordination link between local governments within Los Angeles County and the state government. Partnerships with academic institutions, non-profits, and private sector stakeholders support data collection, public engagement, and innovative mitigation strategies. Additionally, the County has also adopted Emergency Support Functions (ESFs) as the primary emergency management coordination structure. ESFs group function-specific stakeholders who will coordinate throughout all phases of emergency management,

including function-specific mitigation activities. For more information on regional emergency management collaboration and planning, reference the OAEOP.

3.7 Implications for Hazard Mitigation Planning

Understanding the community is a critical aspect in hazard mitigation planning. This community profile will inform key considerations in subsequent sections of the AHMP including but not limited to the following:

- **Targeted Outreach:** Include vulnerable populations and the business community in the planning process through equitable public outreach.
- **Infrastructure Resilience:** Prioritize the protection of critical infrastructure, including ports and transportation networks, energy systems, and water and wastewater systems, among others.
- **Climate Adaptation:** Develop strategies to mitigate the impacts of climate change, focusing on urban heat islands, sea-level rise, and wildfire risks.
- **Regional Coordination:** Strengthen direct collaboration within the OA between the County, local jurisdictions, special districts, unified school districts, the business community and cross-sector non-governmental partners to enhance awareness, preparedness, and response capabilities.
- **Transparent & Open Communication:** Ensure communications are accessible, and clear to advance public trust and safety. Develop dashboards to demonstrate progress.

4 Climate Change

4.1 Climate Change Overview

Climate change refers to the changing effect of the Earth's climate system over time, including changes in temperature, precipitation, and wind patterns. Climate change had significant impacts on Los Angeles County, affecting various aspects of life, environment, infrastructure, and sustainable development, and presents increasing risks from amplified hazards and changing baselines (e.g., sea level) into the future. The rate of climate change has significantly accelerated over the last three decades and trends continues. This plan addresses the effects of climate change related to disasters within the County and strategies to mitigate risks, focusing on preparedness, resilience and equity.

Climate change contributes to more frequent and intense disasters, such as floods, wildfires, drought and excessive heat. Rising temperatures and changing weather patterns pose health risks, like heat-related illnesses, respiratory issues, and the spread of diseases. Hazard mitigation efforts aim to reduce the impacts and effects of greater hazards due to climate change. The economic impact of climate change has been substantial, affecting industries such as agriculture, tourism, and insurance with increasing risks due to accelerating climate changes.

Greenhouse Gas (GHG) emissions are the main driver of climate change, which causes increased frequency, duration, and severity of extreme weather and climate-related disasters. Climate change exacerbates air pollution, leading to poor air quality and health issues. GHG emissions from residential buildings, commercial and institutional facilities, manufacturing industries and construction, energy industries, oil and natural gas systems. transportation, fossil energy, wildfires and other sources contribute to increased particulate matter and other pollutants in the air.

4.2 Integrating Climate Change into Hazard Profiles

Integrating climate change into hazard profiles involves assessing the current and future impacts of climate change on various hazards and incorporating this information into planning and mitigation strategies. This section highlights how climate change relates to these hazards and how the county is addressing climate change through hazard mitigation efforts which help protect the county's residents and economies from the adverse effects of climate changes and climate-amplified events.

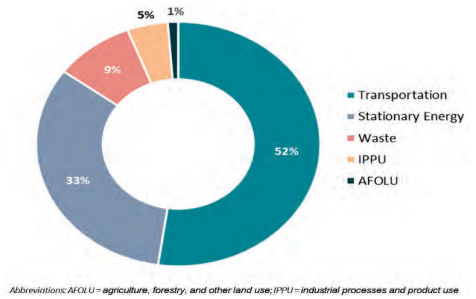


Figure 4.1 Sources of GHG Emissions from within Los Angeles County (LA County 2024; 2045 Climate Action Plan)

4.2.1 Extreme Heat

Increasing temperatures and high heat events is one of the most conspicuous results of and a direct correlation between GHG pollution and climate change. Excessive temperatures in the Los Angeles region are expected to increase significantly more very hot days and warm nights. In addition to increasing baseline temperatures and extreme heat due to climate change, heat islands exacerbate temperatures and high heat events. As development occurs and darker paved surfaces replace open land and vegetation, these areas become warmer forming an "island" of heat. Los Angeles County experiences more frequent and excessive heat due to climate change. This is currently a major risk and with unmitigated GHG emissions increasing heat will lead to even greater health issues, increased energy demand for cooling, and other strains on infrastructure.

4.2.2 Flooding

Flooding in Los Angeles County occurs due to extreme rainfall events causing flash floods, riverine flooding, and increased surface water. Coastal areas in Los Angeles County are vulnerable to sea- level rise (SLR), which exacerbates coastal hazards like floods, storm surges, and chronic erosion. Other related hazards include flooding near

the mouths of streams and channels, landslides, and seawater well intrusion. SLR exacerbates the impacts of high tides, storm surges, and heavy precipitation flooding, and continued SLR will lead to more life safety concerns and increased damage to property and infrastructure.

4.2.3 Drought

Prolonged droughts have become more common, affecting the water supply, agriculture, and ecosystems of Los Angeles County. Dry and wet extremes are projected to increase and are likely to cause drier periods than what the region has historically experienced.

Southern California projected to get drier, while Northern California will increase in temperature. This will result in loss of snowpack within the Sierra Nevada Mountain range, meaning less water for all Californians including farmers, residents, and utilities. The State Water Resource Control Board proclaimed several water conservation emergency regulations due to severe drought conditions that requires commercial, industrial, and residential conservation efforts. Proclamations include:

- **January 4, 2022:** State Water Board adopted the prohibited wasteful water uses emergency regulation
- **May 24, 2022:** the State Water Board adopted the emergency regulation to ban decorative grass watering like non-functional turf irrigation
- **December 7, 2022:** the State Water Board readopted the prohibited wasteful water uses emergency regulation,
- **May 26, 2023:** the State Water Board readopted the emergency regulation to ban decorative grass watering.

4.2.4 Wildfire

A wildfire is an unplanned and uncontrolled fire in an area of combustible vegetation. These fires can easily spread beyond the natural areas primarily involving and have a potential to cause damages outside of the perimeter. Wildfire probability depends on local weather conditions, outdoor activities and any preceding conditions (e.g., lots of rain leading to vegetation growth and then drying conditions), and a potential ignition (e.g., lightning strike, arson, debris burning, electrical equipment failure, car tailpipe, etc.). The frequency and intensity of wildfires has increased driven by higher

temperatures, lower precipitation, lower relative humidity, and prolonged droughts. These events have caused loss of life, destroy and/or damage to property, infrastructure, the environment and pose greater risks due to historical development patterns. The timeline of major wildfire events and acreage burned in Los Angeles County is listed at Section 6.2 of the plan.

4.3 Climate Mitigation Strategies

Los Angeles County is actively addressing climate change and implementing hazard mitigation strategies to reduce its impacts and build long-term resilience. The County faces increasing risks from excessive heat, wildfires, droughts, floods, and sea-level rise, all of which threaten communities, infrastructure, and natural resources.

To address many of these challenges, the County has developed comprehensive climate plans and strategies that integrate climate adaptation, sustainable land use, emergency preparedness, and environmental conservation. By enforcing building codes, investing in green infrastructure, and strengthening community preparedness, Los Angeles County aims to minimize risks and enhance disaster resilience. These efforts align with state and federal climate policies and are designed to protect both current and future generations while encouraging a more sustainable and livable environment for all.

4.3.1 Climate Resilience Plans and Actions

- **Los Angeles County 2045 Climate Action Plan (2045 CAP):** Establishes aggressive targets to reduce greenhouse gas emissions and achieve carbon neutrality by 2045.
- **Water Conservation & Drought Resilience Measures:** Implements mandatory water restrictions, promotes rainwater harvesting, and expands groundwater recharge and water recycling projects.
- **Wildfire Mitigation & Vegetation Management Programs:** Enforces Wildland Urban Interface (WUI) codes, increases forest management techniques, aligned with Traditional Ecological Knowledge (TEK) principles and practices of our native indigenous communities, and strengthens fire-resistant building and landscape requirements.

- **Green Infrastructure & Urban Cooling Initiatives:** Expands tree planting aligned with TEK principles and practices, investigates removing hard (paved) surfaces, and planting groundcover, utilizes and promotes public cooling centers and home heat preparedness, and encourages the use of reflective "cool" roofing and surfaces to mitigate the urban heat island (UHI) effect.
- **Heat Action Plan:** Develops strategies to reduce the adverse health impacts of excessive heat through public shade structures, cooling centers, building codes, and increased public awareness campaigns for all susceptible to extreme heat.

These strategic actions reflect Los Angeles County's commitment to tackling climate change. By integrating proactive policies, indigenous-informed practices, community-driven solutions, and resilient infrastructure, Los Angeles County, is not only mitigating current risks but also preparing for a future where communities can thrive in an ever-changing dynamic environment.

4.4 Climate Change Conclusion

Through proactive policies and community engagement, Los Angeles County strives to navigate the complexities of a changing climate and safeguard its people, environment, infrastructure and economies. This approach helps minimize the risks and impacts associated with climate-related hazards. Addressing climate change in hazard mitigation help enhance safer, healthier, and more sustainable communities.

5 Integrating Access and Functional Needs (AFN) into Hazard Mitigation

5.1 AFN Introduction

Modern hazard mitigation planning increasingly recognizes that resilient communities must address the needs of all residents –including those with access and functional needs (AFN). Historically, individuals with disabilities (i.e. including but not limited to, youth, those economically depressed, pregnant, etc.), chronic health conditions, language barriers, or transportation disadvantages have been underrepresented in emergency planning. As evidenced by the best practices for stakeholder inclusion and further supported by national preparedness frameworks, integrating AFN considerations leads to plans that are more inclusive and effective. By proactively engaging AFN populations and support agencies in every phase, from preparedness through recovery, a hazard mitigation plan can reduce losses, improve evacuation and sheltering outcomes, and build trust between emergency management agencies and the communities they serve.

5.2 Inclusion of AFN and Vulnerable Populations in Planning

A major component of effective mitigation planning is a "whole community" approach. Incorporating AFN voices into the planning process is crucial because these stakeholders offer real-world insights into the challenges they face during emergencies. Key steps to this process include, but are not limited to:

- **Stakeholder Engagement:** Ensure that representatives from disability advocacy groups, community-based organizations, and service providers (such as local health departments and transportation agencies) are engaged early in the planning process. Their firsthand experiences help identify practical barriers that might otherwise be overlooked.
- **Public Participation:** Incorporating public stakeholders through meetings, surveys, and other outreach to capture the diverse needs of AFN populations. This input is vital to overcoming historical marginalization and ensuring that mitigation actions are relevant and equitable to the entire population.
- **Ongoing Interagency Collaboration:** Develop a hazard mitigation planning advisory committee and interagency working groups that include AFN stakeholders. These groups can guide both the planning process and the review of existing plans, ensuring that AFN issues are fully integrated from the outset.

5.2.1 Integrating AFN into the Overall AHMP

Integrating AFN considerations is not a stand-alone task; it must be interlaced throughout the entire hazard mitigation planning process. This includes:

- **Risk Assessments:** Incorporate AFN data into all risk assessments to ensure that the specific vulnerabilities of these populations are reflected in hazard maps and vulnerability index data.
- **Mitigation Strategy Development:** Ensure that every mitigation action is examined for its impact on AFN populations. For example, when planning for flood control or wildfire prevention projects, review how these projects can be improved to meet the needs of people with access and functional needs.
- **Plan Review and Update:** Ensure planning processes include regular AFN review and updates. Includes but not limited to:
    - Surveys of community needs
    - Consultations with AFN advisory groups
    - Integration of new technological or infrastructural solutions
- **Funding and Resource Allocation:** Clearly identify funding streams and resource commitments for AFN-specific projects. This could involve targeted grants from federal programs (e.g., Hazard Mitigation Assistance), state funding dedicated to accessible infrastructure improvements, and local resources such as the Productivity Investment Fund that can be accessed to improve the effectiveness and efficiency of County operations.

5.3 Assessment of AFN Needs

Understanding the specific needs of AFN populations requires both quantitative and qualitative approaches:

- **Data Collection and Risk Assessment:** Use existing resources, community surveys, outreach and risk assessments to help identify the number and types of individuals with AFN at the local community level. Evaluate the regional geographic distribution, vulnerabilities, and specific requirements before and after emergencies.

- **Frameworks for Analysis:** Adopt structured methodologies such as C-MIST (Communication, Maintaining Health, Independence, Support, Safety, and Transportation) to assess/ document AFN requirements.



- **C-MIST Explanation**
    - **Communication**: Individuals with hearing, vision, cognitive, or speech limitations may require alternative communication methods to receive or express information during emergencies.
    - **Medical / Health Needs**: People with complex medical conditions rely on medications, medical equipment, or specialized care to maintain their health and prevent complications.
    - **Independence**: Those who use mobility devices, assistive technology, or service animals need uninterrupted access to maintain their independence and daily functions.
    - **Supervision & Safety**: Some individuals require continuous support for safety, comfort, or emotional well-being, including those with memory issues, psychiatric conditions, or intellectual disabilities.
    - **Transportation**: Individuals without personal transportation or with mobility limitations need accessible and reliable options, especially in emergencies and evacuations.
- **Integrating Vulnerability Assessments:** Leverage tools from local climate vulnerability assessments and hazard mitigation plan reviews to identify areas where AFN populations overlap with high-risk zones (e.g., flood plains,

wildfire-prone areas). This integration helps prioritize mitigation actions in regions where vulnerable populations are most exposed.

5.4 Coordination with AFN Support Agencies

Effective mitigation planning requires robust coordination with both governmental and nongovernmental agencies that serve AFN populations. Best practices include:

- **Formal Partnerships:** Establish relationships and partnerships with agencies such as public health departments, social services, transportation authorities, community-based organizations, and disability advocacy organizations. These partnerships ensure that there is clear, ongoing communication and that roles and responsibilities are delineated before, during, and after disasters.
- **Joint Training and Exercises:** Conduct regular joint meetings, and exercises that include AFN components and identify additional resources to support the needs of the AFN community. These actions will help prepare all stakeholders to work together during a crisis and help identify gaps in current plans.
- **Outreach and Information Dissemination:** Ensure that all information, both pre-incident preparedness messages, response measures and post-incident recovery plans are accessible to all audiences. This includes using multiple languages, various communication formats (e.g., large-print, audio, sign-language, and digital formats), and culturally appropriate messaging to reach all segments of the community.

5.5 AFN Conclusion

A hazard mitigation plan builds a foundation for a resilient, inclusive community. By ensuring that AFN and other vulnerable populations are included in every phase of planning, from initial stakeholder engagement to the development of tailored mitigation actions and coordinated response strategies, communities can minimize disaster impacts and foster long-term resilience. Drawing on best practices from national frameworks and local planning guides, and by implementing ADA-compliant shelter operations, emergency managers can create a plan that truly serves every member of the community. This inclusive approach not only saves lives and property during disasters but also strengthens community trust and the overall effectiveness of emergency management efforts.

6 Hazard Identification and Risk Assessment

6.1 Hazard Identification Overview

The hazard identification and risk assessment process provide a foundation for Los Angeles County's hazard mitigation planning efforts by identifying, profiling, and assessing the risks associated with natural, technological, and human-caused hazards. This section builds on the framework established in the 2020 Hazard Mitigation Plan, incorporating insights from the 2023 Operational Area Emergency Operations Plan (OAEOP), the 2024 Los Angeles Threat and Hazard Identification and Risk Assessment (THIRA), the Los Angeles County Climate Vulnerability Assessment, the State of California Hazard Mitigation Plan (SHMP), and the Federal Emergency Management Agency (FEMA) National Risk Index.

Based on these sources hazards were included and addressed in the 2025 AHMP according to their frequency, severity and impact to Los Angeles County, see below Table 6-1. Hazards that did not meet the threshold of moderate risk will not be prioritized within the plan. Additionally, three new natural hazards (Extreme Heat, Drought, and Severe Wind/Tornado) and four human-caused hazards (Mass Violence, Cyber Incidents, Transportation Incidents, and Public Health Emergencies) are included in the 2025 AHMP.

Table 6-1 Hazard Inclusion/ Omission

Hazard	Comment
Earthquake	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County.
Wildfire	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County.
Heat Wave	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County.
Tornado	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County. Tornado is incorporated with the Severe Wind/ Tornado hazard profile.
Land Movement	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County.

Hazard	Comment
Lightning	Hazard is included in the plan due to its high frequency, severity, and impact to Los Angeles County. Lightening is incorporated with the Wildfire and Flooding hazard profiles.
Flooding	Hazard is included in the plan due to its frequency, severity, and impact to Los Angeles County. The Flooding hazard profile incorporates both Riverine and Coastal Flooding.
Drought	Hazard is included in the plan due to its frequency, severity, and impact to Los Angeles County.
Strong Wind	Hazard is included in the plan due to its frequency, severity, and impact to Los Angeles County. Strong Wind is incorporated with the Severe Wind and Tornado hazard profile.
Tsunami	Hazard is included in the plan due to its frequency, severity, and impact to Los Angeles County.
Winter Weather	Hazard is omitted from the plan due to its minimal frequency, severity, and impact to Los Angeles County.
Hail	Hazard is omitted from the plan due to its minimal frequency, severity, and impact to Los Angeles County.
Avalanche	Hazard is omitted from the plan due to its minimal frequency, severity, and impact to Los Angeles County.
Cold Wave	Hazard is omitted from the plan due to its lack of frequency, severity, and impact to Los Angeles County.
Hurricane	Hazard is omitted from the plan due to its lack of frequency, severity, and impact to Los Angeles County.
Ice Storm	Hazard is omitted from the plan due to its lack of frequency, severity, and impact to Los Angeles County.
Volcanic Activity	Hazard is omitted from the plan due to its lack of frequency, severity, and impact to Los Angeles County.

Los Angeles County faces a wide range of hazards due to its geographic diversity, population density, and economic significance. The following hazards were identified and prioritized from the previously mentioned sources based on historical occurrences, potential impacts, and future risks:

1. Wildfire
2. Earthquake
3. Extreme Heat
4. Drought
5. Flooding
6. Dam Failure
7. Land Movement
8. Tsunami
9. Severe Wind and Tornado
10. Mass Violence
11. Cybersecurity Incidents
12. Transportation Incidents
13. Public Health Emergencies

Among these hazards, six were identified to be potentially exacerbated by climate change including wildfire, extreme heat, drought, flooding, land movement, and severe wind and tornadoes. Additional human-caused hazards were included based on the 2024 THIRA including mass violence, cybersecurity incidents, transportation incidents, and public health emergencies. The results of the public Personal Disaster Impact Survey validated that these hazards are of significant concern to county residents. A risk assessment table comparing hazards to critical infrastructure is in Appendix C.

Table 6-2 Changes in Development and Vulnerability

Hazard	Change (Increase/ Decrease)	Reason
Earthquake	No Change	While new construction adheres to modern seismic codes aging infrastructure in high seismic zones remain vulnerable. Continued population growth in older neighborhoods with limited

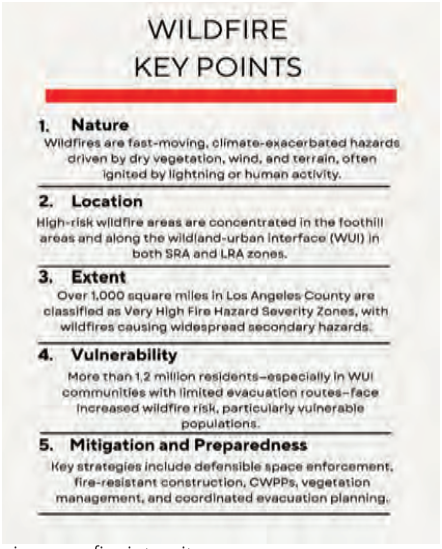
Hazard	Change (Increase/ Decrease)	Reason
		retrofitting increases overall exposure.
Wildfire (Lightning)	Increase in Vulnerability	Urban expansion into Wildland-Urban Interface (WUI) areas has increased the number of homes at risk. Post 2020 development in high fire severity zones has continued, though defensible space regulations and new fire-safe planning are improving resilience for new builds.
Extreme Heat	Increase in Vulnerability	Population density, urban heat islands, and development in inland valleys increases exposure. Older multi-family units without air conditioning remain a concern. More outdoor workers and people experiencing homelessness (PEH) add to vulnerable population.
Land Movement	Stable to Slight Increase	Most new development avoids known landslide-prone areas due to zoning and geotechnical review. However, climate-driven precipitation variability and wildfires continue to destabilize slopes in developed areas.
Flooding (Lightning)	Increase in Vulnerability	New impervious surfaces from development increase stormwater runoff. Older flood control infrastructure is strained under heavier, more frequent rain events.

Hazard	Change (Increase/ Decrease)	Reason
Drought	Increase in Vulnerability	Continued population growth and water demand in arid and semi-arid zones has outpaced gains in conservation. Agricultural vulnerability persists in high desert areas.
Severe Wind and Tornado	Increase in Vulnerability	Los Angeles County is experiencing more frequent and intense wind events, including tornadoes. As urban development expands, tree canopies and overhead utilities in densely developed areas continue to contribute to cascading hazards. In response, efforts are underway to underground utility lines in high-risk areas.
Tsunami	Stable	Revised tsunami inundation maps have refined the at-risk zones. New developments in coastal areas are largely outside the updated hazard areas or comply with stricter coastal building codes.
Dam Failure	Stable/ Slight Increase	While no new major dams have been constructed in recent years, downstream development continues to increase population and critical infrastructure exposure within inundation zones.



6.2 Wildfire

6.2.1 Nature



Wildfires are fast-moving, uncontrolled fires that consume vegetation and rapidly spread, often threatening lives, structures, and infrastructure. These fires can be ignited by natural causes, such as lightning, or human activities, including unattended campfires, downed power lines, and arson. The increasing frequency, duration, and intensity of wildfires in Los Angeles County are possibly linked to the changing climate, with hotter temperatures, prolonged droughts, and reduced humidity levels making the region highly susceptible to fires.

Factors Influencing Wildfire Behavior

- **Topography**: Fires spread more rapidly on steep slopes and are often driven by the Santa Ana winds.
- **Fuel Load**: Dense, dry vegetation and high tree mortality increase fire intensity.
- **Weather Conditions**: High temperatures, strong winds, and low humidity elevate fire risk, with the changing climate contributing to a lengthened fire season.

Wildfires also create secondary hazards such as poor air quality, landslides, flooding, and debris flows–especially in areas with recent burn scars where vegetation loss increases soil instability.

6.2.2 Location

Los Angeles County is one of the most wildfire-prone regions in the United States. Based on the Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone (FHSZ) maps, significant wildfire risk exists in the Santa Monica Mountains, San Gabriel Mountains, Palos Verdes Hills, and Puente Hills. The 2024 THIRA and Los Angeles County Climate Vulnerability Assessment identify an increasing risk to communities located in or near these high-risk areas.

Los Angeles County has three primary wildfire management zones:

- **Federal Responsibility Areas (FRAs):** Lands administered or controlled by the federal government where federal agencies have administrative and protection responsibility for wildfires.
- **State Responsibility Areas (SRAs):** Wildland areas where CAL FIRE is responsible for suppression efforts.
- **Local Responsibility Areas (LRAs):** Developed regions where local agencies, such as Los Angeles County Fire Department (LACoFD), provide fire protection.

For a better visual representation of this Wildfire Hazard within the LA County planning area, please reference Appendix A. Included in Appendix A are several Fire Hazard Severity Zone maps for reference.

6.2.3 Extent

According to CAL FIRE's Fire Hazard Severity Zone (FHSZ) maps, Los Angeles County contains:

- 386.06 square miles (8.11%) classified as Very High Fire Hazard Severity Zone (FHSZ) in Local Responsibility Areas, LRAs.
- 625.01 square miles (13.13%) classified as Very High (FHSZ) in State Responsibility Areas, SRAs.

Wildfires pose a significant threat not only through the immediate damage they cause to lives, property, and natural resources, but also through the secondary hazards that continue after the flames are extinguished.

In the aftermath of a fire, communities often face increased risks of flash floods, debris flows, and degraded air quality. These post-fire impacts can compound the initial destruction, placing additional strain on infrastructure, health systems, and recovery efforts.

6.2.4 History

Los Angeles County has experienced numerous devastating wildfires in recent decades, including:

- **Canyon Fire (1968) –** Burned 22,000 acres, destroyed 147 homes, and led to mass evacuations.
- **Old Topanga Fire (1993) –** Consumed 16,516 acres, destroying 388 structures and causing three fatalities.
- **Sayre Fire (2008) –** Destroyed 489 structures, including over 600 mobile homes.
- **Station Fire (2009) –** The largest fire in Los Angeles County history, burning 160,577 acres, destroying 209 structures, and causing two firefighter fatalities.
- **Woolsey Fire (2018) –** Burned 96,949 acres, destroyed 1,643 structures, and resulted in three fatalities.
- **Bobcat Fire (2020) –** Scorched 115,796 acres, destroying 171 structures and damaging numerous infrastructures in the Angeles National Forest.
- **Palisades Fire (2025) –** Resulted in significant destruction and loss of life, burning 23,707 acres, destroyed approximately 6,833 structures, and causing 12 civilian fatalities.
- **Eaton Fire (2025) –** Resulted in significant destruction and loss of life, burning 14,021 acres, destroying approximately 9,418 structures, and causing 17 civilian fatalities.

These fires highlight the increasing frequency and intensity of wildfires, emphasizing the urgent need for stronger mitigation and preparedness efforts.

The Los Angeles County area has experienced federally declared wildfires and are shown in the table below. There have been no state proclamations for wildfires in the last five years.

Federally Declared Wildfire/Fire Management Assistance Declaration in Los Angeles County from 1/1/2020 to 3/28/2025

Date	Incident Name	No.	Category
1/8/2025	California Wildfires and Winds	4856	Federal Declaration
1/8/2025	California Eaton Fire	5550	Fire Management Assistance Declaration
1/8/2025	California Hurst Fire	5551	Fire Management Assistance Declaration
1/7/2025	California Palisades Fire	5549	Fire Management Assistance Declaration
12/10/2024	California Franklin Fire	5548	Fire Management Assistance Declaration
9/11/2024	California Bridge Fire	5537	Fire Management Assistance Declaration
10/16/2020	California Wildfires	4569	Federal Declaration
9/13/2020	California Bobcat Fire	5374	Fire Management Assistance Declaration

6.2.5 Probability

With several guaranteed wildfires each year, the probability of wildfire ignition in Los Angeles County is gradually increasing, driven largely by climate change. There is a 100% chance of a fire occurring each year within the geographic planning area. Historically, wildfires occurred between June and November, but recent years have shown a year-round fire season due to hotter, drier conditions and more intense weather variability.

Longer dry periods, reduced humidity, and increased temperatures, coupled with historic drought and vegetation die-off, have created critically dry fuel beds. These events make even small ignition sources capable of generating major wildfires.

Santa Ana winds continue to serve as a major accelerant, contributing to rapid fire spread and severe fire behavior. When combined with urban encroachment into fire-prone areas, these conditions elevate both the frequency and destructiveness of wildfires.

Projections from the 2024 THIRA and the LA County Climate Vulnerability Assessment confirm that wildfire probability will continue to rise unless significant fuel reduction, land use planning, and climate adaptation strategies are implemented across all jurisdictions.

The 2024 THIRA estimates that:

- Over 1.2 million residents live in high-risk wildfire zones.
- Communities near the Wildland-Urban Interface (WUI) are at the greatest risk, especially those with limited evacuation routes, and the Access and Functional Needs community.
- Vulnerable populations, including seniors, low-income households, and people with disabilities, face heightened challenges during evacuations.

6.2.6 Vulnerability

Los Angeles County faces high wildfire vulnerability due to its extensive Wildland-Urban Interface (WUI), with over 1.2 million residents that live in Very High Fire Hazard Severity Zones (FHSZs). These communities are particularly susceptible because many homes lack defensible space, fire-resistant construction, or adequate emergency access.

Vulnerable populations including (but not limited to): seniors, individuals with disabilities, low-income households, and those dependent on electrical medical equipment, face significant evacuation and health risks during wildfire events, especially in WUI communities with limited ingress/egress and high fuel loads.

SUPERVISORIAL DISTRICT BREAKDOWN		
Supervisorial District	**Population in High-Risk Wildfire Zones**	**Percentage of District Population**
District 1	**150,000**	**12%**
District 2	**75,000**	**6%**
District 3	**425,000**	**30%**
District 4	**250,000**	**20%**
District 5	**500,000**	**32%**

Contextual Overview

Very High FHSZ in LRA jurisdiction includes dense hillside residential areas under local fire authority responsibility. These are some of the most vulnerable communities due to terrain, vegetation, and constrained emergency access.

Critical infrastructure is also at risk, with wildfire exposure threatening fire stations, law enforcement facilities, hospitals, utilities, transportation corridors, and emergency communication systems. Disruption to these essential services during wildfire events can compound vulnerabilities and delay response and recovery. For a better understanding of critical infrastructure at risk please see Appendix C.

Total Facilities Affected:

- **Very High LRA**: 120
- **High SRA**: 8
- **Very High SRA**: 76

With the continued expansion of developments into fire-prone areas has significantly increased wildfire risk. Many homes in the WUI lack proper defensible space and fire-resistant building materials, making them particularly vulnerable. Additionally, limited evacuation routes in some WUI communities create challenges for emergency response and evacuations. Stricter zoning laws, building regulations, and vegetation management policies are the best practices to reduce risk.

Department/ Agency	Very High FHSZ (LRA)	High FHSZ (SRA)	Very High FHSZ (SRA)
Animal Care and Control	1	0	1
Fire Department	39	1	14
Health Services	1	0	0
Library	7	1	2
LACMA / NHM	1	0	0
Office of Education	3	0	3
Other County Offices	0	0	0
Parks & Recreation	13	1	12
Public Health	52	4	41
Public Works	0	0	0
Sheriff's Department	3	1	3

Wildfires threaten essential infrastructure, including:

- **Transportation**: Damage to roads and bridges affects evacuation and emergency response.
- **Utilities**: Power lines, gas pipelines, and water infrastructure, including dams, are vulnerable to fire damage.
- **Emergency Services**: Public safety and healthcare facilities near wildfire-prone areas face operational disruptions.
- **Public Services**: Parks, libraries, schools, and other public areas could be lost or damaged.

New emerging patterns suggest that climate change may be influencing wildfire risks in Los Angeles County through:

- **Extending fire seasons:** Historically, peak fire season occurred from June to November, but fires are now starting and burning year-round.
- **Increasing fuel dryness:** Higher temperatures and prolonged droughts reduce vegetation moisture levels, making fires more intense.
- **Raising fire frequency:** Hotter, drier conditions contribute to more frequent ignitions, particularly in WUI areas.

Extent of Exposure

- **Total Area Exposed**: 243.72 sq mi
- **Supervisorial Districts (SD) Impacted**:
    - **SD3**: 117.95 sq mi (27.29%)
    - **SD5**: 95.61 sq mi (3.36%)
    - **SD1**: 16.23 sq mi (4.60%)
    - **SD4**: 9.10 sq mi (4.27%)
    - **SD2**: 4.83 sq mi (1.33%)

For a better visual representation of this Wildfire Hazard within the LA County planning area, please reference Appendix A for several Fire Hazard Severity Zone maps.

6.2.7 Impacts

Impacts for past fires vary depending on scope and severity, including the January 2025 fires, including the Palisades and Eaton Fires, resulted in widespread destruction across Los Angeles County, burning over 37,000 acres and destroying more than 16,000 structures combined, with nearly 30 civilian fatalities. These events caused cascading impacts such as prolonged power outages, degraded water pressure affecting firefighting and residential supply, and overwhelmed emergency services. Transportation routes and communications infrastructure were disrupted. Communities, especially in the Wildland-Urban Interface (WUI), experienced major economic losses due to the destruction of homes, businesses, and public facilities. Post-fire hazards like debris flows and landslides further compounded recovery challenges, with water infrastructure contamination and sedimentation requiring emergency remediation. The scope and severity of these fires underscore the increasing vulnerability of critical infrastructure and the urgent need for enhanced mitigation strategies across high-risk zones.

Problem Statement

Many hillside communities within LRA Very High FHSZ zones face critical access and water supply issues during fires. These areas often include aging structures and narrow roads, complicating firefighting and evacuation. Investments in defensible space, local code enforcement, and community wildfire protection planning are vital to saving lives and minimizing losses.

6.2.8 Mitigation and Preparedness

Los Angeles County is implementing a multi-agency approach to mitigate wildfire risks.

Key strategies include:

- **Community Wildfire Protection Plans (CWPPs):** Strengthening fire prevention measures in high-risk areas.
- **Community Preparedness:** Educating residents on wildfire readiness through outreach campaigns, emergency alert systems, and neighborhood preparedness programs.
- **Defensible Space Requirements:** Enforcing brush clearance around structures.
- **Enhanced Building Codes:** Promoting fire-resistant materials for new developments.
- **Vegetation Management:** Reducing fuel loads through prescribed burns and hazardous tree removal.
- **Evacuation Planning:** Improving coordination between OEM, LASD, LACoFD, and other jurisdictions to ensure clear evacuation policies and procedures.

Additional details on the County's proactive and ongoing efforts to reduce wildfire risk, including long-term planning, infrastructure hardening, and community-based initiatives, is located in the dedicated section titled "Mitigation Strategies."

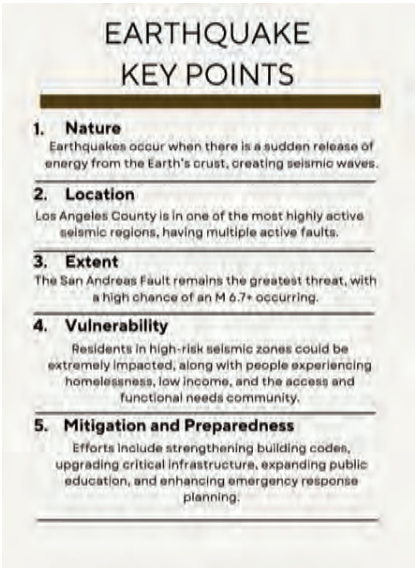
6.2.9 Summary

Wildfires remain one of the most significant hazards in Los Angeles County, posing risks to life, property, and critical infrastructure. The expansion of development into WUI areas, increasing fire severity due to climate change, and ongoing challenges with evacuation and mitigation require proactive, coordinated efforts across agencies. Strengthening fire prevention policies, improving emergency response coordination, and integrating climate adaptation measures are essential to enhancing wildfire resilience for Los Angeles County.



6.3 Earthquake

6.3.1 Nature



Earthquakes occur due to the sudden release of energy in the Earth's crust, generating seismic waves that cause ground shaking. These events, often triggered by movement along fault lines, vary in intensity depending on factors such as magnitude, depth, and proximity to populated areas. In addition to the initial shaking, secondary hazards such as surface faulting, liquefaction, landslides, tsunamis, and aftershocks can worsen the damage. Los Angeles County, located in a highly active seismic region, faces significant risks from these natural events, necessitating extensive mitigation efforts and preparedness planning.

- The most common effects of earthquakes include violent shaking, structural damage, and disruptions to infrastructure.
- Secondary effects can include, but are not limited to, utilities outages, traffic congestion and transportation systems being impassable, and an increase of fire risks, from broken gas and water lines.

- Earthquakes occur with little to no warning, making preparedness essential for minimizing loss of life and property.

6.3.2 Location

Los Angeles County is one of the most seismically active regions in the United States, with multiple active fault systems capable of generating destructive earthquakes.

Major faults include:

- San Andreas Fault – Capable of M 8.0+
- Newport-Inglewood Fault – M 7.4
- Malibu Coast Fault System – M 6.7
- San Fernando Fault – M 6.6
- Santa Monica Fault – M 7.0
- Whittier Fault – M 7.2
- Sierra Madre Fault – M 6.0-7.0

For a better visual representation of this Earthquake Hazard within LA County planning area, please reference Appendix A for earthquake fault maps.

6.3.3 Extent

According to US Geological Survey, there are two types of earthquake measurements, magnitude (Mw) and intensity (i). Magnitude is a measure of the energy released at the source of the earthquake. Intensity scale help measure impact on people and structures.

Earthquake impact is based on magnitude scale is as follows:

- Great–Mw > 8,
- Major–Mw = 7.0 – 7.9
- Strong–Mw = 6.0 – 6.9
- Moderate–Mw = 5.0 – 5.9
- Light–Mw = 4.0 – 4.9
- Minor–Mw = 3.0 – 3.9
- Micro–Mw < 3

Modified Mercalli Intensity Scale is from I to XII, which refers I, as not felt and XII as extreme.

Figure 6.3.1 Modified Mercalli Intensity Scale

CIIM Intensity	People's Reaction	Furnishings	Built Environment	Natural Environment
I	Not felt			Changes in level and clarity of well water are occasionally associated with great earthquakes at distances beyond which the earthquakes felt by people.
II	Felt by a few.	Delicately suspended objects may swing.		
III	Felt by several; vibration like passing of truck.	Hanging objects may swing appreciably.		
IV	Felt by many; sensation like heavy body striking building.	Dishes rattle.	Walls creak; window rattle.	
V	Felt by nearly all; frightens a few.	Pictures swing out of place; small objects move; a few objects fall from shelves within the community.	A few instances of cracked plaster and cracked windows with the community.	Trees and bushes shaken noticeably.
VI	Frightens many; people move unsteadily.	Many objects fall from shelves.	A few instances of fallen plaster, broken windows, and damaged chimneys within the community.	Some fall of tree limbs and tops, isolated rockfalls and landslides, and isolated liquefaction.
VII	Frightens most; some lose balance.	Heavy furniture overturned.	Damage negligible in buildings of good design and construction, but considerable in some poorly built or badly designed structures; weak chimneys broken at roof line, fall of unbraced parapets.	Tree damage, rockfalls, landslides, and liquefaction are more severe and widespread wiht increasing intensity.
VIII	Many find it difficult to stand.	Very heavy furniture moves conspicuously.	Damage slight in buildings designed to be earthquake resistant, but severe in some poorly built structures. Widespread fall of chimneys and monuments.	
IX	Some forcibly thrown to the ground.		Damage considerable in some buildings designed to be earthquake resistant; buildings shift off foundations if not bolted to them.	
X			Most ordinary masonry structures collapse; damage moderate to severe in many buildings designed to be earthquake resistant.	

Over 75% of unincorporated Los Angeles County is at risk for severe to extreme shaking in a future earthquake.

The region's dense urban environment, combined with aging infrastructure, increases the likelihood of extensive damage and prolonged recovery times.

Faults running beneath critical infrastructure corridors, including freeways and power grids, pose a significant threat to public safety and economic stability of the planning area.

6.3.4 History

Los Angeles County has a long history of destructive earthquakes, with some of the earliest recorded events dating back to the early 19th century. The San Juan Capistrano Earthquake of 1812 (M 7.5) was among the first to be documented, causing the collapse of Mission San Juan Capistrano and resulting in 40 fatalities. Over the years, the county has experienced numerous significant quakes, including the devastating 1857 Fort Tejon Earthquake (M 7.9), the 1971 San Fernando Earthquake (M 6.6), and the infamous 1994 Northridge Earthquake (M 6.7), which caused billions in damages and led to widespread infrastructure failures. There have been no federal declarations or state proclamations for earthquakes in the last five years.

Major Earthquakes in Los Angeles County (1812 – Present)

Date	Magnitude	Name / Location	Notable Impact
December 8, 1812	7.5	San Juan Capistrano Earthquake	Destroyed Mission San Juan Capistrano, killed 40 people.
December 21, 1812	7.1	West Ventura Earthquake	Caused significant shaking in Southern California.
January 9, 1857	7.9	Fort Tejon Earthquake	Largest earthquake on the San Andreas Fault; ruptured 225 miles.
July 21, 1952	7.5	Kern County Earthquake	Strong shaking felt in Los Angeles; major damage to Bakersfield.
February 9, 1971	6.6	San Fernando Earthquake	65 deaths, $553 million in damages, collapse of Veterans Hospital.
October 1, 1987	5.9	Whittier Narrows Earthquake	8 deaths, 200 injuries, $358 million in damages.
February 28, 1990	5.7	Upland Earthquake	30 injuries, $12.7 million in damages.

June 28, 1991	5.6	Sierra Madre Earthquake	1 death, 100+ injuries, $40 million in damages.
January 17, 1994	6.7	Northridge Earthquake	57 deaths, 8,700 injuries, $40 billion in damages, freeways collapsed.
July 29, 2008	5.5	Chino Hills Earthquake	8 injuries, minor structural damage.
March 28, 2014	5.1	La Habra Earthquake	Few injuries, $10 million in damages.
July 6, 2019	7.1	Ridgecrest Earthquake	Widespread damage in Southern California, infrastructure impacts.

6.3.5 Probability

Trends in Seismic Activity

Over 163 earthquakes of M 5.0 or greater have been recorded in Southern California since 1812.

The San Andreas Fault remains the greatest seismic hazard, with a 59% chance of an M 6.7+ event in the next 30 years.

Future Earthquake Occurrence

The U.S. Geological Survey (USGS) estimates the following probabilities for a major earthquake in Los Angeles County in the next 30 years:

- 60% chance of an M 6.7+ earthquake
- 46% chance of an M 7.0+ earthquake
- 31% chance of an M 7.5+ earthquake

6.3.6 Vulnerability

The county's vulnerability to earthquakes extends beyond physical infrastructure, affecting its residents and essential services. Older buildings, particularly unreinforced masonry and soft-story structures, are at high risk of collapse, posing significant

dangers to residents and businesses. Seismic retrofitting, early warning systems, and stricter building codes have improved resilience, but vulnerabilities remain in older structures and critical infrastructure.

Critical Infrastructure at Risk

- **Highways, bridges, and transportation routes:** A major earthquake could severely disrupt mobility, shipment of goods and services while also delaying emergency response and evacuations. Major highways such as, but not limited to the I-5, I-10, US-101, CA-60, CA-14, I-405, I-710, and I-105 could be impacted.
- **Energy grids and water system:** Disruptions could leave millions without power and clean water.
- **Hospitals and emergency services:** 325 hospitals and 1,299 fire stations in the Los Angeles County could suffer functional impairments.
- **Unreinforced masonry and soft-story buildings:** Many older structures are highly susceptible to collapse during strong ground shaking.

County Specific Critical Facilities Affected:

- Fire Department: 314 facilities (93.18%)
- Public Works: 201 facilities (87.39%)
- Health Services: 56 facilities (85.71%)
- Public Health: 37 facilities (92.50%)
- Libraries: 78 branches (89.66%)
- Parks: 179 (97.79%)
- Education: 70 (85.37%)

Los Angeles County lies at the intersection of multiple major fault lines, including the San Andreas Fault. According to the hazard matrix, the risk of violent ground shaking is prevalent countywide, particularly in urban centers and regions with critical infrastructure. The potential consequences of violent seismic shaking include widespread structural damage, disruption of services, economic losses, and human casualties.

Populations at Risk

- The THIRA estimates over 2 million residents could be significantly impacted in a major seismic event, particularly those in high-risk seismic zones.

- People Experiencing Homelessness (PEH) populations: 75,000+ unhoused individuals in Los Angeles County live in areas at risk of violent shaking.
- Low-income and individuals with access and functional needs (AFN): For more details on impacted population please see Section 5.

Extent of Exposure

- **Total Area Exposed**: 3,041.91 sq mi
- **Supervisorial Districts (SD) Impacted**:
  - **SD5**: 1,950.78 sq mi (69.50%)
  - **SD3**: 379.41 sq mi (87.99%)
  - **SD1**: 349.17 sq mi (98.95%)
  - **SD2**: 362.95 sq mi (99.99%)
  - **SD4**: 210.92 sq mi (99.10%)

6.3.7 Impacts

Los Angeles County has a long history of experiencing damaging earthquakes due to its location along multiple active fault systems, including the San Andreas, Newport-Inglewood, and Whittier faults. Historic earthquakes such as the 1971 San Fernando (M6.6) and 1994 Northridge (M6.7) events caused catastrophic losses. The San Fernando earthquake resulted in 65 deaths, the collapse of hospital structures, and over $550 million in damages, while the Northridge earthquake caused 57 deaths, more than 8,700 injuries, and an estimated $40 billion in economic losses, including widespread infrastructure failures such as collapsed freeways and damaged utility systems.

Impacts from future major seismic events are projected to be even more severe due to population density, aging infrastructure, and increasing development in seismically vulnerable areas. Over 75% of unincorporated Los Angeles County is at risk of severe to extreme ground shaking. Current estimates suggest that a large-magnitude earthquake could displace up to 2.2 million people, injure or kill thousands, and result in over $200 billion in combined economic losses, including $113 billion in property damage and $68 billion in business interruptions.

The County's critical systems; power, water, transportation, healthcare, and communications, are especially vulnerable. A major earthquake could impair up to 325 hospitals and 1,299 fire stations and disrupt critical infrastructure for millions. Populations with heightened vulnerability include the 75,000+ people experiencing homelessness, those with access and functional needs, and residents of older, unreinforced masonry and soft-story structures.

Without sufficient mitigation, a future earthquake could result in cascading failures across multiple sectors and prolong the County's recovery for years. These risks highlight the urgency for continued investment in seismic retrofitting, stricter enforcement of building codes, expanding statewide early warning systems, and equitable preparedness programs targeting at-risk vulnerable populations.

- **Casualties and injuries:** Depending on the time of day and location, thousands could be injured or killed in a severe earthquake.
- **Economic disruption:** A significant earthquake could halt business operations, damage supply chains, and force thousands into unemployment.
- **Housing displacement:** An estimated 2.2 million residents could be displaced, with tens of thousands requiring emergency sheltering.

Economic Impact

A major earthquake in Los Angeles County could result in over $200 billion in economic losses, with a total of $118 trillion-dollar exposure. Losses can include:

- $68 billion in business interruptions
- $51 billion in lost economic activity
- $113 billion in property damages

Problem Statement

The pervasive exposure of Los Angeles County to violent earthquake shaking presents a systemic threat to public safety, economic stability, and essential services. Nearly all major departments and infrastructure elements are located within high-shaking hazard zones. The extensive reach across all five Supervisorial Districts (SD) amplifies the challenge, highlighting the urgent need for retrofitting, public education, preparedness programs, and resilient design policies. Failure to address this hazard could lead to catastrophic loss of life and functionality in the event of a major seismic event.

6.3.8 Mitigation and Preparedness

Efforts to reduce earthquake risks in Los Angeles County include strengthening building codes, enhancing emergency preparedness, and retrofitting vulnerable structures.

Key efforts to mitigate earthquake risks include:

- Strengthening building codes and enforcing retrofitting laws
- Upgrading critical infrastructure
- Expanding public education and early warning systems
- Enhancing emergency response planning

By proactively implementing these measures, Los Angeles County aims to reduce casualties, infrastructure damage, and economic losses in future seismic events.

Seismic Retrofitting Programs

- **Soft story retrofit program**: Mandates seismic upgrades for older apartment buildings.
- **Non-ductile concrete building retrofits**: Strengthens older commercial and residential structures.
- **Hospitals and emergency facilities retrofitting**: Ensures critical services remain operational post-earthquake.

Policy and Regulatory Measures

- Assembly Bill (AB) 1857: Strengthens building standards for multi-story structures.
- AB 2681: Requires cities and counties to inventory vulnerable buildings.
- Updated California Building Code (CBC): Enforces stricter seismic design criteria for new construction.
- Public Education: Teaching to Drop, Cover and Hold On; the household preparedness checklist, educate residents on emergency response, retrofitting, and disaster preparedness.
- Early Warning/ ShakeAlert System: Provides real-time earthquake early warnings to residents via mobile alerts and public messaging.
- Public earthquake drills: Annual Great California ShakeOut encourages preparedness.

6.3.9 Summary

Los Angeles County remains at high risk for devastating earthquakes, with scientific projections indicating a strong likelihood of a significant seismic event in the coming decades. The region has experienced numerous historic earthquakes, and the potential for future large-scale disasters remains ever-present. While advances in engineering, emergency preparedness, and mitigation efforts have improved resilience, challenges persist, particularly regarding aging infrastructure and vulnerable communities. Continued investments in retrofitting, public education, and early warning systems will be critical in minimizing casualties, economic losses, and recovery challenges in future earthquakes.



6.4 Extreme Heat

6.4.1 Nature

Extreme heat refers to prolonged periods of high temperatures, often accompanied by high humidity, posing significant health risks such as heat exhaustion and heat stroke. The urban heat island (UHI) effect, prevalent in densely built areas like Los Angeles County, intensifies these conditions by absorbing and retaining heat. The changing climate conditions through time in the region exacerbate for the rising of daily temperature and for the increasing of extreme heat days in the County. This leads to health issues, increase energy demand, and strain on infrastructure.



6.4.2 Location

Los Angeles County is particularly susceptible to extreme heat due to its diverse geography and urban density. All of Los Angeles County may experience extreme heat, nonetheless inland regions, including the valleys and high desert areas experience

higher temperatures compared to coastal areas. The urban heat island (UHI) effect can increase temperatures in cities and developed areas than the less developed areas. Urban centers with extensive concrete and asphalt surfaces further amplify heat retention, contributing to elevated temperatures and increased UHI effect in the county.

6.4.3 Extent

The severity of heat events in Los Angeles County has been increasing. Projections indicate a significant rise in the frequency and intensity of heat waves, with inland areas potentially experiencing temperatures exceeding 110°F. The urban heat island effect can cause urban areas to be several degrees warmer than their rural counterparts, exacerbating the impact of heat waves. The chart below shows the levels of heat wave impacts used to measure heatwave severity. HeatRisk, an experimental measure developed by the NWS in collaboration with the CDC, classifies heat events by their impact on human health. It ranges from Green (0) which is little or no risk to Magenta (4), which means extreme heat with no overnight relief.

Category	Figure 6.4.1 Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

National Weather Service (NWS), 2024

August, being the hottest month of the year that the planning area experiences the Figure 6.4.2 below shows, the average high temperature for August 2024 in Los Angeles County. As shown, the temperature varies by location but remains higher than average monthly temperature.



Figure 6.4.2, Mean Max Temperature for August 2024, National Weather Service

6.4.4 History

Because of the changing climate conditions and the geographical location, Los Angeles County has been experiencing extreme heat waves in the past years. It has a history of extreme heat events, with temperatures frequently reaching 100 degrees or more, especially during the summer months. In some cases, these extreme heat events are record-breaking heat waves surpassing their all-time highs.

Extreme Heat events include:

- **August 2020:** A severe heatwave led to widespread power outages, affecting nearly 500,000 residents.

- **September 2020:** The San Fernando Valley recorded a record high temperature of 121°F.
- **August 2022:** A record-breaking heatwave in late summer exceeded 100°F
- **September 2024:** A severe September heatwave pushed temperatures 10-20°F above normal, hitting 109°F in Long Beach

The History of Extreme heat events highlight the increasing trend of extreme heat occurrences in the region. There have been no federal declarations or state proclamations for extreme heat in the last five years. Even though there were no declared extreme heat emergencies, the county has issued several heat alerts and taken measures to protect residents from the impacts of heat waves during these periods.

6.4.5 Probability

Extreme heat events are an annual occurrence in Los Angeles County, though severity of such events vary per year based on other conditions, such as El Niño. Climate models project a substantial increase in the likelihood of extreme heat events in Los Angeles County. By mid-century, the county could experience more than five major heat waves annually, with some models suggesting up to tenfold increases in frequency. This heightened probability necessitates proactive mitigation and adaptation strategies.



Figure 6.4.3, Average Temperature 1900-2025, NOAA, NCEI, 2025.

6.4.6 Vulnerability

Extreme heat poses a significant and growing threat to Los Angeles County, where rising temperatures, urban heat islands, and widespread social vulnerability intersect. Those most at risk include the elderly, low-income households lacking air conditioning,

people experiencing homelessness (PEH), individuals with access and functional needs (AFN), and the County's large population of outdoor and non-air-conditioned indoor workers. Infrastructure is also strained; electricity demand spikes during heatwaves, often overwhelming the power grid and triggering outages. Water systems experience increased demand and evaporation losses, while roadways and rail lines are subject to buckling or operational delays. In recent years, Los Angeles County has experienced severe consequences from prolonged heat events, reinforcing the urgent need for heat resilience strategies targeting both people and critical services.

Los Angeles County-Specific Impacts and Data

- 491,600 residents experienced power outages during the August 2020 heatwave.
- 96% of the County's 1,000 miles of high-voltage transmission lines are exposed to moderate to high extreme heat risk.
- 1.7 million residents are considered highly vulnerable due to age, income, disability, or chronic health conditions.
- Over 300,000 outdoor workers are at elevated risk for heat-related illness and injury.
- Thousands of heat-related emergency visits occurred during multi-day heat events in 2020 and 2022; especially in neighborhoods with limited shade and high surface temperatures.
- 50+ cooling centers have been activated across the County during recent heatwaves to support at-risk populations.
- High heat contributes to worsened air quality, increased wildfire smoke exposure, and economic losses due to infrastructure damage, productivity decline, and rising healthcare costs.

6.4.7 Impacts

Los Angeles County has faced significant and growing impacts from extreme heatwaves over the past two decades. In August 2020, a prolonged heatwave caused rolling blackouts affecting nearly 500,000 customers, overwhelmed the state's electrical grid, and forced the activation of emergency conservation protocols. That same summer, the San Fernando Valley hit 121°F, leading to widespread strain on

HVAC systems and increased emergency room visits for heat-related illnesses. The 2022 and 2024 heatwaves brought similar conditions—temperatures over 100°F across the region led to localized transformer failures, asphalt buckling, and strain on water delivery systems due to elevated demand. During these events, outdoor workers, the elderly, and low-income residents without access to cooling systems were among the most affected. Economic activity was disrupted, with reports of business closures, service delays, and increased healthcare costs. In 2024, Long Beach reached a record 109°F, causing a spike in electricity demand and triggering emergency energy alerts across Southern California. Heat-related deaths and hospitalizations have also trended upward, particularly in neighborhoods with low tree canopy and high impervious surfaces. These impacts underscore the need for resilient infrastructure and targeted adaptation strategies to safeguard health and essential services.

6.4.8 Mitigation and Preparedness

The most effective way to reduce the negative impacts of an extreme heat event is to develop a comprehensive heat response plan that has individual strategies to effectively manage heat waves during peak seasons of the year. The plan might include forecasting and monitoring, education and awareness, and heat wave response.

To address extreme heat, Los Angeles County has implemented several measures:

- **Cooling Centers:** Establishment of air-conditioned public spaces where residents can seek relief during heatwaves. These centers are facilities such as libraries, community centers, and senior centers. Residents can locate the nearest cooling center using resources provided by the county. *Additional resources can be found at https://ready.lacounty.gov/heat/*
- **Urban Greening Initiatives:** Programs aimed at increasing green spaces, planting trees, and creating parks to provide shade and reduce ambient temperatures. These efforts help mitigate the urban heat island effect.
- **Public Awareness Campaigns:** Educational initiatives to inform residents about heat risks, prevention strategies, and resources available during extreme heat events. These campaigns emphasize the importance of hydration, recognizing heat-related illness symptoms, and utilizing cooling centers.
- **Building Codes and Regulations:** Incorporation of heat-mitigating designs and materials in new constructions and retrofits, such as cool roofs and reflective

pavements, to reduce heat absorption. These measures aim to lower indoor temperatures and decrease reliance on air conditioning.

These strategies are designed to reduce heat exposure, protect vulnerable populations, and enhance community resilience against extreme heat events.

6.4.9 Summary

Extreme heat poses a growing threat to Los Angeles County, with increasing frequency and intensity of heat waves exacerbated by urban heat island (UHI) effects. Understanding these impacts of extreme heat and taking appropriate precautions, residents of Los Angeles County can protect themselves and their communities from this growing climate hazard. The county has undertaken various mitigation efforts, including the establishment of cooling centers, urban greening projects, public education campaigns, and the implementation of heat-conscious building practices. Ongoing adaptation and proactive planning are essential to safeguard public health, infrastructure, and the environment from the adverse effects of extreme heat.

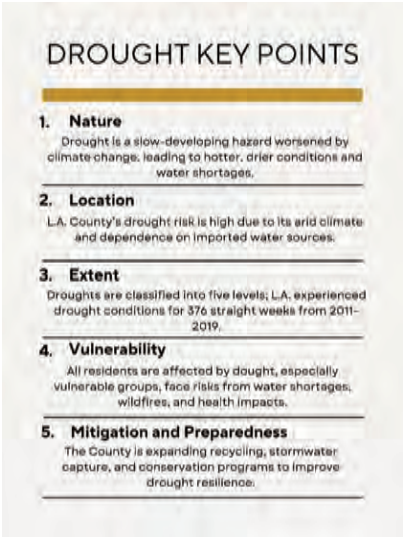


6.5 Drought

6.5.1 Nature

Drought is a prolonged period of below-average precipitation that leads to water shortages, impacting agriculture, ecosystems, and urban water supplies. Unlike other natural disasters, drought develops gradually, making it difficult to predict and mitigate. In Los Angeles County, droughts are a recurring issue due to the region's arid climate and dependence on imported water supplies.

Drought severity is determined by its duration, intensity, geographic extent, and water demand. Climate change is exacerbating these factors, leading to hotter temperatures, reduced precipitation, and increased evaporation rates. Wildfires are also projected to increase in frequency and intensity during drought season.



There are four common classifications of drought:

- **Meteorological Drought**: A prolonged period of below-normal precipitation.

- **Hydrological Drought**: A reduction in surface and groundwater levels due to prolonged precipitation deficits.
- **Agricultural Drought:** A lack of soil moisture that affects crop growth and livestock sustainability.
- **Socioeconomic Drought:** When water shortages impact drinking water supplies, sanitation, public services, and economic activities.

6.5.2 Location

Drought is regional in nature and typically affects the entire Los Angeles County planning area. Given the county's reliance on imported water from the Sierra Nevada snowpack and the Colorado River, reduced availability of these sources significantly increases vulnerability.

6.5.3 Extent

Drought is a recurring natural hazard that can severely impact agriculture, water supply, ecosystems, and communities. To monitor and communicate drought conditions across the United States, the National Drought Mitigation Center (NDMC), in partnership with the U.S. Department of Agriculture (USDA) and the National Oceanic and Atmospheric Administration (NOAA), produces weekly U.S. Drought Monitor maps. These maps categorize drought conditions into five levels based on intensity, duration, and impact on various sectors, including agriculture, water resources, and public health.

Each drought category reflects a different level of severity, from short-term dry conditions that may slow crop growth, to long-term, widespread water shortages that require emergency response. These classifications help decision-makers, farmers, and water managers respond appropriately to emerging or ongoing drought conditions. See Figure 6.5.1 below for more information.

Drought Categories and Associated Impacts:

CATEGORY	DESCRIPTION	POSSIBLE IMPACTS
D4	EXCEPTIONAL DROUGHT	• Exceptional and widespread crop/pasture losses • Critical shortages of water in reservoirs, streams, and wells • Water emergencies and possible mandatory rationing • Severe impacts on ecosystems and wildlife habitats
D3	EXTREME DROUGHT	• Major agricultural losses and pasture failure • Widespread water shortages • Water use restrictions likely enforced • Increased risk of wildfires and heat-related stress
D2	SEVERE DROUGHT	• Crop and pasture losses becoming likely • Water shortages becoming common • Local governments may implement water restrictions • Hydropower generation and irrigation potentially impacted
D1	MODERATE DROUGHT	• Noticeable damage to crops and pastures • Water levels in streams and reservoirs begin to decline • Voluntary water-use restrictions may be requested • Some stress on fish and wildlife populations
D0	ABNORMALLY DRY	• Early signs of drought, with short-term dryness slowing planting and crop growth • If improving lingering water deficits as area recovers from drought • Pastures or vegetation may show signs of delayed recovery

Figure 6.5.1 Drought Categories and Associated Impacts

These classifications not only help guide resources and planning but also raise awareness about the broader consequences of prolonged dryness. Understanding the extent and severity of drought helps ensure timely response and mitigation efforts at local, state, and federal levels.

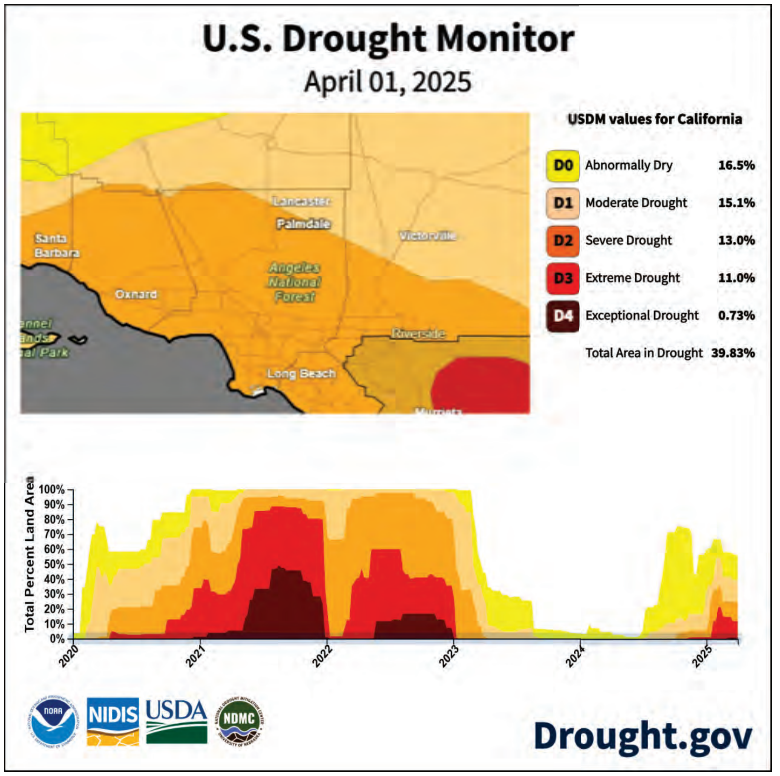


Figure 6.5.2, U.S. Drought Monitor, 2025

6.5.4 History

Los Angeles County has experienced multiple significant droughts, with some lasting several years. There have been no federal declarations or state proclamations for drought in the last five years.

Notable historical drought periods include:

1. 1917-1921 – A widespread drought affecting most of California.
2. 1976-1977 – One of the driest two-year periods in recorded history.
3. 1987-1992 – A six-year drought that severely impacted water supplies and agriculture.
4. 2007-2009 – A prolonged drought leading to state-imposed water restrictions.
5. 2011-2017 – The most severe drought in modern history, resulting in groundwater depletion and mandatory conservation measures.
6. 2020-2022 – California experienced a significant drought, with Los Angeles County experiencing "abnormally dry" conditions.
7. 2024-2025 – Los Angeles County is continuing to experience abnormally dry conditions, with lower average rainfalls and arid conditions.

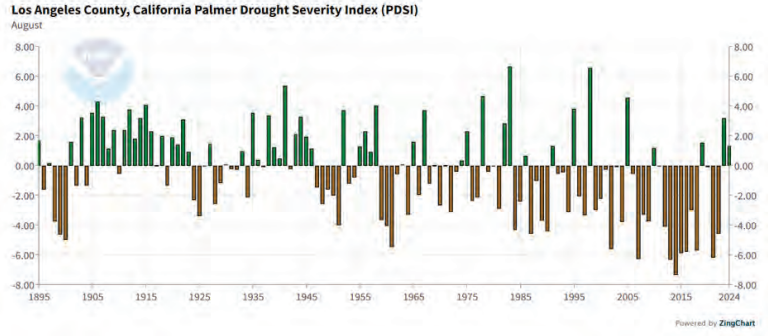


Figure 6.5.3, NOAA Drought Severity Index, 2024

The chart above, the Palmer Drought Severity Index, shows how drought conditions have been changing since 1895. The Palmer Drought Severity Index measures how dry or wet an area is by comparing rainfall and temperature to long-term averages. It gives a number (positive or negative) showing drought severity or excess moisture.

Los Angeles County was in some form of drought for 376 consecutive weeks from December 20, 2011, until March 14, 2019. The State and the County passed several resolutions and regulations at different times to mitigate drought impacts like water

conservation regulations. There were no federally declared drought disasters in the area in the past five years in the planning area.

6.5.5 Probability

Climate scientists predict that Los Angeles County and the rest of Southern California will get drier, while Northern California will get hotter. Rising temperatures contribute to higher evaporation rates and declining snowpack in the Sierra Nevada, a critical source of water for Southern California. The frequency of extreme droughts is expected to increase, reducing available water resources and heightening competition between urban, agricultural, and environmental needs. Long-term droughts have a 100% of occurring every ten-years, with potential for longer and more destructive drought events due to climate change.

6.5.6 Vulnerability

Los Angeles County's 10 million residents face growing vulnerabilities during prolonged droughts, with over 75% of community water systems exhibiting at least one drought-related risk, such as reliance on a single source or aging infrastructure. The County's dependence on imported water—serving over 60% of residents—increases exposure to supply disruptions from reduced Sierra Nevada snowpack and Colorado River allocations. All residents, and visitors of Los Angeles County are affected by water shortages during a prolonged drought conditions.

Vulnerabilities include:

- **Low-income households**, often lacking water-efficient appliances and cooling systems.
- **Agricultural industry** with over 140,000 acres of irrigated farmland in the County is at risk of reduced water allocation and drying pastures for livestock.
- **Wildland-urban interface (WUI) communities**, where over 1 million residents face heightened wildfire risk due to dry vegetation and limited firefighting water supply.
- **Critical infrastructure** operations may be impacted by a range of factors from reduced hydropower availability when reservoir levels decrease to power station cooling challenges.

These vulnerabilities illustrate the far-reaching, cross-sector impacts of drought on the County's economy, environment, and most at-risk communities.

6.5.7 Impacts

Over the past five years, Los Angeles County has experienced intensifying drought conditions marked by rising temperatures, reduced snowpack, and persistent water shortages. By 2022, 75% of the County's community water systems showed at least one drought vulnerability, including reliance on a single water source or aging infrastructure. Public health impacts have also emerged, with 1,113 cases of Valley fever reported in 2020, linked to dry soil and dust exposure. Hydropower reductions during drought periods increased reliance on natural gas, contributing to elevated energy costs for residents. These compounding impacts have strained water supply, health systems, and infrastructure, reinforcing drought as a major and growing hazard for Los Angeles County.

6.5.8 Mitigation and Preparedness

To combat increasing drought risks, Los Angeles County has implemented water conservation policies, infrastructure investments, and emergency response measures. Key strategies include:

Water Management and Conservation

- Expanding water recycling and desalination programs to reduce reliance on imported water.
- Implementing drought-tolerant landscaping initiatives to lower residential and commercial water use.
- Enforcing water efficiency regulations for new developments and upgrading older properties with water-saving strategies.

Infrastructure Improvements

- Enhancing groundwater recharge projects to increase local water storage.
- Upgrading stormwater capture systems to maximize water retention during rainy seasons.
- Developing new water storage facilities to provide additional supply resilience.

Community Preparedness and Public Awareness

- Launching county-wide conservation campaigns to encourage sustainable water use.
- Increasing financial incentives for water-efficient appliances and irrigation systems.
- Strengthening emergency drought response plans to ensure equitable water distribution during crises.

6.5.9 Summary

Drought remains a persistent and growing threat to Los Angeles County's water security and economic stability. Climate change projections indicate more frequent and severe droughts, placing greater strain on water supply systems, public health, and agriculture. By implementing proactive water management strategies, investing in infrastructure resilience, and promoting community awareness, the County can mitigate the long-term impacts of drought and ensure sustainable water resources for future generations.



6.6 Flooding

6.6.1 Nature



Flooding is a persistent and increasingly severe hazard in Los Angeles County, driven by heavy rainfall, storm surge, stormwater drainage, and rising sea levels. The county's complex hydrology, which includes rivers, creeks, and an extensive urban flood control system, is highly susceptible to overflow events when precipitation exceeds drainage capacity. The effects of climate change are exacerbating flood risks by intensifying storms, altering precipitation patterns, and increasing sea levels, leading to greater coastal inundation and inland flash floods.

Unlike other regions that experience seasonal flooding due to snowmelt, flooding in Los Angeles County primarily occurs during winter storms and atmospheric river events, which bring intense rainfall and lightning over short periods.

- The region's high degree of urbanization contributes to flash flooding, as paved surfaces prevent natural absorption of water, leading to rapid runoff and street flooding.

- Burn scars from recent wildfires further compound flood risks by reducing vegetation cover, destabilizing hillsides, and increasing the likelihood of land movement.

Flooding also creates secondary hazards, including erosion, infrastructure damage, water contamination, and transportation disruptions. Stormwater runoff can overwhelm wastewater treatment facilities, leading to hazardous spills. Landslides and mudflows in post-wildfire areas pose additional risks to homes, roads, and critical infrastructure. These compounding threats highlight the urgent need for comprehensive flood mitigation efforts to protect communities, infrastructure, and the environment.

6.6.2 Location

Flood hazards are geographically widespread, with more than 240 square miles of land located within the 100- and 500-year floodplains. Historically significant events, such as the 1938 and 1969 floods, as well as more recent storms in 2023 and 2024, have caused substantial damage to infrastructure, triggered evacuations, and challenged long-term recovery efforts. Socially vulnerable populations, including older adults, individuals with access and functional needs, and low-income households, face disproportionate impacts due to limited financial resources, inadequate insurance coverage, and reduced access to services. The County's flood control system includes concrete river channels, levees, storm drains, debris basins and reservoirs; has helped mitigate some flood risks but remains vulnerable to high-intensity storms that exceed design capacities.

Major Flood-Prone Areas:

- Los Angeles River, San Gabriel River, and Santa Clara River: These major waterways are prone to overflow during extreme storm events, particularly during El Niño years.
- Ballona Creek and Malibu Creek: These urban watersheds experience rapid runoff and flash flooding, especially in developed areas.
- Foothills, Valleys, and Recent Burn Scar Areas: Post-wildfire regions face heightened risk of flash floods and debris flows following storms.
- Antelope Valley: In desert regions, stormwater pools into temporary lakes, causing flooded roadways and infrastructure damage.

- Coastal Communities: Rising sea levels and storm surges threaten beachfront properties, harbors, and businesses.

Urban areas are particularly vulnerable due to impervious surfaces and outdated drainage systems. During intense storms, neighborhoods in Downtown Los Angeles, South LA, and the San Fernando Valley frequently experience street flooding and traffic disruptions, demonstrating the limitations of existing infrastructure in handling modern storm events.

For a better visual representation of this Flooding Hazard within the LA County planning area, please reference Appendix A for flood and inundation maps.

6.6.3 Extent

Los Angeles County faces a significant and evolving flood risk, with impacts ranging from localized urban inundation to widespread riverine flooding and destructive debris flows. Although the County has invested heavily in flood control infrastructure; including an extensive network of dams and debris basins; these systems are increasingly strained and cannot fully eliminate the threat. A growing number of residents are exposed to dangerous flooding each year, a situation made worse by the limitations of aging infrastructure and the complexities of urban hydrology. Intense rainfall events, especially those associated with atmospheric rivers, are occurring more frequently and with greater severity, often overwhelming drainage systems and resulting in severe flooding of streets and neighborhoods. Compounding this risk are burn scars from recent wildfires, which heighten the likelihood of mudslides and debris flows that threaten both life and property. As climate patterns shift and extreme weather events become more common, the flood vulnerability of Los Angeles County continues to deepen across its diverse geography.

Flood severity is typically measured using the 100-year and 500-year flood recurrence intervals, which indicate a 1% and 0.2% annual probability of flooding, respectively. These designations guide floodplain management and mitigation efforts.

Key Flood Hazard Statistics in Los Angeles County:

- 243.32 square miles (5.11%) of land have a 0.2% annual flood probability.
- 4.19 square miles (0.09%) have a 1% annual flood probability.

Key Flood Hazard Statistics for Unincorporated Los Angeles County:

- 64.77 square miles (2.13%) have a 0.2% flood probability.
- 1.23 square miles (0.04%) have a 1% flood probability.

As climate change accelerates sea-level rise and extreme rainfall events, these flood-prone areas may expand, affecting more residents, infrastructure, and businesses.

FLOOD IMPACT ON LAND AREA		
Area	**0.2% Annual Flood Probability**	**1% Annual Flood Probability**
Los Angeles County	243.32 sq. mi. (5.11%)	4.19 sq. mi. (0.09%)
Unincorporated LA County	64.77 sq. mi. (2.13%)	1.23 sq. mi. (0.04%)

6.6.4 History

Los Angeles County has experienced numerous severe flood events, many of which have caused catastrophic damage to infrastructure, property, and human life. Over the decades, climate variability, rapid urbanization, and an aging flood control system have led to repeated flooding disasters. There have been no federal declarations or state proclamations for earthquakes in the last five years.

Below are some of the most significant historical and recent flood events affecting the region.

Notable Flood and Lightning Events in Los Angeles County:

- **1938 Los Angeles Floods**: One of the deadliest floods in county history, caused by weeks of torrential rainfall, resulting in over 100 deaths, the destruction of thousands of homes, and widespread infrastructure damage, particularly to bridges and roadways.
- **1969 Winter Storms**: Heavy rains led to massive debris flows in the San Gabriel Mountains, severe urban flooding across Los Angeles, and multiple dam breaches, prompting major evacuations.
- **1992-1993 El Niño Floods**: A series of storms triggered landslides, flash flooding, and major coastal erosion, with significant damage to Pacific Coast Highway and residential areas.
- **2017 Winter Storms (DR-4305)**: Record-breaking rainfall led to significant urban flooding, road closures, and mudslides, with severe impacts across multiple communities.

- **October 2021**: Los Angeles County experienced a rare and intense thunderstorm with a significant amount of lightning.
- **September 2022 Hurricane Kay**: A pacific hurricane that caused significant rainfall along with risk of mudflows, coastal flooding, and coastal erosion.
- **January 2023 Atmospheric River Event (DR-4683)**: Heavy rainfall overwhelmed storm drains, causing significant flooding in Hollywood, Baldwin Hills, and low-lying inland areas, leading to evacuations and infrastructure damage.
- **February 2023 Los Angeles Floods (DR-4699)**: A series of intense storms caused widespread flash flooding, freeway closures, and landslides, demonstrating the increasing vulnerability of the county's urban areas to extreme precipitation events.
- **August 2023 Tropical Storm Hilary (DR-4750)**: Several locations in the mountains of Southern California received over 10 inches of rainfall which set daily and/or monthly rainfall records, in many locations in Southern California, including within Los Angeles County. It also created significant threat of flash and riverine flooding prompted the evacuation of numerous vulnerable communities near burn scars in the region.
- **December 2023 Pacific Storm**: Storm surges and extreme coastal flooding led to significant erosion along the coastline, particularly impacting Marina del Rey, Long Beach, and Venice Beach.
- **February - March 2024 Atmospheric River Storm (DR-4769)**: One of the most intense rainfall events in recent history, resulting in severe flash floods, mudslides, and power outages, with many homes and businesses sustaining flood damage.

6.6.5 Probability

Flood recurrence in Los Angeles County is influenced by both natural climate variability and the increasing effects of climate change. Historically, severe flooding is most likely during strong El Niño events, which occur approximately every 2 to 7 years and can persist for several months to multiple years. These events bring elevated precipitation levels and increase the likelihood of both inland and coastal flooding.

As climate change accelerates, the frequency and intensity of flood-generating events are expected to increase, altering traditional recurrence intervals and expanding the areas at risk. There is a 95% chance of a flooding event occurring each year withing Los Angeles County.

Key climate-related drivers include:

- **Sea-Level Rise**: Projected to rise by 6 inches to over 2 feet by 2050, increasing the risk of tidal and storm surge flooding in coastal communities.
- **Atmospheric River Events**: According to the 2024 THIRA, these events are becoming more frequent and intense, leading to elevated flash flood and debris flow risks.
- **El Niño Cycles**: Still expected every 2 to 7 years, but with increased variability and storm intensity that can overwhelm local drainage and flood control systems.

These evolving conditions challenge existing floodplain maps and design assumptions, highlighting the need for adaptive planning, updated risk models, and continued investment in resilient infrastructure and flood mitigation strategies.

6.6.6 Vulnerability

Los Angeles County faces widespread and layered vulnerabilities to flooding, shaped by a combination of environmental exposure and complex social factors. Physical vulnerability is pronounced in areas located within FEMA-designated Special Flood Hazard Areas (SFHAs), post-wildfire burn scars, and low-lying urban drainage basins that are prone to flooding. However, the degree of risk is significantly heightened for certain populations who may lack the resources or capacity to prepare for, respond to, and recover from flood events. Socially vulnerable groups, including older adults, individuals with disabilities or access and functional needs (AFN), mobile home residents, people experiencing homelessness, and low-income households; are more likely to reside in structurally vulnerable housing.

According to the 2021 Los Angeles County Comprehensive Floodplain Management Plan, more than a quarter of residents living within the 100-year floodplain earn less than $20,000 annually, underscoring the disproportionate economic burden faced by those least able to absorb the costs of recovery. Climate vulnerability data further demonstrates that marginalized communities in flood-exposed areas face elevated risks due to flooding events. The vulnerability landscape is further complicated by a shortage of affordable flood-resilient structures, and an increasing number of residents living in areas newly exposed due to climate-driven changes in precipitation and runoff patterns.

6.6.7 Impacts

Flooding in Los Angeles County leads to a broad range of direct and cascading impacts on people, infrastructure, environment, and the economy. The County's extensive network of critical facilities, including hospitals, fire stations, wastewater treatment plants, schools, and power substations. These areas face recurring exposure within both 100- and 500-year floodplains. Damage to these facilities not only compromises their physical integrity but also threatens their functionality during emergency response operations.

Flooding often disrupts lifeline services such as electricity, potable water, sanitation, and transportation, with rural and unincorporated areas facing the greatest challenges to rapid restoration. Mobile homes, frequently concentrated in low-lying or under-drained neighborhoods, are especially susceptible to flood damage due to construction limitations and inadequate protective measures. Previous flood events have resulted in significant debris flows, road closures, train stoppages, and damage to public and private structures.

Primary Vulnerabilities & Impacts:

- Over 1,470 structures are estimated to be damaged in a 100-year flood event, with total damages exceeding $769.7 million in property losses in unincorporated Los Angeles County.
- Additionally, more than 180 critical facilities are exposed in the 500-year floodplain, while 70 are within the 100-year floodplain, including transportation assets, utilities, emergency services, and hazardous materials facilities.
- A 100-year flood event could displace over a thousand people with many requiring sheltering, support and recovery efforts.
- Approximately 19,563 tons of building-related debris could be generated by a 100-year flood event, with clean-up requiring more than 780 truckloads, posing logistical, environmental, and public health challenges.
- 28.6% of households in the 100-year floodplain are economically disadvantaged, earning under $20,000 per year, limiting their ability to evacuate, recover, or pay for mitigation improvements.
- A large share of flood-prone properties are either uninsured or underinsured. The average flood insurance claim payout is $7,298, which is only about 1% of the 2019

average replacement cost of structures in the floodplain—indicating significant gaps in financial resilience.

- Wildfire burn scars and post-fire hydrophobic soils significantly increase flood and debris flow risks, particularly in foothill and canyon communities. This hazard continues to grow in severity with climate-driven fire seasons.

Estimated Damage to Critical Facilities in Unincorporated Areas from 100-Year Flood

Sector	Number of Facilities Affected	Average % of Total Value Damaged	
		Structure	Content
Safety & Security	1	7.56	10.24
Food, Water & Sheltering	9	6.72	18.73
Health & Medical	0	N/A	N/A
Energy	1	23.90	47.79
Communications	0	N/A	N/A
Transportation	59	1.41	8.86
Hazardous Materials	0	N/A	N/A
Total/Average	**70**	**9.90**	**21.40**

Estimated Damage to Critical Facilities in Unincorporated Areas from 500-Year Flood

Sector	Number of Facilities Affected	Average % of Total Value Damaged	
		Structure	Content
Safety & Security	4	28.39	37.56
Food, Water & Sheltering	41	7.73	27.01
Health & Medical	0	N/A	N/A
Energy	1	23.90	47.79
Communications	2	5.00	16.00
Transportation	107	3.38	19.74
Hazardous Materials	30	10.00	15.00
Total/Average	**185**	**13.07**	**27.18**

Charts Source: LA County Public Works; 2021 County Comprehensive Flood Plan

6.6.8 Mitigation and Preparedness

Los Angeles County's flood mitigation strategy reduces hazard exposure, enhances community resilience, and supports long-term climate adaptation. Grounded in FEMA's National Mitigation Framework, CalOES planning guidance, and local policy, the County implements both structural and non-structural measures to address current and future flood risks. Core actions include regular maintenance and targeted upgrades to

stormwater infrastructure, restoration of floodplains, and integration of flood hazard data into land use planning. The County also prioritizes the protection of critical facilities and vulnerable housing through site retrofits, property acquisition, and elevation programs. Public outreach is conducted through a bilingual, ADA-accessible Program for Public Information, which promotes flood safety awareness, emergency preparedness, and participation in the National Flood Insurance Program (NFIP).

To ensure that mitigation is both data-driven and community-centered, the County utilizes climate projections and FEMA's HAZUS modeling to inform investments, while coordinating with regional partners to align local actions with broader watershed strategies. Key components of the approach include:

- Upgrading culverts, debris basins, and drainage systems to manage increased runoff
- Promoting low-impact development (LID) and incorporating green infrastructure in urban design
- Updating ordinances and the General Plan to discourage development in high-risk areas
- Maintaining inventories of repetitive loss areas and prioritizing resources for the most vulnerable populations

This comprehensive strategy ensures Los Angeles County not only meets federal and state standards but advances flood risk reduction in a way that safeguards people, property, and natural systems for the future.

6.6.9 Summary

Flooding is one of the most persistent and complex natural hazards in Los Angeles County, intensified by climate change, urbanization, and aging infrastructure. The Los Angeles County region experiences a range of flood types, including stormwater runoff, flash flooding, coastal inundation, and post-wildfire debris flows. These events are most common during winter storms and atmospheric river systems. High-density development, extensive paved surfaces, and fire-damaged hillsides contribute to rapid runoff and increased overall flood vulnerability. Areas along (but not limited to) the Los Angeles, San Gabriel, and Santa Clara Rivers, as well as coastal communities and foothill regions, are particularly at risk.

Los Angeles County's mitigation strategy is proactive and multifaceted. It includes infrastructure upgrades, nature-based solutions, land use policy updates, and public education. Core priorities focus on protecting critical facilities, reducing exposure in high-risk housing, and promoting community resilience. Planning efforts are supported by FEMA's HAZUS risk modeling and local climate projections. Despite progress, more than 750,000 residents remain at risk from major flood events, reinforcing the need for continued investment in comprehensive, flood risk reduction across the county.

6.6.10 National Flood Insurance Program (NFIP) Repetitive Loss (RL)

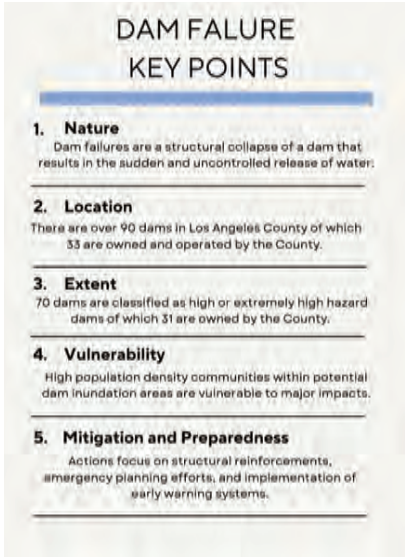
According to the Los Angeles County Public Works, there are 55 Repetitive Loss (RL) properties in 28 RL areas of Unincorporated Los Angeles County as of 2025, and 8 Severe Repetitive Loss Properties (SRLP). A Repetitive Loss (RL) property is any insurable building for which two or more claims of more 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 Unincorporated Los Angeles County were not available during the drafting of this plan, but is being finalized and will be included in subsequent hazard mitigation efforts. Data from 2011 showed that 24 RL properties were located in the SFHA. At the time, the 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." The Los Angeles County Public Works oversees RL mitigation projects.



6.7 Dam Failure

6.7.1 Nature

Dam failure refers to the structural collapse of a dam that results in the sudden and uncontrolled release of stored water. Such failures can occur due to age-related deterioration, inadequate spillway capacity, structural damage from seismic activity or flooding, and poor maintenance. The catastrophic release of water from a dam failure has the potential to cause human casualties, significant economic loss, and environmental destruction. This type of disaster is particularly dangerous because it can occur suddenly, leaving little time for evacuation or emergency response efforts.



The magnitude of flooding from dam failure often exceeds the capacity of downstream channels, causing rapid inundation of surrounding areas. This flooding can lead to extensive property damage, erosion, infrastructure destruction, and contamination of water supplies. Additionally, secondary hazards such as landslides and debris flows can be triggered, compounding the disaster's impact. The structural stress on dams may rise as dams age, and climate variability increases the frequency of extreme precipitation events. Planning efforts include both dams and debris basins. To simplify language of the plan both reservoir dams and storm water debris basins will be referred to as dams.

6.7.2 Location

Los Angeles County has over 90 dams regulated by the California Department of Water Resources' Division of Safety of Dams (DSOD). Fifteen (15) of these dams and eighteen (18) debris basins are owned and operated by the Los Angeles County Public Works (PW). In 2017, the California Legislature mandated that all state-jurisdictional dams (excluding those classified as Low Hazard) develop dam breach inundation maps and Emergency Action Plans (EAPs) approved by DSOD and Cal OES.

Many of these dams are located near highly populated areas, increasing the potential for human and economic impacts during a failure event. Seventy (70) dams are classified as High or Extremely High hazard potential dams, meaning their failure could result in significant loss of life and widespread property damage.

The Whittier Narrows Dam, reclassified as the U.S. Army Corps of Engineers' (USACE) highest-priority dam safety concern, poses one of the greatest risks due to its potential to flood highly populated areas from Pico Rivera to Long Beach. USACE has determined that an extreme storm event has a 1 in 900 (0.1%) chance of causing catastrophic failure annually. Mitigation actions related to County-owned dams are prioritized based on their hazard level and potential to impact populated areas.

For a better visual representation of this Dam Failure Hazard within the LA County planning area, please reference Appendix A for all the County owned dams and debris basins maps.

6.7.3 Extent

The Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures (FEMA P-946, 2013) categorizes dam hazards into four classifications:

- **Low Hazard**: Minimal damage expected, no loss of life.
- **Significant Hazard**: Potential for property damage and economic disruption.
- **High Hazard**: Likely to result in loss of life and significant damage to critical infrastructure.
- **Extremely High Hazard (DSOD Classification)**: Could cause large-scale fatalities and inundate areas with over 1,000 residents.

Given the population density of Los Angeles County, a dam failure classified as High or Extremely High Hazard would likely cause substantial human casualties, displace entire communities, and inflict severe economic and environmental damage. Table 6-3 and 6-4 below shows a list of dams and debris basins owned by PW along with their hazard classifications. Potential mitigation actions described in this AHMP are only applicable to the dams and debris basins owned by PW and implementation of these actions are the responsibility of the PW Stormwater Engineering Division – Dams Section.

Table 6-3: Los Angeles County PW Dam Hazard Status

Dam Name	Hazard Status	Location
Big Dalton	Extremely High	Glendora, CA
Big Santa Anita	Extremely High	Monrovia, CA
Big Tujunga No. 1	Extremely High	Tujunga, CA
Cogswell	Extremely High	Azusa, CA
Devils Gate	Extremely High	LA Canada Flintridge, CA
Live Oak	Extremely High	La Verne, CA
Morris	Extremely High	Azusa, CA
Pacoima	Extremely High	Pacoima, CA
Puddingstone	Extremely High	San Dimas, CA
Puddingstone Diversion	High	La Verne, CA
San Dimas	Extremely High	La Verne, CA
San Gabriel No. 1	Extremely High	Azusa, CA
Sawpit	Extremely High	Monrovia, CA
Sierra Madre	High	Sierra Madre, CA
Thompson Creek	Extremely High	Claremont, CA

Table 6-4: Los Angeles County PW Debris Basin Hazard Status

Debris Basin Name	Hazard Status	Location
Bailey Debris Basin	High	Sierra Madre, CA
Big Dalton Debris Basin	High	Glendora, CA
Blanchard Debris Basin	High	Tujunga, CA
Brand Debris Basin	High	Glendale, CA
Eaton Wash Debris Basin	Extremely High	Pasadena, CA
La Tuna Debris Basin	Extremely High	Sun Valley, CA
Laguna Regulating Basin	Significant	Alhambra, CA
Little Dalton Debris Basin	Extremely High	Glendora, CA
Lower Sunset Debris Basin	High	Burbank, CA
Morgan Debris Basin	High	Glendora, CA
Rubio Debris Basin	High	Altadena, CA
Santa Anita Debris Basin	Low	Arcadia, CA
Sawpit Debris Basin	Extremely High	Monrovia, CA

Debris Basin Name	Hazard Status	Location
Schoolhouse Debris Basin	High	Los Angeles, CA
Sierra Madre Villa	Extremely High	Sierra Madre, CA
Stevenson Ranch	High	Stevenson Ranch, CA
Stough Debris Basin	Extremely High	Burbank, CA
Wilson Debris Basin	High	Los Angeles, CA

6.7.4 History

Los Angeles County has experienced one of the deadliest dam failures in U.S. history:

- St. Francis Dam Failure (March 12-13, 1928):
  - Released 12.4 billion gallons of water
  - At least 411 fatalities
  - Devastated towns from San Francisquito Canyon to Ventura County
  - Resulted in sweeping changes to California dam safety regulations and the creation of state oversight for civil engineers

While no major dam failures have occurred in recent decades, concerns over aging dam infrastructure, seismic risks, and increasing climate variability have raised alarms about future risks. Studies indicate that many California dams, including those in Los Angeles County, require structural updates to withstand modern hydrological conditions and potential seismic activity. There have been no federal declarations or state proclamations for dam failure in the last five years.

6.7.5 Dam Coordination

Los Angeles County Public Works coordinates with local, state, and federal agencies to mitigate flood risk hazards to downstream communities from its dams. At the local level, PW works with cities and public agencies during development of Emergency Action Plans (EAP). This provides local stakeholders with the opportunity to review the EAP, provide feedback, and confirm responsibilities and roles during an EAP activation. At request from local jurisdictions, PW may provide tours of its dam facilities, where information on dam safety and the potential hazards associated with dam failures are shared.

At the state level, PW works with the DSOD to meet compliance with state dam safety standards and flood management at all of PW's dams. This includes annual dam

inspections, review, approval, and oversight of dam construction projects, review of dam safety monitoring, and oversight of other dam safety regulatory activities. PW also coordinates with various state agencies, including DSOD, Cal OES, and Caltrans during development of EAPs.

At the federal level, PW works with the Federal Energy Regulatory Commission (FERC) to meet compliance with state dam federal standards and flood management at PW's San Gabriel Dam, which is under FERC jurisdiction. This includes annual dam inspections, review, approval, and oversight of dam construction projects, review of dam safety monitoring, EAP coordination, and oversight of other dam safety regulatory activities. PW also coordinates with the United States Army Corps of Engineers (USACE) on operations of interconnected dam facilities and emergency response planning for USACE facilities that may be in the pathway of dam failure impacts.

Information Sharing

PW provides critical information to relevant local, state, and federal stakeholders to address hazard mitigation related to dam safety. This includes:

- **Emergency Action Plans (EAPs):** EAPs outline the roles, responsibilities, and procedures to follow in the event of a dam emergency. The EAPs include inundation maps, which show areas that would be affected by a dam failure, helping to identify populations at risk. These plans are shared with stakeholders to ensure a coordinated response. Due to the sensitive nature of information contained within the EAPs, they are confidential and not released to the general public.
- **Inundation Maps:** Inundation maps are critical tools for identifying areas and populations at risk in the event of a dam failure. They also indicate potential impacts on critical infrastructure facilities such as hospitals, schools, and transportation networks. These maps are shared with relevant stakeholders recognized in the EAP and are available to the general public through the DSOD Dam Breach Inundation Map Web Publisher.

6.7.6 Probability

Los Angeles County contains over 90 state-jurisdictional dams, with approximately 70 classified as High or Extremely High Hazard by the California Division of Safety of Dams (DSOD), meaning their failure could result in loss of life and significant property damage.

Although comprehensive failure probabilities are not published for each dam, FEMA and DSOD guidance suggest that the general annual probability of failure for High Hazard dams nationwide ranges from 0.01% to 0.1% (or 1 in 10,000 to 1 in 1,000) depending on maintenance, age, seismic vulnerability, and other site-specific factors.

Applying this range to Los Angeles County:

- The aggregate annual probability of a significant dam failure event in the county—across one or more of the 70 high-risk dams—is estimated at between 0.1% and 0.5% annually, factoring cumulative exposure and different hazard classifications. (Such as earthquake or flood related)
- Climate change, aging infrastructure, and seismic activity in Los Angeles County increase systemic risk across multiple structures simultaneously.

In summary, while the individual likelihood of failure for any one dam is very low, the overall countywide probability of at least one major dam failure event is low but still warrants continued vigilance, maintenance, and emergency planning.

6.7.7 Vulnerability

A catastrophic dam failure in Los Angeles County could have severe consequences for hundreds of thousands of residents. The densely populated nature of the county, combined with the location of several large dams near residential and commercial areas, increases the potential for widespread displacement, loss of life, and economic damage. The 2024 THIRA identifies multiple high-risk zones where dam failure could result in extensive flooding and mass evacuations.

- High-risk dams, among others, pose a significant threat to densely populated communities. A breach in any of these dams could inundate entire neighborhoods, affecting more than 500,000 residents in low-lying areas and floodplains.
- Socially vulnerable populations, including elderly individuals, the AFN community, people experiencing homelessness, low-income communities, and non-English-speaking residents face heightened risks during evacuations and recovery due to limited mobility, financial constraints, and access to resources.
- Educational and healthcare institutions are at risk, with several schools, hospitals, and long-term care facilities located in flood-prone areas. A major dam failure could result in school closures, displacement of students, and disruption of healthcare services.

- Evacuation and emergency sheltering demands would be substantial, requiring the rapid mobilization of resources to support displaced residents. Temporary shelters, emergency medical services, and logistical support would need to be activated to accommodate evacuees.

Los Angeles County relies heavily on dams and reservoirs for water storage, flood control, and supply regulation. Catastrophic dam failure poses an acute threat to life and property, especially in low-lying, highly populated downstream areas.

Extent of Exposure

- **Total Area Exposed**: 490.64 sq mi
- **Supervisorial Districts (SD) Impacted**:
  - **SD5**: 223.88 sq mi (7.97%)
  - **SD1**: 162.25 sq mi (45.98%)
  - **SD2**: 66.57 sq mi (18.32%)
  - **SD3**: 25.76 sq mi (5.97%)
  - **SD4**: 12.17 sq mi (5.72%)
- **Critical Facilities Affected**:
  - Fire Department: 112 (33.22%)
  - Public Works: 92 (40.00%)
  - Health Services: 29 (44.62%)
  - Public Health: 17 (42.50%)
  - Libraries: 30 (34.48%)
  - Parks: 65 (35.50%)
  - Education: 34 (41.46%)

Problem Statement

Dam failure, while rare, can have catastrophic consequences in densely populated downstream areas. With significant portions of critical infrastructure exposed—particularly in SD1 and SD5—planning for emergency evacuations, early warning systems, infrastructure hardening, and downstream development regulation is critical to saving lives and reducing loss.

A failure or breach of a High Hazard Potential Dam (HHPD) in Los Angeles County would result in catastrophic consequences for downstream communities, with the greatest vulnerabilities concentrated in densely populated urban areas. Rapid and massive flooding would likely inundate residential neighborhoods, commercial districts, and industrial zones within minutes to hours, depending on proximity and topography. Critical infrastructure—including hospitals, fire and police stations, schools, and major transportation corridors—would be severely impacted, disrupting emergency services and evacuation routes. Thousands of people, including vulnerable populations such as those with Access and Functional Needs (AFN), elderly residents, and low-income households, would face immediate life-threatening conditions, displacement, and limited access to medical care or shelter. Economic losses would be compounded by damage to utilities, including power substations and water systems, potentially leaving large swaths of the region without essential services. The sheer scale of devastation from a dam failure, especially at facilities such as Whittier Narrows or Castaic Dam, underscores the critical importance of continued risk reduction, early warning systems, and dam rehabilitation efforts.

6.7.8 Data Limitations

A limitation of this AHMP is that planning efforts only covered PW-owned dams in Los Angeles County. Future mitigation planning should include other dam owners and operators in Los Angeles County such as the US Army Corps of Engineers. The data on high-hazard dams reviewed during the 2025 AHMP planning process was generally suitable for the analysis required. Future opportunities for obtaining additional data to be considered in the next update to the plan should:

- Incorporate more current information as it becomes available.
- Assess any new or updated EAPs for dams owned by Los Angeles County.
- Identify and review more current structural or condition assessment data to inform future risk assessments.
- Involve other dam owners within Los Angeles County in future planning efforts.

6.7.9 Impacts

A dam failure in Los Angeles County would have catastrophic and immediate consequences for life, property, and critical infrastructure, particularly in the densely populated downstream areas. The sudden release of impounded water from a High or Extremely High Hazard dam could inundate neighborhoods within minutes, allowing little to no time for evacuation. More than 500,000 residents live within identified dam inundation zones, many of whom are in socially vulnerable populations—including

individuals with limited mobility, low-income households, and people experiencing homelessness—making rapid evacuation and sheltering especially challenging. County-owned high hazard potential dams and their locations are listed in Table 6-3. Inundation maps for County-owned high hazard potential dams are listed in Appendix A-7.

Critical infrastructure is also at significant risk. Hospitals, fire stations, law enforcement facilities, emergency operations centers, schools, and wastewater treatment plants located in downstream zones may be damaged or rendered inoperable, severely disrupting emergency response and life-sustaining services. Major transportation routes such as interstates, rail lines, and arterial roads could be submerged or washed out, impeding rescue and recovery efforts. Additionally, power substations, water distribution networks, and telecommunications infrastructure could suffer cascading failures, contributing to widespread outages and prolonged recovery periods.

The economic consequences of dam failure would be immense. Beyond property damage, business operations in inundated areas would halt, leading to loss of employment, tax revenue, and economic activity. Industrial zones (especially those near major flood control reservoirs or channels) could potentially release hazardous materials if overwhelmed, posing secondary environmental and public health hazards. Debris accumulation, sedimentation, and contamination could severely impact ecosystems, water quality, and flood control infrastructure downstream, complicating both emergency cleanup and long-term environmental recovery.

Given the scale of potential impacts, dam failure is considered a stable low-probability but high-consequence hazard in Los Angeles County, requiring continued investment in structural mitigation, emergency preparedness, and public awareness to reduce the severity of its effects.

6.7.10 High Hazard Potential Dams Goals

Goal 1: Enhance resilience across dam/debris basin infrastructure, including high-hazard potential dams, and other critical facilities within dam inundation zones.

Goal 2: Encourage structural reinforcement or retrofits for aging and vulnerable dams.

Goal 3: Ensure all dams/ debris basins have updated Emergency Action Plans (where applicable) and updated dam inundation mapping consistent with state standards.

6.7.11 Mitigation and Preparedness

Los Angeles County and state agencies have implemented various mitigation efforts to reduce the risks associated with dam failures:

- **Structural Reinforcements:** Upgrading spillways, strengthening earthen dams, and implementing seismic retrofitting measures.
- **Emergency Action Plans (EAPs):** Mandated by DSOD for all High and Extremely High hazard dams to guide evacuation and response efforts.
- **Early Warning Systems:** Improved flood monitoring and automated alert systems to notify at-risk communities in real-time.

6.7.12 High Hazard Potential Dam Prioritization

The risk assessment within the 2025 AHMP considers the county planning area's vulnerability and potential impacts related to HHPDs. Mitigation actions and planning efforts that are related to mitigating long-term vulnerabilities to County-owned HHPDs will automatically be given a HIGH priority as described in the overall mitigation action prioritization criteria in Section 7.6. The County Departments responsible for implementing the associated mitigation actions, along with the priority, potential funding source, and expected time frame are listed in Section 7.8.

6.7.13 Summary

Los Angeles County has 90 state-jurisdictional dams, with 70 classified as High or Extremely High hazard, meaning their failure could result in widespread loss of life and economic devastation. While regulatory oversight has improved dam safety, aging infrastructure, seismic threats, and increased storm intensity remain challenges. Continued investment in retrofits, early warning systems, and emergency planning is essential to mitigating the risk of catastrophic dam failures.



6.8 Land Movement

6.8.1 Nature

Land movement refers to the downward movement of rock, soil, or debris along a slope due to gravity. This process can occur suddenly or gradually over time, depending on contributing factors such as soil composition, slope stability, and external triggers. Land movement encompass a variety of movement types including mudflows, rockfalls, debris flows, land slumps, land subsidence, and soil movement. In Los Angeles County, the diverse topography and geological formations make certain areas more prone to land movement, particularly during periods of intense precipitation, seismic activity, or human land-use modifications.



Climate change exacerbates land movement by increasing the frequency and intensity of extreme weather events, such as heavy rainfall and flooding, which can lead to accelerated erosion and heightened landslide risks.

Land movement often occur in conjunction with other natural hazards, exacerbating their impact. Some of the primary contributing factors include:

- **Seismic Activity**: Earthquakes can destabilize slopes, leading to land movement and rockfalls. The force of seismic shaking can cause sudden failures, particularly in areas with pre-existing instability.
- **Heavy Rainfall and Flooding**: The likelihood of land movement increases after successive storms. Prolonged or intense rainfall saturates soil, reducing its cohesion and triggering slope failures.
- **Coastal Erosion**: Waves and storm surge erode coastal cliffs, leading to instability and eventual collapse, particularly in areas such as County beaches and coastal communities, many of which have previously experienced significant erosion.
- **Wildfires**: Loss of vegetation due to fires reduces the soil's ability to retain moisture, making slopes more susceptible to erosion and land movement during subsequent rain events.
- **Burn Scars**: Wildfire burn scars significantly elevate the risk of land movement by stripping the land of stabilizing vegetation. Areas affected by major fires such as the Woolsey Fire (2018), Bobcat Fire (2020), Bridge Fire (2024), Eaton Fire (2025), and Palisades Fire (2025) have shown increased susceptibility to land movement due to reduced soil stability and rapid runoff during rainstorms.

6.8.2 Location

Los Angeles County is home to multiple regions susceptible to land movement due to steep slopes, unstable geology, and weather patterns. The California Geological Survey (CGS) Landslide Susceptibility Map highlights high-risk areas. For a better visual representation of the Land Movement Hazard within the LA County planning area, please reference Appendix A for maps that show areas that are susceptible to land movement and recent burn scars.

Potential land movement areas include (but are not limited to):

- Santa Monica Mountains
- San Gabriel Mountains
- Sierra Pelona Mountains
- Baldwin Hills
- Puente Hills
- Palos Verdes Hills

These areas are particularly vulnerable due to their steep terrains, weak rock formations, and history of slope movement. Additionally, human activities such as grading, excavation, and construction in these regions can further destabilize the ground, increasing the likelihood of land movement. Areas impacted by past wildfires, known as burn scars, are also highly susceptible to land movement, as the loss of vegetation reduces soil stability and increases erosion risks during heavy rains. This is particularly concerning in wildfire-prone areas such as the Santa Monica Mountains and the foothills of the San Gabriel Mountains, where post-fire land movement have historically caused significant damage.

6.8.3 Extent

The extent of land movement in Los Angeles is significant and varied, influenced by its unique geological setting. According to the 2011 CGS Landslide Susceptibility Map, approximately 750 square miles (15.75%) of Los Angeles County fall within high-risk landslide zones. The highest concentrations of deep-seated landslide susceptibility are distributed as follows:

Table 6-5 Landslide Susceptibility Map

Area	High-Risk Landslide Zones (sq. miles)	Percentage of Total Land Area
Los Angeles County	750.02	15.75%
Unincorporated Areas	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%

6.8.4 History

Land movement have historically caused significant damage in Los Angeles County, often resulting in property destruction, infrastructure damage, and road closures. There have been no federal declarations or state proclamations for dam failure in the last five years. Some of the most notable events include:

- **1956 – Portuguese Bend Landslide**: A massive landslide on the Palos Verdes Peninsula began in 1956 and remains active today. The movement of land has displaced homes and infrastructure, highlighting the region's ongoing geologic instability.
- **1994 – Northridge Earthquake-Induced Land movement**: The earthquake triggered more than 11,000 moving events, primarily in the Santa Susana Mountains and San Gabriel Mountains, causing extensive road and structural damage.
- **March 1995 – Pacific Palisades Landslide**: Heavy rains weakened the coastal bluffs, leading to a 300-foot-wide collapse that buried part of the Pacific Coast Highway under 30 feet of debris.
- **March 2005 – Sunset Mesa Landslide**: A slope failure near Malibu caused over 20,000 cubic yards of debris to block roadways and damage property.
- **July 2023 – Peartree Lane Land Movement (Rolling Hills Estates)**: A sudden slope failure resulted in the displacement of 12 homes, which were red-tagged due to structural instability.
- **September 2024 – Accelerated Land Movement in Rancho Palos Verdes**: A significant increase in land movement, with certain areas shifting up to four inches per week toward the ocean, threatening roads and over 250 residential properties.

6.8.5 Types of Land Movement

Debris Flow/ Mudflow/ Soil Movement

Debris flow involves the rapid movement of a dense mixture of water, soil, rock, and organic material down a slope. This process can have significant impacts on landscapes, ecosystems, and human infrastructure.

Debris flows are characterized by their fluid-like behavior and ability to transport large objects, such as boulders and trees. They can travel at high speeds making them highly destructive. The composition of a debris flow can vary, but it typically includes:

- **Water**: A crucial component that facilitates movement.
- **Soil and Rock**: These provide the bulk of the material in a debris flow.
- **Organic Material**: Includes vegetation and other natural debris that get caught in the flow.

Mudflows are rapid movements of water-saturated earth materials that can cause significant damage to both natural environments and human settlements. Mudflows are characterized by their fluid-like motion, which occurs when soil, rocks, and debris become saturated with water. This saturation reduces the friction between particles, allowing the mass to move downhill under the influence of gravity. Key characteristics include:

- **Speed and Volume:** Mud flows can travel at speeds up to 35 miles per hour and can carry large volumes of material, including rocks, trees, and even vehicles.
- **Consistency:** The consistency of a mud flow can vary from a thick, viscous slurry to a watery flow. This depends on the proportion of water to solid materials.
- **Path:** Mud flows typically follow existing drainage patterns, such as river channels and valleys, but can also carve new paths, leading to unpredictable and widespread damage.

Soil movement is a natural process that significantly impacts the environment and human activities. It involves the displacement of soil particles due to various natural and human caused factors. Key characteristics include:

- **Landslides:** Often occurring in hilly areas, landslides involve the downward movement of rock and soil. They can be sudden and fast-moving, making them particularly dangerous.
- **Soil Creep:** This is a slow and gradual movement of soil down a slope, often unnoticed until significant damage occurs.
- **Soil Liquefaction:** During an earthquake, saturated soil can temporarily lose its strength and behave like a liquid, causing structures to sink or tilt.

Causes

In Los Angeles County, several factors contribute to the occurrence of debris flows/mudflows/ soil movement:

- **Heavy Rainfall and Storm Events:** Intense and prolonged rainfall, often associated with storms, can saturate the soil, reducing its stability and triggering debris flows.

The region's Mediterranean climate, with wet winters and dry summers, creates conditions conducive to such events.

- **Wildfires:** Los Angeles County frequently experiences wildfires, which can burn and destabilize vegetation that normally helps hold soil in place. The loss of vegetation increases the risk of soil erosion and, consequently, debris flows during subsequent rainfalls.
- **Steep Terrain:** The county's mountainous terrain, including areas like County mountainous areas, is particularly prone to debris flow. The steep slopes facilitate the rapid movement of debris downhill.
- **Soil Composition:** Certain soil types, such as clay-rich soils, can become highly unstable when saturated with water, making them more susceptible to debris flow.
- **Human Activity:** Urban development, road construction, and deforestation can alter natural landscapes and exacerbate conditions that lead to debris flow.
- **Seismic Activity:** Los Angeles County is situated in a highly active seismic zone, making it prone to earthquakes. Seismic activity can lead to soil liquefaction, landslides, and ground shaking, all contributing to soil displacement.

Land Subsidence

Land subsidence is a gradual settling or sudden sinking of the Earth's surface due to various natural and human-induced factors. This hazard can have significant impacts on the environment, infrastructure, and communities.

A reduction in land elevation is one of the most noticeable features of land subsidence, leading to significant changes in the landscape. This phenomenon can occur due to natural processes, such as the dissolution of limestone, as well as human activities like the excessive extraction of groundwater, oil, or natural gas. Furthermore, land subsidence increases the risk of flooding because the lower elevation can lead to poor drainage and water accumulation. As the ground sinks, it often results in the formation of depressions, fissures, and sinkholes, which can dramatically alter the geography and infrastructure of the area.

- **Depressions:** Are sunken or low-lying areas on the Earth’s surface, often formed by natural or man-made processes.
- **Fissures:** Are a long, narrow crack or linear opening in the Earth’s crust.
- **Sinkholes:** Are holes in the ground causes by the collapse or sinking of surface material into an underlying void.

Causes

- **Groundwater Extraction:** One of the primary causes of land subsidence in Los Angeles County is the excessive extraction of groundwater. As water is pumped out of underground aquifers, the ground above can sink or settle, leading to subsidence.
- **Oil and Gas Extraction:** The removal of oil and natural gas from beneath the earth's surface also contributes to land subsidence. This extraction can create voids and reduce pressure in subterranean layers, causing the ground to sink.
- **Natural Soil Compaction:** Over time, natural processes such as soil compaction can lead to gradual subsidence. In areas with loose or unconsolidated soils, the weight of overlying materials compacts the ground, resulting in a lowering of the land surface.

Rock Falls

Rock falls are a natural geological phenomenon where rock fragments break free from a steep slope or cliff and tumble downward. These events can range from small pebbles dislodging to massive boulders crashing down with significant force and impact.

Rock falls are characterized by:

- **Speed and Suddenness:** Rock falls occur quickly and without much warning, making them particularly dangerous.
- **Varied Sizes:** The size of the falling material can range from small pebbles to large boulders, impacting the severity of the event.
- **Path Predictability:** While the initial trigger point is often identifiable, the path of descent can be unpredictable due to varying terrain and obstacles.

Causes

The primary causes of rock falls include:

- **Weathering and Erosion:** Over time, weathering processes such as freeze-thaw cycles, chemical weathering, and the action of water can weaken rock structures. Erosion can undermine the base of slopes, making rocks more susceptible to falling.
- **Seismic Activity:** Los Angeles County is located in a seismically active region. Earthquakes can dislodge rocks from cliffs and steep slopes, triggering rock falls.

- **Heavy Rainfall:** Intense or prolonged rainfall can saturate the ground, increasing the weight and pressure on rock faces. This saturation can lead to the loosening and collapse of rocks.
- **Human Activity:** Construction, mining, and other human activities can destabilize rock formations. The vibrations from heavy machinery and blasting can initiate rock falls.

6.8.6 Probability

Landslides and other land movement events happen in Los Angeles County fairly often, especially after heavy rain or in areas that recently had wildfires or are prone to sliding.

- Small landslides (like debris flows) are most likely during years with heavy rain, especially El Niño years. These happen every 2 to 7 years; there is 14% to 50% chance each year during those cycles.
- In high-risk zones (like steep mountain slopes with a history of movement), probability is 1–2% chance per year, especially following multi-year wet periods or major wildfires.
- Some areas of the County have been experiencing continuous sliding.

6.8.7 Vulnerability

Land movement pose risks to life, property, and essential infrastructure. The 2024 THIRA projects that approximately 1.2 million residents in Los Angeles County could be directly or indirectly affected by land movement. The most at-risk populations include:

- Residents of hillside and canyon communities such as Malibu, Topanga, and the Palos Verdes Peninsula.
- Homeowners in coastal bluff areas that are facing erosion-driven slope failures.
- Communities in wildfire burn scar areas, where the loss of vegetation increases landslide probability during heavy rains.
- The Access and Functional Needs (AFN) community who may face challenges in evacuating or leaving landslide-prone areas.

Contextual Overview

Los Angeles County's diverse topography includes many hillside communities susceptible to deep-seated landslides, especially after wildfire or heavy rain. These hazards can isolate communities, damage property, and disrupt lifelines.

Extent of Exposure

- **Total Area Exposed**: 284.57 sq mi
- **Supervisorial Districts (SD) Impacted**:
  - **SD5**: 151.96 sq mi (5.41%)
  - **SD3**: 90.23 sq mi (20.93%)
  - **SD4**: 25.94 sq mi (12.20%)
  - **SD1**: 13.77 sq mi (3.90%)
  - **SD2**: 2.68 sq mi (0.74%)
- **Critical Facilities Affected**:
  - Fire Department: 41 (12.17%)
  - Public Works: 32 (13.91%)
  - Health Services: 12 (18.46%)
  - Public Health: 4 (10.00%)
  - Libraries: 9 (10.34%)
  - Parks: 27 (14.92%)
  - Education: 8 (9.76%)

Problem Statement

Landslides pose a serious risk to hillside communities and access routes, especially in areas recovering from wildfire. Current development and road infrastructure may not be resilient against slope failure. Mitigation actions should include slope stabilization, targeted buyouts or relocations, and early warning systems.

6.8.8 Impacts

Los Angeles County's diverse landscape and dense population make it highly susceptible to the effects of land movement, affecting critical infrastructure and raising significant economic, social, and safety concerns.

Transportation Networks

Los Angeles County's extensive transportation network is vital for daily commutes, goods transport, and emergency services. Land movement can severely impact these systems:

- **Road Damage**: Causes closures, hazardous driving conditions and costly repairs, as seen annually on Pacific Coast Highway (PCH), and many other local roads.
- **Bridge Compromise**: Affects structural integrity, necessitating closures and expensive reconstructions.
- **Public Transit Disruptions**: Impacts train tracks and bus routes, leading to delays and service interruptions.
- **Rail Systems:** Track misalignment can cause delays and potential derailments, affecting both passenger and freight lines.

Water Supply Systems

The county's water delivery system is complex and vulnerable to land movement:

- **Compromised Pipelines**: Leads to ruptures or leaks, disrupting supply and requiring major repairs.
- **Reservoir Impact**: Landslides can affect water quality and storage capacity.

Energy Infrastructure

Land movement poses risks to Los Angeles County's energy infrastructure, including:

- **Electrical Grid Vulnerabilities:** Land movement can damage power lines and substations, causing outages.
- **Gas Pipeline Risks:** Soil shifts can result in gas leaks or explosions, endangering safety.

Communication Systems

Reliable communication is critical, and land movement can disrupt:

- **Telecommunication Towers:** Structural damage can impair cellular and internet services.
- **Underground Cables:** Earth shifts can damage cables, affecting connectivity.

Emergency Services Facilities

- **Hospitals and Fire Stations:** Essential for emergency response, but structural damage could impede operations, underscoring the need for resilient construction and strategic planning.

Economic Impacts

- **Infrastructure Damage:** Leads to costly repairs and maintenance of roads, bridges, and buildings.
- **Property Loss:** Homeowners face financial losses due to property damage or devaluation.

Environmental Impacts

- **Ecosystem Disruption:** Soil movement can lead to habitat loss and affect local flora and fauna.
- **Increased Pollution:** Erosion can result in sediment runoff, degrading water quality in rivers and oceans.

For a better visual representation of the Land Movement Hazard within the LA County planning area, please reference Appendix A for maps that show areas that are susceptible to land movement and recent burn scars.

6.8.9 Mitigation Strategies

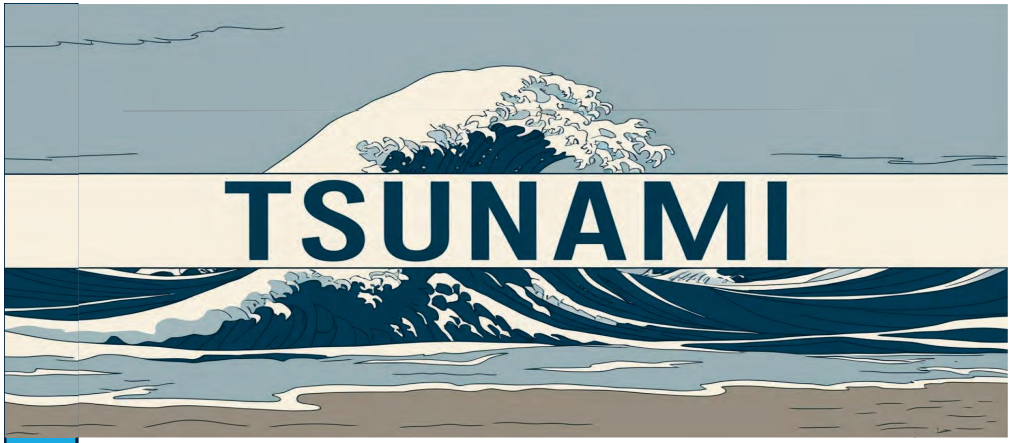
To reduce the impact of land movement, Los Angeles County has implemented several mitigation and preparedness strategies, including:

- **Land Use and Development Regulations:** Restricting development in high-risk landslide zones to prevent new structures from being built on unstable terrain.
- **Infrastructure Resilience:** Reinforcing existing infrastructure through slope stabilization projects, retaining walls, and improved drainage systems.

- **Stabilization Regulations:** Implementing stricter grading and excavation regulations to minimize the destabilization of slopes.
- **Public Awareness Campaigns:** Enhancing landslide early notifications by monitoring potential movement areas and precipitation thresholds.
- **Evacuation Planning:** Developing evacuation plans for at-risk communities, ensuring residents receive timely alerts and clear guidance.
- **Public Education:** Conducting public education campaigns to inform residents about recognizing landslide warning signs and preparedness measures.
- **Operational Area Coordination**: Increasing coordination across state, federal, and Office of Emergency Management officials with local jurisdictions to improve forecasting and response efforts.

6.8.10 Summary

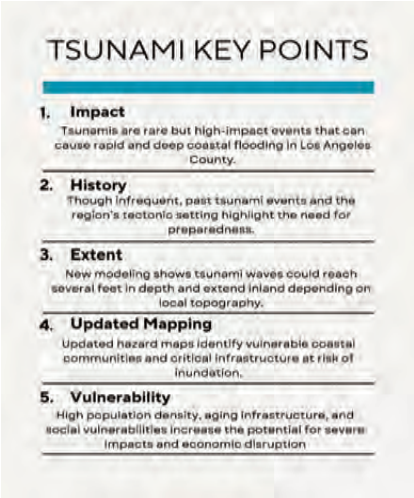
Land movement remains a significant hazard in Los Angeles County, particularly in steep and coastal regions. The Palos Verdes Peninsula, Santa Monica Mountains, and San Gabriel Mountains are among the most vulnerable areas, with climate change and human activities exacerbating risks. By implementing land-use regulations, infrastructure reinforcements, and emergency response improvements, the County can enhance resilience and reduce losses in the future. Local governments and communities must actively monitor and manage contributing factors to effectively mitigate the impacts of land subsidence.



6.9 Tsunami

6.9.1 Nature

This section characterizes tsunamis as high-energy, long-wavelength ocean waves generated primarily by significant offshore seismic events (such as subduction zone earthquakes), submarine landslides, or volcanic eruptions. In the context of Los Angeles County, tsunamis represent a relatively infrequent but potentially high-impact hazard that could produce rapid coastal inundation and surge impacts.



Characteristics:

- Triggered mainly by distant, large-magnitude seismic events.
- Features long wavelengths and prolonged arrival times.
- Capable of producing rapid, deep inundation along low-lying coastal areas.
- In summary, tsunamis are dynamic natural phenomena with the potential to cause sudden coastal flooding and damage if a triggering event occurs.

6.9.2 Location

The updated tsunami hazard profile focuses on the coastal areas of Los Angeles County. The new zone map–developed using enhanced modeling techniques and updated coastal geomorphology data–highlights areas along the Pacific shoreline that are at risk. These include regions adjacent to the Los Angeles Basin, parts of Long Beach, Santa Monica Bay, and other low-elevation coastal zones.

For a better visual representation of Tsunami Inundation zones within the LA County planning area, please reference Appendix A for a "Tsunami Inundation Area" map.

Important Details:

- Coastal segments from the western margins of the Los Angeles Basin extending to the border with Orange County.

Overall, the coastal areas of Los Angeles County, containing our communities and infrastructure, face heightened exposure.

6.9.3 Extent

Using the latest hydrodynamic and inundation modeling, the updated tsunami inundation (zone) map provides a refined view of the extent of potential flooding. The map illustrates how tsunami waves could propagate inland, showing revised boundaries that account for current sea-level conditions and future sea-level rise projections.

Highlights:

- Inundation depths and reach have been recalculated, with some areas potentially experiencing water levels up to several feet in depth.
- The inland reach of flooding varies by local topography, with flat, low-lying areas showing the greatest potential for impacts. Impacted areas include, but are not limited to, Long Beach, The ports of Long Beach and Los Angeles, Marina del Rey, Venice and Santa Monica.
- Critical infrastructure within the updated zones has been identified to prioritize mitigation and evacuation routes for planning.

In essence, the extent of tsunami impacts is now mapped more precisely, offering local decision-makers a clearer view of potential flooding depths and distances inland.

6.9.4 History

Historically, significant tsunami events in the Los Angeles region are rare, though distant seismic events (for example: the 1960 Chilean tsunami, or the most recent 2022 Tonga tsunami) have been known to produce measurable impacts. Historical records combined with geological studies indicate that while tsunamis have occurred in the past, their frequency is low compared to other hazards. However, the region's proximity to major tectonic boundaries necessitates ongoing vigilance.

Historical Context:

- Past events have been sporadic but can serve as valuable lessons for preparedness.
- Historical inundation records and sediment studies confirm that tsunamis have reached the Los Angeles coast in prehistory.
- Lessons learned from past minor events underscore the importance of maintaining updated hazard maps.

Thus, while historical tsunami events are infrequent, they provide a critical context for understanding future risks and guiding preparedness measures. There have been no federal declarations or state proclamations for tsunami in the last five years.

6.9.5 Probability

The probability of a tsunami affecting Los Angeles County is generally low when compared to more frequent hazards like earthquakes or floods. Nevertheless, the potential for a distance source tsunami generated by a distant, large seismic event remains a realistic risk. Updated probabilistic assessments—incorporating recent seismic data and tsunami modeling indicate that while the overall likelihood is low, the consequences in the event of a tsunami can be severe.

Probability Considerations:

- Low annual probability but high consequence if an event occurs; Los Angeles County has about a 2% annual chance.
- Distance source events from subduction zones across the ocean contribute most to the risk.
- Continuous monitoring and updated modeling are essential to reassess the risk over time.
- In summary, the probability of a tsunami remains low, but due to the potential for high-impact outcomes, it warrants continuous study and preparedness.

6.9.6 Vulnerability

Coastal vulnerability in Los Angeles County is significantly influenced by factors such as urban density, low-elevation terrain, aging infrastructure, and socio-economic conditions. The updated tsunami zone map now better delineates areas where these vulnerabilities are most pronounced, highlighting communities that may have limited evacuation routes and fewer resources to recover from rapid inundation. About 75,000 people live in parts of Los Angeles County that could be flooded by a tsunami. Many people also work in these coastal areas, and around 660 unhoused individuals live there, making them especially at risk because they may not have easy access to shelter or transportation.

Tourism adds even more people to these areas, especially during busy weekends or holidays. Places like Santa Monica can see up to 300,000 visitors a day during peak times. This makes evacuating harder if a tsunami warning is issued. Roads near the coast can quickly become crowded, and visitors may not know the best way to leave. Traffic could slow down emergency plans, so it's important to have clear signs, early warnings, and good traffic control to help people get to safety quickly.

Factors:

- High population density in low-lying coastal areas.
- Critical infrastructure (e.g., hospitals, utilities, ports and shipping, transportation networks) located within the inundation zones.
- Socio-economic and language barriers that may hinder effective emergency response.
- Limited natural barriers in some coastal segments.
- Vulnerable communities include those with high population densities and critical infrastructure near the coast.

Ultimately, the vulnerability of the region is compounded by both physical exposures and social factors, underscoring the need for targeted mitigation efforts.

Contextual Overview

Coastal communities in Los Angeles County, including ports and tourist zones, are at risk from tsunamis. These rare but highly destructive events can inundate coastal infrastructure with little warning.

Extent of Exposure

- **Total Area Exposed**: 32.89 sq mi
- **Supervisorial Districts (SD) Impacted**:
  - **SD4**: 15.83 sq mi (7.43%)
  - **SD3**: 12.59 sq mi (2.92%)
  - **SD2**: 2.03 sq mi (0.56%)
- **Critical Facilities Affected**:
  - Fire Department: 16 (4.75%)
  - Public Works: 9 (3.91%)
  - Health Services: 3 (4.62%)
  - Public Health: 1 (2.50%)
  - Libraries: 5 (5.75%)
  - Parks: 13 (7.26%)
  - Education: 3 (3.66%)

Problem Statement

Tsunamis can cause rapid and catastrophic coastal flooding. With critical coastal infrastructure and residential areas exposed, especially in SD4 and SD3, there is a need for robust evacuation planning, vertical evacuation shelters, and community outreach to enhance preparedness and reduce vulnerability.

6.9.7 Impacts

Should a tsunami occur, the potential impacts on Los Angeles County could be extensive. Parts of Los Angeles County that could be impacted by a Tsunami are Marina Del Rey, Port of Los Angeles, Port of Long Beach, and other beach communities in low lying areas. The updated impact assessments reflect possible scenarios ranging from significant property damage to loss of life and long-term economic disruption. The new zone map aids in quantifying these impacts by providing detailed inundation depths and spatial extents, thereby allowing for better risk communication and planning.

Potential Impacts:

- Severe flooding of coastal infrastructure and residential areas.
- Disruption of transportation, utility services, and emergency response operations.
- Economic losses in key sectors such as tourism, shipping, and local commerce.
- Social impacts including displacement, loss of livelihoods, and challenges in emergency sheltering.

In short, the potential impacts of a tsunami are far-reaching, necessitating robust mitigation, evacuation, and recovery planning to minimize harm.

For a better visual representation of Tsunami Inundation zones within the LA County planning area, please reference Appendix A for a "Tsunami Inundation Area" map.

6.9.8 Summary

The updated tsunami section for the 2025 AHMP incorporates the latest scientific findings and mapping techniques to provide a more precise understanding of tsunami risks in Los Angeles County. By integrating an updated inundation zone map, the revision clarifies the spatial extent of potential flooding and highlights the vulnerabilities in coastal communities. This comprehensive update is designed to guide decision-makers in enhancing preparedness, targeting mitigation strategies, and strengthening community resilience.

Key Takeaways:

- **Nature:** Tsunamis are infrequent but high-energy events capable of rapid coastal inundation.
- **Location & Extent:** The updated zone map identifies vulnerable coastal areas with revised inland flood extents.
- **History & Probability:** Historical events are rare; however, distance events remain a realistic risk.
- **Vulnerability & Impacts:** High population density and critical infrastructure in coastal zones amplify risk, with potential for severe economic and social disruption.

This updated section is intended to serve as a critical tool for policymakers, emergency managers, and community stakeholders as they work together to reduce the long-term risks associated with tsunamis and enhance overall regional resilience.



6.10 Severe Wind and Tornado

6.10.1 Nature

Severe wind and tornadoes pose significant threats to life, property, and infrastructure, though they differ in frequency and intensity within Los Angeles County. Severe wind events, particularly Santa Ana winds, are a recurring natural hazard that can cause widespread damage, including downed power lines, tree falls, and structural damage. These winds originate from high-pressure systems over the Great Basin, funneling dry and warm air through mountain passes into the coastal and valley regions at high speeds. Additionally, storm-driven winds, microbursts, straight-line winds and gust fronts associated with severe weather can create hazardous conditions, often leading to transportation disruptions, fire hazards, and prolonged power outages.



Tornadoes, while relatively rare in the region, have been recorded and can cause localized but intense damage. These violent windstorms form when unstable atmospheric conditions produce rotating updrafts, resulting in a funnel cloud that contacts the ground.

6.10.2 Location

Severe wind events affect the entire Los Angeles County planning area, with the strongest occurrences in canyon passes, valleys, and coastal regions. The Santa Ana winds are most intense in the fall and winter months, particularly impacting areas in the Valley, and foothill communities of the County. Storm-driven winds, on the other hand, can impact any part of the county and vary in intensity based on weather patterns. These winds can reach speeds of 60 to 80 mph, sometimes exceeding those thresholds, leading to significant damage.

Tornadoes are more sporadic in occurrence and can develop in various parts of the county, particularly in lowland areas where severe thunderstorms have the potential to form rotating systems.

6.10.3 Extent

Winds and breezes are common occurrences in LA County. As wind speeds increase so does the potential for a catastrophic event. Hot dry winds can reach high speeds as they descend from the inland desert regions, creating not only critical wind events but also extremely dangerous fire conditions and contributing to the spread of wildfires. The winds are classified in the Beaufort Wind Scale, see Figure 6.10.1 below. Beaufort wind scale is an empirical scale that relates wind speed to observed conditions at sea or land. It uses numerical scale from 1-12 to describe wind force based on visual observations of the effects of the wind and gives quantitative measures of the wind. For example, o is described as 'calm' a sea like a mirror while 12 described as hurricane force with devastating conditions.

Tornadoes are classified using the Enhanced Fujita (EF) Scale Figure 6.10.2. The Enhanced Fujita (EF) Scale is specifically used to rate the intensity of tornados based on the damage they cause (damage indicators) such as building types, and trees. It ranges from EF-0 to EF-5, with increasing numbers indicate stronger tornados and more severe damage. While tornadoes in the region typically do not exceed EF-1

intensity, they can still produce damaging winds above 100 mph, capable of tearing roofs off buildings, uprooting trees, and overturning vehicles.

Beaufort Wind Scale:

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-19 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind

8	34-40	Gale	Moderately high (18-25 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Twigs breaking off trees, generally impedes progress
9	41-47	Strong Gale	High waves (23-32 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (29-41 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (37-52 ft) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

Figure 6.10.1 Beaufort Wind Scale

Enhanced Fujita Scale:

THE ENHANCED FUJITA SCALE (EF SCALE)		
EF RATING	**3 Second Gust (MPH)**	**DAMAGE**
EF 0	65-85 MPH	Light: Branches broken, minor roof damage
EF 1	86-110 MPH	Moderate: Roofs damaged; trees uprooted
EF 2	111-135 MPH	Considerable: Roofs torn off, large trees down
EF 3	136-165 MPH	Severe: Homes destroyed; cars lifted
EF 4	166-200 MPH	Devastating: Houses leveled; debris airborne
EF 5	Over 200 MPH	Incredible: Homes swept away; total destruction

Figure 6.10.2 Enhanced Fujita Scale

6.10.4 History

Los Angeles County has experienced multiple severe wind events and occasional tornadoes in recent history which caused destructions, and wildfires. There have been no federal declarations or state proclamations for Severe Wind & Tornadoes in the last five years. Some notable incidents include:

- **November-December 2011:** A wind event caused more than $35 million in damages and severely impacted several foothill communities and unincorporated areas.
- **December 2019:** An EF-0 tornado touched down in South Los Angeles, causing minor roof damage and downing power lines.
- **January 2021:** A severe windstorm impacted the region, leading to damage across multiple communities and emergency response efforts to clear roadways.
- **September 2021:** An EF-0 tornado developed near the community Lake of Los Angeles; %no damage was reported.

- **April 2023:** An EF-0 tornado recorded in Cerritos causing tree damage.
- **March 2023 (DR# 4699):** An EF-1 tornado struck Montebello, one of the strongest tornadoes recorded in the area, causing significant damage to commercial structures and vehicles.
- **May 2023:** An EF-0 tornado occurred near the communities of Carson and Compton damaging buildings and vehicles.
- **August 2023 (DR# 4750):** Tropical Storm Hillary impacting Los Angeles County.
- **February 2024**: Strong winds impacting across Eastern Santa Monica Mountain and Santa Clarita Valley.
- **March 2024**: Strong winds impacting areas around San Gabriel Valley.
- **January 2025 (DR# 4856):** A severe windstorm impacted the region, leading to a Potentially Dangerous Situation (PDS), red flag conditions. Several fires broke out in the area, which exhibited extreme fire behavior, causing widespread destruction.
- **March 2025 (DR# 4856):** As part of a storm event, an EF-0 tornado struck Pico Rivera, California, at 3:15am, with wind speeds reaching up to 85 mph.

6.10.5 Probability

Severe wind events are a regular occurrence in Los Angeles County, with a high probability, 99% chance recurring annually. Santa Ana winds are particularly common during the cooler months, and climate patterns suggest that extreme wind events may become more frequent due to changing weather dynamics. Because wind events and tornados are localized in nature, probability vary from one area to another and is difficult to determine percentage of happening in one area. Tornadoes remain a low-probability hazard, 10% chance, in the planning area; however, given past occurrences, they cannot be ruled out entirely. Atmospheric conditions capable of producing tornadoes may arise during severe thunderstorms, particularly in winter storm systems that generate strong wind shear. While the likelihood of an EF-2 or stronger tornado is minimal, the potential for localized damage remains. The Santa Ana winds occur ten to twenty-five times annually and can last for several days, posing a recurring threat of damage and disruption in Los Angeles County.

6.10.6 Vulnerability

Severe wind and tornadoes can be extensive, affecting both infrastructure and public safety. High-wind events pose a risk to critical infrastructure, particularly power lines, communication systems, and transportation networks. Buildings, especially older structures and mobile homes, are vulnerable to wind-related damage, including roof failures, window breakage, and structural collapse.

In addition to physical damage, severe wind events can cause significant economic disruptions. Prolonged power outages impact businesses, healthcare facilities, and emergency response services. Road closures and debris blockages hinder mobility and commerce, while wind-driven wildfires, a secondary hazard of Santa Ana winds, can lead to devastating losses.

Public safety is also a major concern, with risks of flying debris, vehicle accidents, overturned vehicles, and respiratory issues caused by airborne dust and pollutants stirred up by high winds.

Severe wind and tornado events disproportionately impact certain populations and infrastructure in Los Angeles County due to both geographic exposure and socioeconomic vulnerabilities. These hazards can disrupt critical services, exacerbate existing inequalities, and significantly damage structures not built to withstand extreme wind conditions.

Vulnerable Populations

Out of the county's estimated 10.2 million residents, the following populations are considered especially vulnerable:

- Older Adults (65+): Approx. 1.6 million residents (15.5%)—more likely to suffer injury or health complications during wind-related power outages and evacuation events.
- Access and Functional Needs (AFN) Populations: Estimated 1.7 million individuals (17%) including those with disabilities, limited mobility, or communication barriers.
- Low-Income Households: Over 13% of households fall below the poverty line and may lack the resources for structural mitigation or relocation during prolonged outages.

- People Experiencing Homelessness (PEH): Over 75,000 individuals (2024 LAHSA count), at direct risk from falling debris and lack of shelter during windstorms.
- Mobile Home Residents: Approximately 98,000 units countywide, concentrated in inland valleys and foothill communities that are highly exposed to Santa Ana winds.
- Children Under Age 5: Around 600,000 countywide, vulnerable to respiratory complications from airborne particulates and debris stirred by strong winds.
- Economic Impact: Business disruptions, increased insurance claims, and the costs of emergency response and recovery add financial burdens to local communities.

Critical Infrastructure at Risk

Severe wind and tornado events can cause widespread cascading failures in vital systems, including:

- Power Infrastructure: Los Angeles County contains over 20,000 miles of overhead power lines vulnerable to high-wind damage and fire ignition.
- Medical Facilities: Over 350 licensed hospitals and health clinics, many reliant on uninterrupted power and access for vulnerable patient populations.
- Transportation Corridors: Major highways (I-5, I-10, US-101) and over 3,100 bridges, particularly in canyon and foothill areas, are susceptible to obstruction by fallen trees and debris.
- Communication Towers: Over 800 critical telecom sites serve the county's emergency communications and can be disrupted by high wind gusts.
- Schools: Approximately 2,300 public K–12 schools and 100+ college campuses face operational disruptions from power outages or infrastructure damage during events.

6.10.7 Impacts

Severe wind and tornado events pose significant threats to critical infrastructure, public safety, and community operations in Los Angeles County. High winds, such as those during Santa Ana events, regularly damage power lines, uproot trees, and disable

transportation corridors. A notable example occurred in January 2025, when widespread windstorms caused power outages for more than 200,000 customers, including approximately 127,000 Los Angeles Department of Water and Power (LADWP) customers and over 52,000 Southern California Edison (SCE) customers. During this same period, wildfires exacerbated by the strong winds impacted several medical facilities, disrupting critical health services and requiring the emergency relocation of patients.

Tornadoes, while rare, have also demonstrated destructive capacity in localized areas. In March 2025, an EF-0 tornado touched down in Pico Rivera, downing power lines and trees and obstructing roadways, highlighting the potential for tornadic activity to impact urban communities. These hazards not only endanger life and property but also threaten economic continuity and the functioning of emergency services, particularly in vulnerable neighborhoods and areas with aging infrastructure.

6.10.8 Mitigation and Preparedness

Efforts to mitigate the effects of severe wind and tornadoes should focus on improving structural resilience, enhancing early warnings and alerts, and increasing public awareness of such events.

Severe Wind and Tornado Mitigation

- Strengthening building codes to require wind-resistant design features. Promoting the use of wind-resistant materials and construction techniques in new developments.
- Conducting regular tree-trimming and vegetation management to reduce infrastructure damage risks.
- Retrofitting and reinforcing critical infrastructure, such as power lines and utility systems, to withstand high-wind conditions.
- Implementing public education campaigns on windstorm preparedness and safety measures.
- Leveraging early warning alerting and preparedness messaging, as well as integrating emergency messaging with local broadcast and mobile networks.

6.10.9 Summary

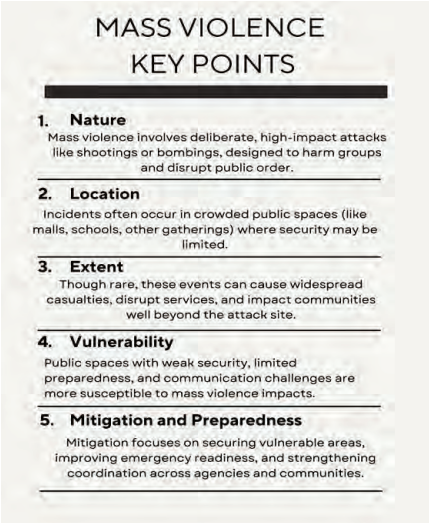
Severe wind and tornadoes, though differing in frequency, remain potential hazards for Los Angeles County. Santa Ana winds and storm-driven gusts regularly impact the region, causing damage to infrastructure and increasing wildfire risks. While tornadoes are rare, their occasional occurrence necessitates preparedness and mitigation efforts. By implementing stronger building codes, reinforcing critical infrastructure, and enhancing preparedness and public awareness, the county can reduce its vulnerability to these hazards, helps to better protect its residents from potential hazards of severe winds and tornado and improve community resilience.



6.11 Mass Violence

6.11.1 Nature

This section outlines the defining characteristics of mass violence, which includes intentional, high-impact incidents such as terrorism, active shooter events, vehicle-rammings, and other coordinated attacks. Understanding the nature of these events is critical for developing effective mitigation strategies.



- Mass violence includes both targeted attacks (e.g., ideologically motivated terrorism) and opportunistic acts (e.g., active shooters or violent assaults in public spaces).
- These incidents are characterized by their low warning time, high lethality, and potential to incite widespread fear and panic.

- Acts of mass violence may be perpetrated by individuals, small groups, or well-organized networks, and can involve firearms, explosives, vehicles, or biological agents.
- These attacks often aim to disrupt societal functions, damage infrastructure, or exploit vulnerabilities in soft targets such as schools, places of worship, or entertainment venues.

In summary, the nature of mass violence lies in its deliberate intent to inflict harm on groups and disrupt public order, making strong mitigation measures essential for protecting life and property of Los Angeles County.

6.11.2 Extent

The potential extent of mass violence is characterized by its ability to cause widespread disruption and significant loss of life and property.



- Events can result in many casualties and severe physical and psychological impacts.
- Mass violence can disrupt essential services, strain emergency response systems, and create cascading socioeconomic effects.
- The overall disruption may extend far beyond the immediate scene, affecting broader community resilience.

In essence, while these events may be rare, their extensive impacts necessitate comprehensive planning and resilient infrastructure.

6.11.3 History

Historical data illustrates that mass violence has evolved over time, with earlier events shaping current mitigation strategies and more recent incidents underscoring emerging vulnerabilities. Previous mitigation and other plans referenced events such as large-scale terrorist attacks and active shooter incidents.

- Recent events in the last five years include high-profile active shooter incidents at schools, public transportation hubs, and commercial centers, as well as vehicle-ramming attacks in urban areas.

Overall, the historical trend shows that while frequency remains low, the severity of mass violence incidents has escalated, necessitating continual updates to mitigation strategies.

6.11.4 Location

Mass violence incidents tend to occur in areas where people naturally congregate, including urban centers, transportation hubs, educational and religious institutions, shopping centers, and public events and venues.

- Public spaces such as transit stations, stadiums, malls and other locations where large number of people assemble, are considered higher-risk areas.
- Critical infrastructure location, like government buildings and commercial center, are often targeted.
- Certain events may also occur in areas lacking adequate physical security or surveillance.

Thus, identifying and securing high-density locations is a key focus for mitigating the effects of mass violence.

6.11.5 Probability

The probability of mass violence incidents is difficult to predict precisely; however, the potential for occurrence is recognized as a persistent low-frequency, high-impact risk that requires constant vigilance.

- Such incidents are statistically rare yet present a disproportionate risk due to their catastrophic consequences.
- Threat assessments and intelligence reports indicate that evolving tactics may increase probability over time.
- Continuous monitoring and updated threat analyses (e.g., via THIRA processes) are essential in quantifying risk levels.

In summary, while mass violence events are not common, their inherent unpredictability and high severity demand that communities prepare as if an incident could occur at any time.

6.11.6 Vulnerability

Mass violence depends on a variety of factors, including physical infrastructure design, public awareness, security preparedness, and interagency coordination.

- Critical vulnerabilities include open public spaces with minimal physical barriers or limited or ineffective safety / security protocols in place.
- Gaps in training and preparedness among first responders can exacerbate the situation during an active incident.
- Social vulnerabilities—such as communication gaps or lack of multilingual emergency information—may hinder rapid response and community resilience.

Thus, reducing vulnerability involves investing in infrastructure hardening, robust security measures, regular training exercises, and effective public communication strategies.

6.11.7 Impacts

The impacts of mass violence events are multifaceted, life safety, community stability, and the local economy.

- Immediate impacts include fatalities, injuries, and trauma among affected populations.
- Secondary impacts may encompass prolonged disruption of local services, economic downturns, and lasting psychological effects on communities.
- Long-term consequences can involve extensive resource allocation for recovery and mitigation, further straining public systems.

Mass violence inflicts immediate harm and often triggers a chain of secondary impacts that complicate community recovery and strain long-term resilience efforts.

6.11.8 Summary

In conclusion, mitigating the hazards of mass violence requires an integrated, multi-layered approach that spans prevention, preparedness, response and recovery. Communities must implement measures to secure high-risk locations, upgrade physical and digital security, enhance interagency coordination, and continuously update training and threat assessments.

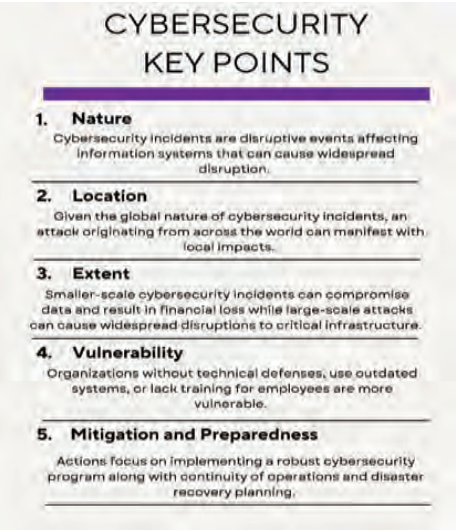
- Mitigation strategies include physical security enhancements (e.g., barriers and surveillance), regular active shooter drills, improved emergency communication systems, and coordinated law enforcement and public health responses.
- Investment in resilience-building measures and community outreach helps to ensure that, in the event of an incident, communities can recover quickly and effectively.

This section underscores that while mass violence events are rare, their potential for high impact demands rigorous preparedness and adaptive mitigation strategies to safeguard lives and maintain community functionality.



6.12 Cybersecurity Incidents

6.12.1 Nature



Cybersecurity incidents refer to disruptive events affecting digital networks and systems. These events involve the unauthorized electronic or physical access of information systems that jeopardizes or disrupts the integrity, confidentiality, or availability of information. Cyber incidents can range from minor targeted data breaches to large-scale ransomware attacks and distributed denial-of-service (DDoS) events that compromise critical infrastructure. Common types of cybersecurity incidents include, but are not limited to:

- **Data Breaches:** The compromise, unauthorized disclosure, or unauthorized acquisition of information.

- **Malware:** Malicious hardware, firmware, or software that is intentionally included or inserted in a system for a harmful purpose.
- **Ransomware:** A type of malicious software designed to lock access to a system until a ransom payment is received. Note that ransom payment is not a guarantee that system access will be restored by the threat actor.
- **Denial of Service (DoS):** An attack meant to shut down a machine or network, rendering it inaccessible to its intended users.
- **Distributed Denial of Service (DDos):** A DoS attack that uses numerous hosts to perform the attack.
- **Insider Threats:** When an insider (e.g., an employee or vendor) uses their authorized access, wittingly or unwittingly, to do harm to an organization.
- **Phishing Attacks:** The fraudulent practice of sending emails purporting to be from reputable senders in order to induce individuals to reveal information or download malware by clicking on a link.

Key characteristics of a cybersecurity incident include:

Rapid Onset: Impacts to operations can occur suddenly and evolve quickly.

- **Sophistication:** Can be highly sophisticated with state or non-state actors involved.
- **Hybrid Attacks:** May involve both cyber and physical components due to interdependencies.
- **Non-Malicious Incidents:** Technological failures that cause similar impacts to cybersecurity incidents may also occur due to non-malicious reasons such as a software or hardware issue.

Understanding the inherent digital nature and complex characteristics of these incidents is critical to developing effective prevention and mitigation strategies.

6.12.2 Location

Unlike traditional hazards that have a physical geographic footprint, cybersecurity incidents are inherently transboundary. However, their effects manifest locally through the disruption of critical services and systems and necessitate regionally coordinated preparedness and response efforts.

Jurisdictional Relevance:

- Impact local government networks and county infrastructure.
- Affect public and private sector systems within Los Angeles County.
- Disrupt critical infrastructure such as utilities and cause cascading impacts.
- Involve cyber nodes that, while globally distributed, converge on regional networks.

Critical Sectors Impacted:

- Hospitals and healthcare facilities.
- Financial, banking, or payroll systems.
- Transportation providers and systems.
- Utilities such as electricity, gas, and water.
- Emergency response and public safety agencies.

6.12.3 Extent

The extent of cybersecurity incidents is measured not only by the volume of compromised data or financial loss but also by the potential disruption to essential services and critical infrastructure.

Scope of Impacts:

- Rapid spread across interconnected digital systems.
- Potential for cascading failures that disrupt multiple sectors.
- Economic losses that may run into millions of dollars.

Measurable Factors:

- Number of systems compromised.
- Downtime of critical infrastructure and services.
- Financial costs from remediation and lost productivity.

The extensive reach of cybersecurity incidents–both in terms of economic impact and service disruption–highlights the need for robust digital defenses, continuity of operations planning, backup systems and redundancies, disaster recovery strategies, and regional cyber response coordination.

6.12.4 History

Historically, cybersecurity incidents have evolved from isolated breaches to coordinated attacks that leverage global networks. Early cybersecurity incidents focused on data theft and vandalism. More recent attacks have grown increasingly sophisticated and targeted critical infrastructure or use complex ransomware. Cyber threat actors include state-sponsored groups along with non-state groups such as criminal enterprises and terrorist organizations. Recent years have seen cybersecurity incidents affecting large corporations, public entities including local governments, and critical infrastructure sectors. Previous major cybersecurity incidents have included:

- **2024 Los Angeles County Superior Court Ransomware Attack:** Resulted in the shutdown of nearly every court system, a multi-day closure of the court, and cascading impacts to operations.
- **2024 Hospital Group Attack:** A major hospital company experienced an attack that caused IT and phone system outages and disrupted patient care at several Los Angeles County hospitals.
- **2024 Telecommunication Industry Attacks**: A series of attacks against telecommunications providers in the United States resulted in compromised customer data.
- **2023 City Attack:** A cybersecurity incident at a city within Los Angeles County caused city IT systems to be taken offline.
- **2022 Aviation Industry Attacks:** A series of cybersecurity incidents targeting the airports and airlines caused transportation system disruptions.

The historical progression from rudimentary attacks to highly coordinated cybersecurity incidents underscores the growing importance of proactive risk management in the digital realm.

6.12.5 Probability

The probability of cybersecurity incidents occurring is increasing as digital interconnectivity expands and as attackers continue to innovate their methods.

Risk Trends:

- Rapid expansion of the Internet of Things (IoT), the network of internet-connected devices ranging from smart refrigerators to autonomous vehicles, has added new attack vectors to the threat landscape.
- Increasing sophistication of cybercriminal methods including zero-day exploits, a previously unknown cybersecurity vulnerability.
- Growing frequency of reported incidents nationally and globally.

Contributing Factors:

- Inadequate cybersecurity measures in legacy systems still being used by organizations.
- Underinvestment in cyber defense infrastructure or cybersecurity expertise.
- Greater digital reliance in everyday operations without proper continuity of operations planning.

Given current trends and technological developments, the likelihood of cybersecurity incidents remains high, necessitating ongoing vigilance and enhanced preparedness measures. As cybersecurity incidents continue to increase in frequency, the potential for an incident to cause cascading and widespread impacts to critical infrastructure increases as well.

6.12.6 Vulnerability

Vulnerability in the context of cybersecurity refers to the susceptibility of digital systems to attack. This is influenced by both technological and organizational factors including, but not limited to: outdated software or use of legacy systems, insufficient patch management, inadequate segmentation and defense-in-depth strategies, and lack of cybersecurity training among personnel. Organizational challenges also contribute to cybersecurity vulnerability including, but not limited to: budget constraints, gaps in coordination, and rapid technology adoption without corresponding security protocols.

According to the 2024 Threat and Hazard Identification and Risk Assessment (THIRA), over 616,000 people may be affected by a large-scale cybersecurity incident with cascading impacts to utilities. Over 123,000 of those impacted in the THIRA scenario are estimated to have access and functional needs and over 77,000 people are

estimated to have limited English proficiency. Depending on the utilities affected by the incident, a widespread amount of the population could be without utility service for an extended period. Addressing these vulnerabilities is essential to reduce the risk and potential disruption of cybersecurity incidents, calling for both technical upgrades and improved interagency coordination.

6.12.7 Impacts

The impacts of cybersecurity incidents are multifaceted, affecting economic stability, public safety, and critical infrastructure operations.

Direct Impacts:

- Disruption of critical services (e.g., healthcare, emergency response, transportation, etc.).
- Extended duration Continuity of Government or Continuity of Operations event.
- Financial losses due to ransom payments, remediation costs, and potential legal fees.
- Loss, compromise, or unauthorized release of sensitive data.

Indirect impacts:

- Erosion of public trust in digital services and affected institutions.
- Cascading effects on physical infrastructure (e.g., power grid, water systems, wastewater, etc.).
- Long-term economic repercussions from reduced competitiveness.
- The significant impacts—both direct and cascading—of cybersecurity incidents necessitate comprehensive mitigation and recovery strategies that address both technical and socioeconomic dimensions.

6.12.8 Summary

In summary, cybersecurity incidents represent an evolving and critical threat that intersects with multiple aspects of community resilience and safety.

Key Takeaways:

- Cyber incidents are dynamic, sophisticated, and far-reaching in impact
- They affect local systems despite their global nature

- Historical trends and increasing digital dependency heighten both probability and vulnerability
- Impacts extend beyond financial loss to include service disruption and cascading infrastructure failures

Cybersecurity incidents demand a proactive, coordinated response that integrates robust technical defenses with cross-sector planning and recovery efforts. By understanding the nature, scope, and potential consequences of these incidents, communities can build more resilient digital and physical infrastructures to safeguard against this growing threat.



6.13 Transportation Incidents

6.13.1 Nature

This section describes the inherent characteristics of transportation incidents that can disrupt the continuous flow of people, goods, and emergency services across Los Angeles County. Transportation incidents can be triggered by a variety of factors including natural events, human error, and deliberate acts. Other characteristics include:

- **Affected Modes of Transportation:** Incidents can involve any mode of transportation such as multi-vehicle collisions, hazardous material spills, rail derailments, aviation incidents, and maritime disruptions.
- **Cascading Impacts:** Disruptions to the transportation system often have the potential to trigger cascading failures due to the interconnected design of highways, rail networks, airports, and seaports.
- **Contributing Factors:** Incidents may be influenced by both predictable factors (e.g., rush-hour congestion) and unpredictable occurrences (e.g., extreme weather or infrastructure failure).

6.13.2 Location

The county's network encompasses highways, rail, airports, ports, and local roads that are critical to regional mobility and commerce.

- **Freeways:** Los Angeles County boasts an extensive freeway system with over 1,200 miles of high-capacity roads including corridors such as I-5, I-405, I-10, I-710, and I-210.
- **Major Transportation Hubs:** The County is home to three commercial airports including Los Angeles International Airport (LAX), Long Beach Municipal Airport (LGB), and the Hollywood Burbank Airport (BUR) along with several general aviation airports. The County owns and operates Brackett Field Airport, Compton/Woodley Airport, San Gabriel Valley Airport, General William J. Fox Airfield, and Whiteman Airport. The Ports of Los Angeles and Long Beach, which are two of the busiest ports in the United States and vital for national and international trade, are also in Los Angeles County. Additionally, Los Angeles Union Station serves as the largest passenger rail station on the west coast.
- **Other Transportation Networks:** The county includes robust passenger rail, bus, and paratransit systems, along with freight rail systems, emerging mobility options such as taxis and rideshare services, and enhanced bicycle networks. This comprehensive network is the backbone for daily commuting, freight movement, and emergency response across the region.

6.13.3 Extent

The scope of transportation incidents spans multiple modes of travel and can have widespread consequences across the county's integrated infrastructure. Road incidents may include multi-vehicle collisions, hazardous material spills, and roadway fires impacting multiple vehicles with potential delays in emergency responses.

- Rail disruptions can impede commuter and freight services, impacting both local transit and regional connectivity.
- Air and maritime incidents—such as delays at major airports or disruptions at port facilities—can significantly affect commerce, supply chains, and public safety.
- Cascading effects across interconnected transportation modes may exacerbate congestion and strain additional infrastructure systems such as power, water, and emergency communications.

The extensive and interdependent nature of these networks means that an incident in one area can quickly influence multiple transportation systems.

6.13.4 History

Los Angeles County has a long record of transportation-related incidents that have disrupted mobility and commerce.

- **2024 Vincent Thomas Bridge Fire:** A semi-truck carrying lithium-ion batteries overturned and caught fire, causing the bridge to be closed for several days.
- **2023 I-10 Freeway Fire:** A fire in a pallet yard below the I-10 freeway in Downtown Los Angeles caused an eight-day closure for repairs and major cascading disruptions.
- **2020 Delta Air Lines Flight 89 Fuel Drop:** Shortly after takeoff from LAX, a Boeing 777 encountered engine problems and conducted a fuel dump over populated areas, injuring over 50 people on the ground.
- **2008 Chatsworth Metrolink Derailment:** A Metrolink passenger train collided with a Union Pacific freight train injuring over 130 people and causing 25 deaths.
- **2007 Newhall Pass Tunnel Fire:** A multi-vehicle collision involving over 30 vehicles caused a fire within the tunnel injuring 10 people and causing 3 deaths.

The historical record reinforces the need to learn from previous events to enhance future preparedness and resilience.

6.13.5 Probability

The likelihood of transportation incidents in Los Angeles County remains elevated due to several converging factors including, but not limited to:

- High daily traffic volumes on freeways and arterials increase the risk of multi-vehicle accidents and congestion-related incidents.
- Aging infrastructure—including bridges, road surfaces, and rail systems—creates a persistent risk of failure, particularly under extreme weather conditions and during peak usage periods.
- The county's role as a major hub for freight and commuter traffic means that even minor incidents can escalate rapidly into larger disruptions.
- The frequent movement of hazardous materials and the increasing reliance on just-in-time delivery systems further elevate the risk of incidents with potentially severe consequences.

Together, these factors contribute to a consistently high probability of transportation incidents impacting the region.

6.13.6 Vulnerability

The vulnerability of Los Angeles County's transportation system is compounded by its interdependent design and its critical role in the regional economy.

- Limited redundancy in key corridors means that a disruption on one freeway or rail line can quickly overload alternate routes.
- Aging and overburdened infrastructure is less resilient to extreme events, leading to longer recovery times after incidents.
- The county's economic dependence on uninterrupted transportation for daily commuting and commercial freight increases exposure to significant losses during disruptions.
- Complex interdependencies between transportation systems, emergency services, and other critical sectors make the network highly sensitive to cascading failures.

This systemic vulnerability calls for coordinated, multi-agency efforts to bolster resilience and implement proactive mitigation measures.

6.13.7 Impacts

Transportation incidents can produce both immediate and long-lasting effects on public safety, commerce, and overall quality of life.

1. **Traffic and Mobility:** Disruptions can lead to severe congestion affecting hundreds of thousands of commuters and freight vehicles, delaying emergency services and disrupting daily operations.
2. **Economic Loss:** Interruptions in the movement of goods and people can result in substantial financial losses, impacting local businesses and the broader regional economy.
3. **Public Safety:** Extended delays in emergency response and Emergency Medical Services (EMS) transport times.
4. **Cascading Disruptions:** An incident in one mode (e.g., a major highway closure) can ripple through the transportation network, affecting rail, air, and maritime operations simultaneously and complicating recovery efforts.

These impacts highlight the critical need for robust mitigation strategies to manage both direct and indirect consequences of transportation incidents.

6.13.8 Summary

Los Angeles County's transportation network is among the most extensive and complex in the nation, serving millions of residents and underpinning a vital economic ecosystem. The diverse transportation modes, while facilitating mobility and commerce, also create vulnerabilities due to overlapping infrastructure and high traffic volumes.

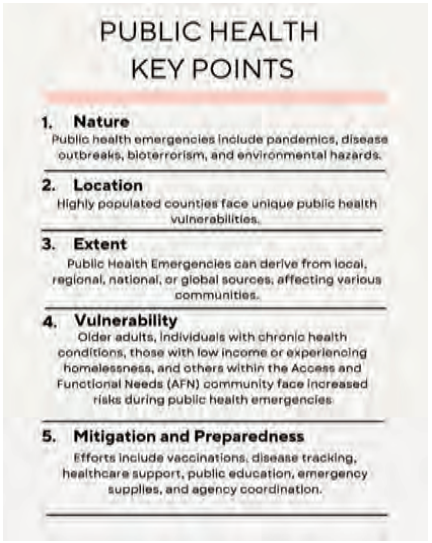
- Aging infrastructure, coupled with the continuous movement of hazardous materials and the increasing pressures of daily usage, contributes to a high probability of incidents.
- Historical data demonstrate that even localized incidents can have far-reaching impacts, including prolonged traffic congestion, economic disruptions, and public safety challenges.

In conclusion, mitigating transportation incident risks in Los Angeles County requires an integrated, countywide approach that combines infrastructure upgrades, enhanced emergency response, and proactive maintenance strategies. Addressing these challenges is essential to safeguard public safety, ensure economic stability, and maintain the region's critical mobility infrastructure.



6.14 Public Health Emergencies

6.14.1 Nature



Public health emergencies in Los Angeles County encompass a broad spectrum of potential hazards, including infectious disease outbreaks, environmental health hazards, and Chemical, Biological, Radiological, Nuclear, Explosives (CBRNE) hazards. Given the county's diverse population, urban density, and economic significance, public health hazards require a coordinated response among government agencies, healthcare institutions, and community partners.

Public health emergencies refer to incidents that pose a significant threat to the health of a population. These include, but are not limited to:

- Pandemics (e.g., COVID-19, Influenza)
- Bioterrorism (e.g., Anthrax, Smallpox, botulism)

- Vector-borne diseases (e.g., West Nile Virus, Zika)
- Foodborne and waterborne illnesses
- Chemical and radiological exposure
- Climate-related health threats (e.g., extreme heat, poor air quality, wildfires)

The County of Los Angeles Department of Public Health (DPH) and the Emergency Medical Services Agency (EMS) collaborate to monitor threats, prevent outbreaks, and mitigate impacts when emergencies arise.

6.14.2 Location and Extent

Los Angeles County, home to over 9.7 million residents, is the most populous county in the United States. Its diverse geography (i.e., urban, coastal, mountainous, and rural) and demography lead to a range of public health vulnerabilities.

Public health emergencies can originate from local, regional, national, or global sources, impacting specific neighborhoods or the entire county. The extent of public health threats varies based on:

- The nature of the threat, such as transmission dynamics or availability of medical countermeasures.
- Population density (higher risks in urban centers for communicable diseases)
- Access to healthcare infrastructure
- Environmental conditions (air pollution, extreme heat events)

6.14.3 History

Public health emergencies in Los Angeles County have included:

- 2022 Monkeypox Outbreak
  - Approximately 2,500 cases were reported in Los Angeles County.
- COVID-19 Pandemic (2020–Present)
  - Over 3 million cases, 450,000 hospitalizations, and 45,000 deaths reported in the county alone.
- 2018 Hepatitis A Outbreak
  - Primarily affecting unhoused populations, requiring mass vaccination efforts.
- 2016-2017 West Nile Virus Outbreaks
  - Multiple cases of mosquito-borne infections leading to severe illness and fatalities.

- 2015-2016 Zika Virus Outbreak
  - No cases of local mosquito-borne transmission, but there were 122 cases reported in the County, with 121 being travel-related.
- 2015 Meningococcal Disease Cluster
  - An outbreak among men who have sex with men (MSM) led to a targeted vaccination campaign.
- 2009 H1N1 Influenza Pandemic
  - Thousands of hospitalizations; schools and businesses affected.

6.14.4 Probability and Emerging Risks

The 2024 Threat and Hazard Identification and Risk Assessment (THIRA) identifies that pandemics and bioterrorism remain high-probability threats. Future public health risks also include:

- Emergence of infectious diseases driven by global travel and climate change.
- Increased incidence of heat-related illnesses amid rising temperatures.
- Increased prevalence of respiratory diseases due to declining air quality.
- Rise of antimicrobial-resistant infections due to overuse of antibiotics.

The County of Los Angeles DPH continually assesses health threats and updates preparedness plans to address evolving concerns.

6.14.5 Vulnerability and Systemic Impacts

Certain populations in Los Angeles County may be disproportionately affected by public health emergencies:

- At-risk populations may be different for different hazards before, during, and after an emergency. It is important to assess each hazard in turn to identify those who may be disproportionately affected to improve preparedness and response efforts.

Public health emergencies strain the healthcare system, disrupt economic activity, and create mental health burdens. The 2024 THIRA report noted that:

- Healthcare infrastructure overload is a major concern during pandemics.
- Potential economic loss from business closures during a prolonged public health crisis could exceed billions of dollars.

6.14.6 Mitigation Strategies and Preparedness Efforts

Los Angeles County employs several mitigation and preparedness strategies:

- Mass Vaccination Campaigns
  - Annual flu shots, COVID-19 vaccinations, and outbreak-specific immunization efforts.
- Points-of-Dispensing (POD) sites
  - Disease Surveillance & Early Warning Systems
- Syndromic surveillance for emerging threats.
  - Targeted sampling surveillance.
- Healthcare Infrastructure Strengthening
  - Expanding hospital capacity for medical surge, and emergency medical resources.
- Community Outreach & Public Health Education
  - Disseminating critical information in multiple languages.
- Emergency Stockpiles (Strategic National Stockpile(SNS))
  - Deployment of antibiotics, antivirals, and personal protective equipment (PPE) in crisis situations.
- Coordination with Federal & State Agencies
  - Collaboration with FEMA, CDC, and the California Department of Public Health to enhance response capabilities.
- Anthrax Threat Simulations
  - The County of Los Angeles Metro system assessed as a high-risk area for bioterrorism response.

6.14.7 Summary

Public health emergencies pose significant challenges to Los Angeles County, impacting healthcare systems, vulnerable populations, and economic stability. While the COVID-19 pandemic provided a major stress test for response efforts, ongoing preparedness, surveillance, and mitigation strategies aim to protect residents from future threats.

Key Takeaways:

- Los Angeles County faces diverse health threats, including pandemics, bioterrorism, and climate-related illnesses.

- Vulnerable populations may suffer disproportionate impacts during public health crises.
- Preparedness efforts focus on surveillance, vaccination, emergency response, and coordination with federal and state partners.
- Future threats include emerging infectious diseases, heat-related illnesses, and antimicrobial resistance.

By continuing investments in public health preparedness, Los Angeles County aims to reduce risks and strengthen resilience against future health emergencies.

7 Mitigation Strategy

7.1 Mitigation Strategy Overview

The Mitigation Strategy section of the All-Hazard Mitigation Plan (AHMP) presents Los Angeles County's strategic blueprint for reducing risks and vulnerabilities posed over the long term associated with the hazards identified in the Hazard Identification and Risk Assessment section. The strategies identified in this section drive mitigation activities based on existing capabilities while also identifying areas of potential future investment to build resilience across communities, critical facilities, and other infrastructure within Los Angeles County.

7.2 Mitigation Goals and Objectives

Mitigation goals are the long-term vision that the County hopes to achieve by implementing the various mitigation strategies described in this AHMP, as well as the broad guidelines that have shaped mitigation strategy development.

- **Goal 1: Protect life, property, infrastructure, the environment, and the economy through equitable mitigation strategies aimed at reducing risks of natural and human-caused hazards.**
    - Objective 1-1: Integrate vulnerable populations, including people with Access and Functional Needs (AFN), into the implementation of any potential mitigation actions.
    - Objective 1-2: Implement mitigation strategies that enhance resilience to disaster impacts across residential areas, commercial areas, infrastructure, high-hazard potential dams, and other critical facilities.
    - Objective 1-3: Inform strategic investments in climate adaptation, development, and redevelopment that are centered in equity and resilience.
- **Goal 2: Enhance community-wide partnerships in hazard mitigation across all levels of government, the private sector, and the public.**
    - Objective 2-1: Build a culture of disaster resilience and awareness of local hazards through public engagement, education, and outreach.
    - Objective 2-2: Strengthen direct coordination among Los Angeles County Operational Area partners to unify efforts for mitigation activities.
    - Objective 2-3: Utilize a whole community approach to address disparities in outcomes posed by the hazards identified in this AHMP.
- **Goal 3: Enhance planning, response, and recovery through hazard identification, assessment, mitigation, and resilience activities.**

  - Objective 3-1: Establish and maintain coordination between hazard mitigation activities and other emergency management functions.
  - Objective 3-2: Integrate hazard mitigation activities into preparedness for future large-scale planned events within Los Angeles County.
- **Goal 4: Ensure eligibility for FEMA grant funding to maximize equitable investment in hazard mitigation actions.**
  - Objective 4-1: Continue to meet all requirements for existing hazard mitigation grant programs used by the County.
  - Objective 4-2: Expand the County's ability to participate in grant programs not currently utilized by the County.

7.2.1 Changes in Mitigation Goals

The AHMP Advisory Committee reviewed the 2020 AHMP goals and updated them to reflect the most current County concerns and priorities. Therefore, the 2025 AHMP has introduced new goals and objectives to build a more resilient community. Table 7-1 (below) compares the 2025 AHMP goals with previous 2020 AHMP goals; all other goals above are new goals and objectives developed by the AHMP Advisory Committee.

Mitigation priorities change through time depending on the type of disaster impacting Los Angeles County, vulnerability, the strategies implemented, as well as other needs of the community. Priorities are also made based on current countywide Threat and Hazard Identification and Risk Assessment (THIRA) studies, National Risk Index Assessment, State Hazard Mitigation Plan (SHMP) and other local plans and guides. The previous 2020 AHMP integrated hazard data into several operational plans including but not limited to the General Plan, Operational Area Emergency Operations Plan (OAEOP), amongst others. Addressing these changes will help to address Los Angeles County hazard priorities and to have mitigation strategies focused on the hazards that impact the region at most. The plan also added additional hazards and addressed a larger vulnerable population.

Table 7-1 Mitigation Goal Updates

Goals Addressed in 2020 AHMP	Goals for 2025-2030 Planning Period	Changes
Build a culture and practice disaster resilience	Goal 2 (see above).	Goal expanded; previous goal integrated as an objective under Goal 2 in the current AHMP.
Better plan for, respond to, and recover from, hazards and disasters including climate change, drought, earthquake, dam failure, flood, landslide, tsunami, and wildfire that affect Los Angeles County.	Goal 3 (see above).	Previous goal replaced with new goal.
More successfully adapt to hazards and disasters including climate change, drought, earthquake, dam failure, flood, landslide, tsunami, and wildfire that affect Los Angeles County.	Goal 1 (see above).	Previous goal replaced with new goal.

7.3 Existing Mitigation Capabilities

The mitigation strategies developed as part of this AHMP seek to maximize existing mitigation capabilities identified as currently available within the Los Angeles County Operational Area. These existing capabilities have been updated to reflect changes in human, technical, financial, legal, regulatory, education, and outreach resources since the 2020 AHMP.

7.3.1 Authorities, Policies, and Legal/Regulatory Resources

There are several existing authorities, policies, and other legal or regulatory resources applicable to hazard mitigation efforts in Los Angeles County. From the County Code of Ordinances to completed plans, these form the cornerstone of hazard mitigation activities by providing a foundation rooted in data, research, planning, Technical Ecological Knowledge (TEK) provided by our state and locally recognized indigenous communities, and elected officials' authority. The County aims to expand and improve upon these identified capabilities by adopting this AHMP, once approved, into the Safety Element of the Los Angeles County General Plan. This action will contribute to the County's ability to be considered for an additional cost-share on Public Assistance projects through the California Disaster Assistance Act. Table 7-2 provides an overview of existing capabilities related to authorities, policies, and legal/regulatory resources.

Table 7-2 Authorities, Policies, and Legal/Regulatory Resources

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
Los Angeles County Operational Area Emergency Operations Plan (2023)	Establishes the coordinated emergency management system within the Los Angeles County Operational Area to prepare for, respond to, and recover from the effects of large-scale emergencies regardless of cause, location, or complexity.	All-Hazard	No
Los Angeles County General Plan (2024)	Provides the policy framework for how and where the unincorporated County will grow through the year 2035.	All-Hazard	Yes
Los Angeles County Comprehensive Floodplain	Reviews existing floodplain management programs in the County and recommends enhancements to them through 35	Flood Land Movement	Yes

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
Management Plan (2021)	mitigation actions. This plan is currently being reviewed and updated with completion targeted for early 2026.		
Los Angeles County Comprehensive Floodplain Management Plan Repetitive Loss Area Analysis (2021)	Analyzes Repetitive Los Areas within Los Angeles County and fulfills Community Rating System requirements.	Flood Land Movement	Yes
County of Los Angeles Floodplain Management Plan Progress Report (2024)	Provides an annual update on the implementation of the action plan identified in the Comprehensive Floodplain Management Plan and on the implementation and evaluation of outreach projects.	Flood Land Movement	Yes
County of Los Angeles Repetitive Loss Area Analysis Progress Report (2023)	Provide an annual update on the implementation of the action plan identified in the Repetitive Loss Area Analysis to ensure there is a continuing and responsive planning process.	Flood	Yes
Los Angeles County Fire Plan (2023)	Describes the wildfire environment, history, and pre-fire management strategies to enhance the protection of lives, property, and natural resources from wildland fire.	Wildfire	Yes

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
Los Angeles County 2045 Climate Action Plan (2024)	Delineates the County's path toward meeting the goals of the Paris Agreement and achieving carbon neutrality for unincorporated Los Angeles County.	Wildfire Extreme Heat Drought Flooding	Yes
Our County: Los Angeles Countywide Sustainability Plan (2019)	Outlines how local governments and stakeholders can enhance the well-being of all County communities while adapting to climate change and reducing damage to the natural environment, particularly focusing on communities disproportionately burdened by pollution.	Wildfire Extreme Heat Drought Flooding	Yes
Los Angeles County Floodplain Management Ordinance	Aims to minimize public and private losses resulting from flood conditions via uniformly applied regulations in flood prone, mudflow, or flood related erosion areas.	Flood Land Movement	Yes
Los Angeles County Code – Title 32: Fire Code	To build a new structure (or an addition equal to or greater than 50% of existing square footage), the Los Angeles County Fire Code requires review of its location, type of construction, topography, slope, amount and arrangement of vegetation, and overall site	Wildfire	Yes

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
	settings—in order to create defensible space necessary for effective fire protection of homes in High Fire Severity Zones.		
Los Angeles County Code – Title 22: Planning and Zoning	Establishes the regulations governing land use and development and defines zoning for unincorporated Los Angeles County. Includes the Hillside Management Area Ordinance (Chapter 22.104), the Residential Design Standards Ordinance, and the Hillside Design Guidelines. These include requirements 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.	Wildfire Earthquake Land Movement	Yes
Los Angeles County Code – Title 31: Green Building Standards Code	Enhances the design and construction of buildings via building concepts with positive (or reduced negative) environmental impacts, and encourages sustainable construction practices	Extreme Heat Drought	Yes

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
	across planning and design, energy efficiency, water conservation, material and resource efficiency, and environmental air quality.		
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 thereby creating 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	Yes
Los Angeles County Code – Title 26: Building Code	Provides minimum standards to regulate the design, construction, installation, quality of materials, use, occupancy, location, and maintenance of all buildings, structures, grading, and certain equipment. Regulates construction	Earthquake Wildfire	Yes

Authority, Policy, or Resource	Description	Hazards Addressed	Potential to Affect Development
	near a known active earthquake fault (Chapter 1, Section 113), the materials and construction methods for construction in a Wildland-Urban Interface (WUI) Fire Area (Chapter 7A), structural design as it relates to earthquake hazards (Chapter 16, Section 1613), repair of certain buildings in High Earthquake Damage Areas (Chapter 94), earthquake hazard reduction for concrete tilt-up buildings (Chapter 95) and unreinforced masonry buildings (Chapter 96), among others. The Building Code also includes provisions for emergency housing during a proclaimed emergency.		

7.3.2 Human and Technical Resources

Existing human and technical resources across County Departments enable the County to plan, manage, conduct, and execute its wide range of hazard mitigation activities. The resources below represent a high degree of expertise in all facets of hazard mitigation available to support mitigation activities. The County aims to expand and improve upon these identified capabilities by expanding potential hazard training opportunities available to the Los Angeles County Operational Area. Additionally, as various special events are scheduled in Los Angeles County over the next five years, the County should seek to expand coordination and technical resources related to mass violence, cyber, and other special event-related hazards.

Table 7-3 provides an overview of existing capabilities related to human and technical resources.

Table 7-3 Human and Technical Resources

Resource	Department/Agency	Principal Activities Related to Hazard Mitigation
Emergency Management Coordinator(s)	Los Angeles County Office of Emergency Management	• Maintains and updates the Los Angeles County Operational Area Emergency Operations Plan and Los Angeles County All-Hazard Mitigation Plan. • Coordinates local response and recovery activities in the Emergency Operation Center and in the field. • Works closely with local, state, and federal partners to support planning, training, exercise, public information, and resource coordination.
Engineer(s), Building Inspector(s), Code Enforcement Officer(s), Fire Marshalls, and Other Technical Staff	Los Angeles County Public Works and Fire Department	• Oversees the effective, efficient, fair, and safe enforcement of County of Los Angeles Building and Fire Codes.
Engineer(s), Construction Project Managers, and Other 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	Los Angeles County Public Works	• Maintains and operates a wide range of local equipment and facilities and assists members of the public by

Resource	Department/Agency	Principal Activities Related to Hazard Mitigation
Manager(s), Equipment Operators, Maintenance and Construction Staff, and Other Technical Staff		providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, streetlights, and traffic signals.
Floodplain Administrator	Los Angeles County Public Works	• Enforces the floodplain management ordinance ensuring that 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 Los Angeles County.
Planner(s), Engineer(s), and Technical Staff	Los Angeles County Department of Regional Planning	• Develops and maintains the Los Angeles County General Plan, including the Safety Element. • Develops area plans based on the Los Angeles County General Plan to provide more specific guidance for the development of more specific areas. • Reviews proposed development, capital improvements, and other physical projects involving property for consistency and conformity with the Los Angeles County General Plan. • Anticipates and acts on the need for applicable new plans, policies, and code changes.

Resource	Department/Agency	Principal Activities Related to Hazard Mitigation
		• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.
Procurement Services Manager	Los Angeles County Internal Services Department	• Provides a full range of municipal financial services and administers several licensing measures.
Comptroller Personnel	Los Angeles County Auditor – Controller	• Provides financial and grant services.
County Counsel Personnel	Los Angeles County Counsel	• Provides legal services for the County.
Fire Department Personnel	Los Angeles County Fire Department	• Provides fire protection services including response, fire prevention, and mitigation activities for the County.
Sheriff's Department Personnel	Los Angeles County Sheriff's Department	• Provides law enforcement services in the County.

7.3.3 Financial Resources and Programs

There are many existing financial resources, grant programs, and other funding mechanisms that enable current and future hazard mitigation activities. Sources for these resources and programs vary widely from local funding out of the County's General Fund to state and federal programs that aim to help local jurisdictions accomplish their hazard mitigation goals. The amount of funding available is variable and project-specific for many of these programs. Similarly, grant awards are based on the specific projects that are identified as the basis for the grant application. Table 7-4 provides an overview of existing capabilities related to financial resources and programs.

Table 7-4 Financial Resources and Programs

Resource or Program	Administrator	Purpose
General Fund	Chief Executive Office	Program operations and specific projects.
General Obligation Bonds	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.
Special Tax and Revenue Bonds	Controller	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.
Vegetation Management Program	Cal FIRE	Cost-sharing program between Cal FIRE and private landowners, which focuses on the use of prescribed fire and/or mechanical means, for addressing wildland fire fuel hazards and other resource management issues on State Responsibility Area (SRA) lands.
Wildfire Emergency and Mitigation Funds	Cal FIRE	Administers funding from FEMA, Bureau of Land Management, and U.S. Forest Service for

Resource or Program	Administrator	Purpose
		certain types of wildfire emergency and mitigation funding.
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.
Public Health Emergency Preparedness Cooperative Agreement	Center for Disease Control and Prevention	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.
Hazard Mitigation Grant Program (HMGP)	FEMA	Administered by the California Governor's Office of Emergency Services (Cal OES), HMGP supports pre- and post-disaster mitigation plans and projects available to California communities after a presidentially declared disaster has occurred in California.
Pre-Disaster Mitigation (PDM) Grant Program	FEMA	Available annually as a nationally competitive Cal OES grant, the PDM Grant Program supports pre-disaster mitigation plans and projects.
Flood Mitigation Assistance (FMA) Grant Program	FEMA	Available annually as a nationally competitive Cal OES grant, the PDM Grant Program supports pre-disaster mitigation plans and projects.
Homeland Security	FEMA	Builds and sustains preparedness technical assistance activities in support of the four

Resource or Program	Administrator	Purpose
Preparedness Technical Assistance Program		homeland security mission areas (i.e., prevention, protection, response, recovery) and homeland security program management.
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.
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.
Community Action for a Renewed Environment	U.S. Environmental Protection Agency (EPA)	Offers means by which communities may organize/take action to reduce toxic pollution (e.g., in stormwater, etc.) through financial and technical assistance. Communities create partnerships that implement solutions to reduce releases of toxic pollutants and that minimize toxic exposures.
Clean Water State Revolving Fund	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.

Resource or Program	Administrator	Purpose
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 (e.g., water/sewer facilities, streets, neighborhood centers, etc.), and the conversion of school buildings for eligible purposes.
High Hazard Potential Dams (HHPD) Grant Program	FEMA	Provides technical, planning, design, and construction assistance in the form of grants for the rehabilitation of eligible high hazard potential dams.
State and Local Cybersecurity Grant Program	FEMA	Provides funding to eligible entities to address cybersecurity risks and threats to information systems owned or operated by, or on behalf of, state, local, or tribal governments.

7.3.4 Education and Outreach Resources

Engagement with the communities of Los Angeles County is an important component of mitigation efforts. The County of Los Angeles has multiple methods, formats, and venues to conduct outreach with community members and provide education on the hazard landscape in Los Angeles County. These activities ensure mitigation efforts align with community goals and include community input. Table 7-5 shows a list of existing resources for education and outreach.

Table 7-5 Education and Outreach Resources

Resource or Program	Agencies Potentially Involved	Purpose
Preparedness Fairs	Office of Emergency Management, Fire Department, Sheriff's Department, Public Works, Board of Supervisors	Engage with community members to provide education on hazards found in Los Angeles County and emergency preparedness for homes and businesses.
Personal Disaster Impact Surveys	Office of Emergency Management	Receive input and feedback on the hazard landscape from community members in Los Angeles County to inform the 2025 AHMP.
AHMP Draft Review Surveys	Office of Emergency Management	Receive input and feedback on sections of the AHMP from community members in Los Angeles County.
Homeless Outreach Services Team (HOST)	Sheriff's Department, Homelessness Services Organizations	Conduct outreach to People Experiencing Homelessness in areas prone to wildfires or flooding based on weather conditions.
Community Emergency Response Teams (CERT)	Fire Department	Educate community members about disaster preparedness and response in their communities.
Explorer Programs	Fire Department, Sheriff's Department	Educate youth about disaster preparedness and response in their communities.
Youth Climate Commission	Chief Sustainability Office	Educate and obtain input from youth on climate change impacts and mitigation efforts.

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7.3.5 National Flood Insurance Program Participation

The National Flood Insurance Program (NFIP) is administered by FEMA and provides affordable flood insurance to participating communities through a network of insurance providers. NFIP regulations must be enforced in Special Flood Hazard Areas (SFHAs). Flood insurance is required for structures in SFHAs with federally backed loans (e.g., most mortgages, Small Business Administration (SBA) loans) and FEMA grants along with any structures with SBA loans, regardless of flood zone. Flood insurance is required to be maintained for the life of the federally backed loan and in perpetuity, regardless of change in ownership, in the case of FEMA grants.

The Los Angeles County Board of Supervisors adopted the County Floodway Ordinance (Los Angeles County Code Title 11, Chapter 11.60) in March 1980. This ordinance included the first County Floodway Maps and paved the way for the County to begin participation in NFIP on behalf of unincorporated residents. The County's participation means that residents (owners and renters) in the unincorporated communities within Los Angeles County are eligible for NFIP flood insurance and Federal flood disaster assistance. The first FEMA Flood Insurance Rate Maps (FIRMs) became effective on December 2, 1980. Since 1980, the County has continued robust participation in NFIP. The FEMA FIRMs were digitized in September 2008 and have been revised over the years by numerous Letters of Map Change and by large-scale Physical Map Revisions for the Ballona Creek watershed and several watersheds in the Santa Monica Mountains (Triunfo Creek, Topanga Canyon and others) in December 2018, the Los Angeles County coastline in April 2021, and the Santa Clara River watershed in June 2021. These maps are available to the public on the Los Angeles County Public Works (PW) website at dpw.lacounty.gov/floodzone.

Los Angeles County also participates in the NFIP's Community Rating System (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 a discount on flood insurance rates and improved floodplain management programs. CRS uses a class rating system between 1 and 9 to determine flood insurance premium reductions for residents. As of April 1, 2022, Los Angeles County is a Class 6 CRS community; therefore homeowners and

renters who live in a SFHA can receive up to a 20% discount on their flood insurance policies.

The County's implementation and enforcement of local floodplain management regulations for development in SFHAs are covered in Los Angeles County Building Codes with the most recent update completed in 2023. Title 26, Chapter 1, includes requirements for development within flood hazard areas. Other relevant ordinances include other chapters in Title 26 (Building Code) along with Titles 27 (Electrical Code), Title 28 (Plumbing Code), Title 29 (Mechanical Code), Title 30 (Residential Code), and Title 33 (Existing Building Code). Implementation and enforcement are also covered in the Los Angeles County Subdivision Code (Title 21) and Planning and Zoning Code (Title 22). The NFIP for unincorporated communities is administered by the Department of Public Works (LACPW) Stormwater Engineering Division, which serves as the County's floodplain manager, coordinates with LACPW's Building and Safety and Land Development Divisions and with the Los Angeles County Department of Regional Planning in their enforcement of the County's floodplain management regulations, and participates in FEMA's Community Assisted Visits, which typically occur on a 5-year cycle.

LACPW continues to enforce NFIP regulations for building permit applications determined by Building and Safety officials to be substantial improvement or repair of substantial damage. Los Angeles County also requires all residential buildings undertaking substantial improvement to have their lowest floor elevated 1 foot above the 100-year flood elevation. Additionally, Los Angeles County conducted a Repetitive Loss Area Analysis in 2020, which serves as a specific plan for reducing damage from flooding in repetitive loss areas.

After an event, Public Works staff assess the unincorporated area buildings within the extent of the event. The assessment will identify the buildings that appear to have damages affecting 50 percent or greater of the building. If such a building is in flood-prone areas identified by FEMA's Flood Insurance Rate Maps, County maps (Floodway Maps or Assessor's Maps), or identified by Public Works to be in a Repetitive Loss Area, will undergo further evaluation by Public Works staff on whether the building meets FEMA's definition of substantial improvement/substantial damage (SI/SD). A building that meets FEMA's SI/SD definition will be required to have the entire building upgraded to meet National Flood Insurance Program (NFIP) standards (Title 44, Code

of Federal Regulations, Section 60.3). Los Angeles County Code Title 26, Section 110.1 requires the County to enforce as a minimum the current Federal Flood Plain Management Regulations defined in Title 44, Code of Federal Regulations, Section 60.3, for buildings, structures, and grading located in whole or in part in flood hazard areas. (Ord. 2013-0048 § 2, 2013; Ord. 2010-0053 § 2, 2010; Ord. 95-0065 § 3 (part), 1995.)

7.4 Identification and Analysis of Mitigation Strategies

Potential mitigation actions were identified for each hazard identified in Section 6 in an effort to ensure as comprehensive a mitigation strategy as possible. Multiple mitigation options were then analyzed against the goals and objectives delineated in this section with a focus on new and existing buildings. A combination of new and ongoing mitigation actions aimed at reducing the effects of the identified hazards were compiled into the list of mitigation actions in the following subsection. This list includes a wide range of potential types of mitigation actions, including:

- Local Plans and Regulations.
- Structure and Infrastructure Projects.
- Natural Systems Protection.
- Education and Awareness Programs.

A notable update to the 2025 AHMP was the integration of human-caused threats and corresponding potential mitigation actions. The AHMP Planning Team also reviewed FEMA's Mitigation Ideas document to incorporate national best practices in the list of potential mitigation actions.

7.4.1 Mitigation Strategies

01	*Title:* **Support and Expand Countywide Vegetation Management and Fire Prevention Efforts**
Source: Los Angeles County Fire Department	
Type: Natural Systems Protection	
Description: Conduct passive protection measures such as creating defensible space buffers around residential and non-residential structures through the removal of flammable vegetation, managing and/or reducing hazardous fuels, creating firebreaks, fire-resistive landscaping and construction, and clearing dead vegetation, among others. Engage indigenous communities to inform vegetation management and fire prevention practices aligned with Traditional Ecological Knowledge (TEK).	*Hazard:* **Wildfire** *Hazard:* ***Severe Wind/Tornado***

02	*Title:* **Enhance Community Engagement in Wildfire Protection and Prevention**
Source: Los Angeles County Department of Regional Planning	
Type: Education and Awareness Programs	
Description: Engage residents and businesses in high fire risk communities to educate them on community-focused mitigation and risk reduction strategies, emergency preparedness and evacuation readiness, and opportunities to get involved in fire safety-related community initiatives. Engage indigenous communities to inform protection and prevention practices aligned with Traditional Ecological Knowledge (TEK).	*Hazard:* **Wildfire** *Hazard:* ***Severe Wind/Tornado***

03	*Title:* **Perform Post-Fire Flooding, Debris Flow, and Mud Flow Risk Assessments and Mitigation Activities**
Source: Los Angeles County Department of Public Works	
Type: Structure and Infrastructure Projects	
Description: Following a wildfire, assess burn scar for significant mud and debris flow risks to produce mud and debris flow phase maps for first responding agencies to prepare for potential evacuations. Recommend mitigation strategies to prevent mud and debris flow impacts.	*Hazard:* **Wildfire** *Hazard:* ***Flooding***

04	*Title:* **Strengthen Operational Continuity Capabilities for Critical Facilities**
Source: Los Angeles County Department Public Health, among others.	
Type: Structure and Infrastructure Projects	
Description: Conduct robust continuity planning to ensure the continued performance of essential functions in the event critical facilities are impacted by various hazards. Build capabilities that support operational continuity such as alternate or uninterrupted power supply, workforce development and cross-training, emergency communications, and data backup or failover hardware.	*Hazard:* **Wildfire** *Hazard:* ***Extreme Heat*** *Hazard:* ***Severe Wind/Tornado*** *Hazard:* **Cyber Incidents**

05	*Title:* **Incorporate Hazards in Local Planning, Land Use, and Development Codes**
Source: Los Angeles County Department of Public Works and Regional Planning	
Type: Local Planning and Regulations	
Description: Develop, maintain, and leverage opportunities to strengthen relevant ordinances that govern land use, building codes, and development in high-risk hazard areas. Incorporate mitigation actions in community planning such as Community Wildfire Plans, Flood Management Plans, and the County General Plan, among many others.	*Hazard:* **Wildfire** *Hazard:* **Earthquake** *Hazard:* ***Land Movement*** *Hazard:* ***Severe Wind/Tornado*** *Hazard:* ***Flooding***

06	*Title:* **Increase Public Awareness of Climate Change Effects on Local Hazards**
Source: Los Angeles County Chief Sustainability Office	
Type: Education and Awareness Programs	
Description: Engage with communities on ways climate change impacts various natural hazards along with mitigation actions and available resources for climate adaptation and resilience. Efforts should focus on how communities can take action or support existing County programs including funding available to the public. Public engagement efforts should be accessible, ensure people with Access and Functional Needs are included in outreach, and use materials with multiple language options.	*Hazard:* **Wildfire** *Hazard:* **Extreme Heat** *Hazard:* **Drought** *Hazard:* ***Land Movement*** *Hazard:* ***Severe Wind/Tornado*** *Hazard:* **Flooding**

07	*Title:* **Expand Stormwater Management, Drainage, and Outlet Planning**	
Source: Los Angeles County Department of Public Works		
Type: Local Planning and Regulations		
Description: Continue robust stormwater management programs. Conduct studies to inform measures to improve outlet and drainage planning and prevent flood damage to communities in high-risk areas. These efforts should also prevent flood damage to County-maintained roadways, including evacuation egress and emergency services ingress, while supporting potential groundwater recharge.		*Hazard:* **Flooding** *Hazard:* **Drought** *Hazard:* **Transportation Incident**

08	*Title:* **Construct and Maintain Localized Flood Control Improvements**	
Source: Los Angeles County Department of Public Works		
Type: Structural and Infrastructure Projects		
Description: Maintain existing flood control mechanisms by drainage system maintenance, sediment and debris clearance, and other actions. Leverage opportunities to construct flood control improvements.		*Hazard:* **Flooding**

09	*Title:* **Preserve Floodplains as Public Use Open Spaces**	
Source: Los Angeles County Department of Public Works, among others.		
Type: Natural Systems Protections		
Description: Preserve and expand public use open spaces that capture stormwater with the aim of reducing localized flooding while also providing green space and recreational opportunities to communities. Prioritize floodplains and watersheds in County-owned public use open spaces near flood risk areas. Use stormwater best management practices in projects involving open spaces to support natural water collection and conservation. Incorporate floodplain preservation into future park improvements.		*Hazard:* **Flooding**

10	*Title:* **Harden Critical Facilities and Infrastructure from Seismic Damage**	
Source: Los Angeles County Department of Public Works		
Type: Structure and Infrastructure Projects		
Description: Conduct seismic assessments to prioritize retrofitting and other seismic mitigation actions such as bracing or seismic shutoff valves. Efforts should focus on critical facilities for community lifelines such as hospitals, public safety facilities, utility sites, high-hazard potential dams, and transportation assets (i.e., bridges, roadways, airports, and others).		*Hazard:* **Earthquake** *Hazard:* ***Land Movement*** *Hazard:* **Dam Failure**

11	*Title:* **Prevent Impacts to the Transportation System**
Source: Los Angeles County Department of Public Works	
Type: Structure and Infrastructure Projects	
Description: Hazard impacts to the transportation system in Los Angeles County have far-reaching potential for cascading effects across multiple lifelines. Mitigation activities for multiple hazards should focus on preventing or lessening impacts to transportation. Activities may include stabilization efforts along County-maintained roads, reinforcing transportation assets, or other seismic mitigation actions.	*Hazard:* **Earthquake** *Hazard:* ***Land Movement*** *Hazard:* **Transportation Incident**

12	*Title:* **Continue Efforts to Enhance Dam Safety and Reduce Long-Term Vulnerabilities with High Hazard Potential Dams**
Source: Los Angeles County Department of Public Works	
Type: Structure and Infrastructure Projects	
Description: Upgrade infrastructure to ensure the long-term integrity and safe operation of County-owned dam facilities. Potential actions could include strengthening of dams, sediment management activities, regular inspections, continuous maintenance, integrating advanced technologies, and emergency preparedness efforts.	*Hazard:* **Earthquake** *Hazard:* **Dam Failure**

13	*Title:* **Assess Water Resilience in Los Angeles County**
Source: Los Angeles County Department of Public Works	
Type: Local Planning and Regulations	
Description: Conduct assessments and studies to monitor the water supply and develop recommendations for other water systems. Identify potential secondary water sources or other contingency measures for ensuring water system resilience during drought conditions.	*Hazard:* **Drought**

14	*Title:* **Expand Drought-Tolerant Landscaping and Design**
Source: Los Angeles County Chief Sustainability Office and Department of Regional Planning	
Type: Natural Systems Protection	
Description: Integrate drought mitigation into landscaping and design measures undertaken by the County. Prioritize native and drought-tolerant plants when selecting landscaping designs. Use permeable materials for pavers, driveways, walkways, and roadways to reduce runoff and promote groundwater recharge that incorporate indigenous- informed practices aligned with Traditional Ecological Knowledge (TEK).	*Hazard:* **Drought**

15	*Title:* **Address Urban Heat Islands by Investing in Green Infrastructure and Cooling Strategies**
Source: Los Angeles County Chief Sustainability Office, Department of Regional Planning, Department of Economic Opportunity, Department of Public Health, and Department of Public Works, among others.	
Type: Local Planning and Regulations	
Description: Increase shade cover provided by vegetation such as planting native and drought-tolerant trees along with smaller plants such as shrubs, grasses, and groundcover. Increase the tree canopy in County parks and open concrete or asphalt spaces in the public right of way or County-owned parking lots. Conduct assessments to identify communities considered urban heat islands that are at highest need for an increase in tree canopy or other heat mitigation activities. Advance cooling strategies such as constructing shade structures, installing splash pads, operating cooling centers, modernizing air conditioning systems, and expanding the availability of cool roofing infrastructure that reflects heat away from buildings. Ensure mitigation actions address heat impacts faced by people with Access and Functional Needs. Many of these actions have a secondary benefit mitigating the effects of climate change by promoting carbon sequestration, the capture and storage of CO2 from the atmosphere. Additionally, increasing green space and shade cover in urban areas can advance environmental justice.	*Hazard:* ***Extreme* Heat**

16	*Title:* **Increase Coastal Resilience, Prevent Erosion, and Protect Shorelines**
Source: Los Angeles County Chief Sustainability Office and Department of Beaches and Harbors	
Type: Natural Systems Protection	
Description: Conduct activities to replace sediment lost due to erosion or coastal storms. Assess the need for other sediment protection measures such as planting certain types of vegetation. Consider activities that prevent wind from blowing sand off beaches and impacts from storm surge in high-risk areas. These actions help protect coastal roadways and other infrastructure along with ensuring recreation opportunities remain for residents and visitors.	*Hazard:* **Flooding** *Hazard:* **Tsunami**

17	*Title:* **Conduct Multi-Discipline Training and Exercise Programs**
Source: Los Angeles County Sheriff's Department and Office of Emergency Management	
Type: Education and Awareness Programs	
Description: Identify opportunities for joint training and exercises for mass violence and cyber incident response across disciplines of law enforcement, fire and emergency medical services, medical examiner, private sector, and others. Each training and exercise should include mass violence rescue and evacuation techniques for AFN populations.	*Hazard:* **Mass Violence** *Hazard:* **Cyber Incidents**

18	*Title:* **Strengthen Partnerships and Coordination Among Local Agencies**	
Source: Los Angeles County Sheriff's Department and Office of Emergency Management		
Type: Education and Awareness Programs		
Description: Expand collaborative agreements with other agencies to share resources during large-scale emergencies. Strengthen partnerships with local agencies for resource sharing. Enhance response capabilities during major incidents.		*Hazard:* **Mass Violence** *Hazard:* **Cyber Incidents**

19	*Title:* **Incorporate Mass Violence Prevention and Mitigation Efforts into Special Event Planning**	
Source: Los Angeles County Sheriff's Department and Office of Emergency Management		
Type: Education and Awareness Programs		
Description: Use physical security measures such as bollards, water-filled barricades, vehicle barriers, and others. Identify mitigation measures for upcoming special events such as the World Cup, Super Bowl, and Olympics. Conduct special event training on topics such as crowd management, sporting event safety, and stadium evacuation. Incorporate Family Assistance Center readiness into special event planning.		*Hazard:* **Mass Violence**

20	*Title:* **Extreme Heat Risk Education and Safety Outreach for Residents and Vulnerable Workers**	
Source: Los Angeles County Chief Sustainability Office, Department of Economic Opportunity, Department of Public Health, and Department of Public Works		
Type: Education and Awareness Programs		
Description: Implement outreach and education to workers in low-wage and high hazard industries in LA County that are disproportionately impacted by extreme heat. Partner with organizations providing services to people with Access and Functional Needs on heat response strategies. Expand awareness of cooling centers and other heat respite options for unhoused populations. Increase workforce development opportunities to expand the availability of green infrastructure.		*Hazard:* ***Extreme* Heat**

21	*Title:* **Increase Field Response and Coordination Capabilities**	
Source: Los Angeles County Sheriff's Department and Office of Emergency Management		
Type: Education and Awareness Programs		
Description: Enhance field coordination capabilities at large-scale planned events and no-notice incidents such as wildfires, mass violence, and others. Potential actions could include investments in new redundant communications systems, response vehicles, alert and warning capabilities, and other field operations equipment.		*Hazard:* **Wildfire** *Hazard:* **Mass Violence**

22	*Title:* **Strengthen Public Health Prevention and Preparedness Measures**
Source: Los Angeles County Office of Emergency Management, Department of Public Health, Department of Health Services, and Fire Department	
Type: Education and Awareness Programs	
Description: Continue and expand mass vaccination and immunization efforts. Coordinate healthcare surge preparedness and response efforts. Conduct disease surveillance, monitor early warning systems, and coordinate outbreak response. Educate communities and businesses about health implications related to wildfire recovery and hazardous materials. Liaise with health system partners to understand hospital surge capacity within the County. Maintain and deploy emergency stockpiles. Incorporate potential climate change-related infectious disease implications into public health preparedness planning.	*Hazard:* **Public Health Emergencies**

7.5 Status of Previous Mitigation Efforts

Table 7-6 below shows the status of mitigation strategies described in the 2020 AHMP. Departments have made significant progress on some of these mitigation strategies, partially but not fully completing some of these efforts. As such, each strategy from the 2020 AHMP have been rolled into the mitigation strategies described in this section.

Table 7-6 Status of Mitigation Efforts

2020 AHMP Strategy	Status	2025 AHMP Strategy
Red Flag Warning Public Outreach	Not Completed/ Ongoing	Enhance Community Engagement in Wildfire Protection and Prevention

2020 AHMP Strategy	Status	2025 AHMP Strategy
Vegetation Management Program	Not Completed/ Ongoing	Support and Expand Countywide Vegetation Management and Fire Prevention Efforts
Fireproof Coating of Critical Facilities	Not Completed/ Ongoing	Enhance Community Engagement in Wildfire Protection and Prevention
Auxiliary Power for Critical Facilities	Not Completed/ Ongoing	Strengthen Operational Continuity Capabilities for Critical Facilities
Earthquake-Resistant Ductile Iron Pipes Replacement	Not Completed/ Ongoing	Harden Critical Facilities and Infrastructure from Seismic Damage
Watershed Ecosystem Restoration	Not Completed/ Ongoing	Preserve Floodplains as Public Use Open Spaces
Green Streets / Living Streets	Not Completed/ Ongoing	Expand Drought-Tolerant Landscaping and Design
Coordinated Data Collection and Database Systems	Not Completed/ Ongoing	Strengthen Partnerships and Resource Coordination Among Local Agencies
Brush Clearance Program	Not Completed/ Ongoing	Support and Expand Countywide Vegetation Management and Fire Prevention Efforts
Wildland Urban-Interface Ordinance	Not Completed/ Ongoing	Incorporate Hazards in Local Planning, Land Use, and Development Codes
Urban Forest Management Plan	Not Completed/ Ongoing	Address Urban Heat Islands by Investing in Green Infrastructure and Cooling Strategies

2020 AHMP Strategy	Status	2025 AHMP Strategy
Community Wildfire Protection Plans	Not Completed/ Ongoing	Incorporate Hazards in Local Planning, Land Use, and Development Codes
Pre-Disaster Professional Support	Not Completed/ Ongoing	Strengthen Operational Continuity Capabilities for Critical Facilities
Fuel Trailer Project	Not Completed/ Ongoing	Strengthen Operational Continuity Capabilities for Critical Facilities

7.6 Prioritization and Implementation of Mitigation Actions

Potential mitigation actions were prioritized using the FEMA National Risk Index (NRI) score and information from the 2024 Los Angeles Threat and Hazard Identification and Risk Assessment (THIRA), which both address hazards by frequency, severity, and impact. Both the NRI and THIRA follow established processes and use a standardized risk assessment methodology. The NRI incorporates multiple variables including physical impacts posed by hazards in addition to social vulnerability data that communicates risks specific to a certain community. Table 7-7 provides an overview of the NRI results for Los Angeles County across 18 hazards. Hazards rated as Relatively Low, Not Applicable, or No Rating were not included in this AHMP as they are uncommon in frequency in Los Angeles County; all other hazards are covered in this plan.

Table 7-7 FEMA National Risk Index Hazards

Hazard	NRI Score (out of 100.0)	Score Description	Covered in Plan?
Earthquake	100.0	Very High	Yes | Section 6.3
Wildfire	99.9	Very High	Yes | Section 6.2
Extreme Heat	98.4	Relatively High	Yes | Section 6.4
Tornado	97.6	Relatively High	Yes | Section 6.10

Hazard	NRI Score (out of 100.0)	Score Description	Covered in Plan?
Landslide	96.3	Relatively High	Yes | Section 6.8
Lightning	95.0	Relatively High	Yes | Section 6.2/ 6.6
Riverine Flooding	90.8	Relatively Moderate	Yes | Section 6.6
Drought	73.8	Relatively Moderate	Yes | Section 6.5
Strong Wind	73.5	Relatively Moderate	Yes | Section 6.10
Tsunami	63.5	Relatively Moderate	Yes | Section 6.10
Winter Weather	48.6	Relatively Low	Not Prioritized
Hail	48.1	Relatively Low	Not Prioritized
Coastal Flooding	43.3	Very Low	Not Prioritized
Avalanche	33.7	Very Low	Not Prioritized
Cold Wave	0.0	No Rating	Not Prioritized
Hurricane	N/A	Not Applicable	Not Prioritized
Ice Storm	N/A	Not Applicable	Not Prioritized
Volcanic Activity	N/A	Not Applicable	Not Prioritized

The THIRA is a process that communities undertake to assess risk and set capability targets to focus their preparedness efforts and strengthen response and recovery capabilities. There are three primary focuses of the THIRA: threat and hazard identification, impacts analyses that include the specific demographics of the community, and a description of existing response and recovery capabilities. The 2024 Los Angeles/Long Beach THIRA was reviewed as part of this hazard mitigation planning effort and all threats and hazards identified were included as part of this AHMP. Additionally, the THIRA's identification of several human-caused threats with potential to impact Los Angeles County influenced the decision to include such threats in this AHMP. Table 7-8 shows a crosswalk of the hazards and threats identified in the THIRA and their corresponding sections in this AHMP.

Table 7-8 2024 THIRA and 2025 AHMP Crosswalk

2024 THIRA Hazard/Threat Name	2025 AHMP Hazard/Threat Name	Covered in Plan?
Biological Attack	Public Health Emergencies	Yes | Section 6.14
Complex Coordinated Terrorist Attack	Mass Violence	Yes | Section 6.11
Cyber Attack	Cyber Incident	Yes | Section 6.12
Earthquake	Earthquake	Yes | Section 6.3
Flood	Flooding	Yes | Section 6.6
Pandemic – Human	Public Health Emergencies	Yes | Section 6.14
Radiological Attack	Public Health Emergencies	Yes | Section 6.14
Transportation Accident	Transportation Incident	Yes | Section 6.13
Wildfire	Wildfire	Yes | Section 6.2

Additional criteria used to prioritize potential mitigation actions also included the following components:

- Actions that prioritize equity and integrate vulnerable populations, including people with AFN.
- Potential benefits of the action to prevent a major hazard.
- Actions that have social support to build a culture and practice of resilience.
- Cost of the action versus the potential benefit to prevent a major hazard.
- Availability of funding and actions that support grant requirements.
- Political support to remedy or prevent a major health or safety hazard.
- Actions that are technically, legally, environmentally, and economically feasible.
- Actions that the County has the administrative capabilities to implement.
- Actions that are related to mitigating long-term vulnerabilities to County-owned High Hazard Potential Dams will automatically be given a HIGH priority.

7.6.1 Priority Levels

- **High-Priority Mitigation Actions:** are essential and require immediate attention to address critical risks and safeguard life, property, or essential systems.

- **Medium-Priority Mitigation Actions:** are important but less urgent, supporting overall risk reduction and resilience goals while allowing for planned implementation.
- **Low-Priority Mitigation Actions:** address lower-risk concerns or long-term objectives and can be deferred without immediate impact to safety or core functions.

7.6.2 Changes in Criteria

The 2014 Los Angeles County AHMP's Mitigation Action Matrix was prioritized using the Social, Technical, Administrative, Political, Legal, Environmental, and Economic (STAPLEE) method, which FEMA had recommended as a prioritization procedure in the early to mid-2000s. The 2020 AHMP replaced the use of STAPLEE with a more streamlined prioritization process that included the following:

- To remedy or prevent a major health/safety hazard, a mitigation project must have political support.
- To build a culture and practice of disaster resilience, a mitigation project must have social support.
- To meet FEMA HMA grant criteria, a mitigation project must be technically, legally, environmentally, and economically feasible and the jurisdiction must have the administrative capabilities to implement it.

This prioritization method used in the 2020 AHMP has been adapted and incorporated into the prioritization criteria described previously in Section 7.6.

7.7 Integration with Other Plans

The County of Los Angeles ensures that mitigation is a countywide effort with multiple departments contributing to critical activities that reduce hazard risks. These actions are captured in other discipline-specific plans in addition to the AHMP, including those listed in Table 7-9.

Table 7-9 AHMP Integration with Other Plans

Plan	Authored By	Hazard(s)	Covered in Plan?
Comprehensive Floodplain Management Plan	Los Angeles County Department of Public Works	Flood	Yes
Repetitive Loss Area Analysis Report	Los Angeles County Department of Public Works	Flood	Yes
Climate Action Plan	Los Angeles County Department of Regional Planning	Wildfire Extreme Heat Flooding Drought	Yes
Sustainability Plan	Los Angeles County Chief Sustainability Office	Wildfire Extreme Heat Flooding Drought	Yes
County Fire Plan	Los Angeles County Fire Department	Wildfire	Yes

7.8 Mitigation Action Plan

Table 7-10 represents a Mitigation Action Plan to reduce risks of the hazards identified in this AHMP. Notably, many County departments include discipline-specific mitigation actions within other related plans mentioned in the above section. Some actions that mitigate risk of natural hazards that are covered elsewhere may not be explicitly listed or may be referred to in general terms while specific details are available in other related plans.

Table 7-10 Mitigation Action Plan

Action No.	Priority	Hazard	Action Name	Potential Funding Source	Expected Time Frame	Lead Agencies
01	HIGH	**Wildfire** ***Severe Wind/Tornado***	Support and Expand Countywide Vegetation Management and Fire Prevention Efforts	HMGP	Annual	LACoFD, PW
02	HIGH	**Wildfire** ***Severe Wind/Tornado***	Enhance Community Engagement in Wildfire Protection and Prevention	HMGP	Quarterly	LACoFD, DRP, OEM, LASD
03	HIGH	**Wildfire** ***Flooding***	Perform Post-Fire Flooding, Debris Flow, and Mud Flow Risk Assessments and Mitigation Activities	HMGP, FMA	Annual	PW, LACoFD, OEM
04	HIGH	**Wildfire** ***Extreme Heat***		UASI, SHSP	Annual	OEM, PW, DPH,

Action No.	Priority	Hazard	Action Name	Potential Funding Source	Expected Time Frame	Lead Agencies
		Severe Wind/Tornado	Strengthen Operational Continuity Capabilities for Critical Facilities			LACoFD, LASD, ISD
		Cyber Incidents				
05	HIGH	**Wildfire**	Incorporate Hazards in Local Planning, Land Use, and Development Codes	HMGP, FMA	1-3 Years	DRP, PW
		Earthquake				
		Land Movement				
		Severe Wind/Tornado				
		Flooding				
06	MEDIUM	**Wildfire**	Increase Public Awareness of Climate Change Effects on Local Hazards	FMA, Prop 4	Annual	DRP, CSO, CEO
		Extreme Heat				
		Drought				
		Land Movement				
		Severe Wind/Tornado				
		Flooding				

Action No.	Priority	Hazard	Action Name	Potential Funding Source	Expected Time Frame	Lead Agencies
07	HIGH	**Flooding**	Expand Stormwater Management, Drainage, and Outlet Planning	FMA	1-5 Years	PW
		Drought				
		Transportation Incident				
08	HIGH	***Flooding***	Construct and Maintain Localized Flood Control Improvements	FMA	1-5 Years	PW
09	MEDIUM	***Flooding***	Preserve Floodplains as Public Use Open Spaces	FMA, Prop 4	1-5 Years	PW, DRP, DPR
10	HIGH	**Earthquake**	Harden Critical Facilities and Infrastructure from Seismic Damage	HMGP	1-5 Years	PW, ISD
		Land Movement				
		Dam Failure				
11	MEDIUM	**Earthquake**	Prevent Impacts to the Transportation System	HMGP	1-5 Years	PW, LASD
		Land Movement				
		Transportation Incident				

Action No.	Priority	Hazard	Action Name	Potential Funding Source	Expected Time Frame	Lead Agencies
12	HIGH	Earthquake Dam Failure	Conduct Seismic Strengthening at County-Owned Dams	FMA, HHPD	1-5 Years	PW
13	MEDIUM	Drought	Assess Water Resilience in Los Angeles County	Prop 4	1-5 Years	PW, DRP
14	MEDIUM	Drought	Expand Drought-Tolerant Landscaping and Design	Prop 4	1-5 Years	DPR, DRP, PW, CSO
15	HIGH	Extreme Heat	Address Urban Heat Islands by Investing in Green Infrastructure and Cooling Strategies	Prop 4	1-5 Years	CSO, DRP, DEO, DPH, PW, DPR
16	HIGH	Flooding Tsunami	Increase Coastal Resilience, Prevent Erosion, and Protect Shorelines	FMA, Prop 4	1-5 Years	CSO, DBH, PW
17	HIGH	Mass Violence Cyber Incidents	Conduct Multi-Discipline Training and Exercise Programs	UASI, SHSP	1-5 Years	LASD, OEM, LACoFD
18	MEDIUM	Mass Violence Cyber Incidents	Strengthen Partnerships and Resource Coordination Among Local Agencies	UASI, SHSP	1-5 Years	LASD, OEM, LACoFD

Action No.	Priority	Hazard	Action Name	Potential Funding Source	Expected Time Frame	Lead Agencies
19	MEDIUM	Mass Violence	Incorporate Mass Violence Prevention and Mitigation Efforts into Special Event Planning	UASI, SHSP	1-5 Years	LASD, OEM, LACoFD
20	HIGH	Extreme Heat	Extreme Heat Risk Education and Safety Outreach for Residents and Vulnerable Workers	Prop 4	1-5 Years	CSO, DEO, DPH, PW, DAD
21	HIGH	Public Health Emergencies	Strengthen Robust Public Health Prevention and Preparedness Measures	UASI, SHSP, PHEP, HPP	1-5 Years	DPH, OEM, DHS, LACoFD
22	MEDIUM	Wildfire Mass Violence	Increase Field Response and Coordination Capabilities	UASI, SHSP	1-5 Years	LASD, OEM, LACoFD

Agency Key:
CEO = Los Angeles County Chief Executive Office
CSO = Los Angeles County Chief Sustainability Office
DAD=Los Angeles Department of Aging and Disabilities
DBH = Los Angeles County Department of Beaches and Harbors
DEO = Los Angeles County Department of Economic Opportunity
DHS = Los Angeles County Department of Health Services
DPH = Los Angeles County Department of Public Health
DPR = Los Angeles County Department of Parks and Recreation
PW = Los Angeles County Public Works
DRP = Los Angeles County Department of Regional Planning
ISD = Los Angeles County Internal Services Department
LACoFD = Los Angeles County Fire Department.
LASD = Los Angeles County Sheriff's Department
OEM = Los Angeles County Chief Executive Office - Office of Emergency Management

Grant Program Key:
FMA = Flood Mitigation Assistance
HMGP = Hazard Mitigation Grant Program
HPP = Hospital Preparedness Program
PHEP = Public Health Emergency Preparedness
SHSP = State Homeland Security Program
UASI = Urban Area Security Initiative

8 Plan Maintenance

8.1 Community Participation in Plan Maintenance

The Hazard Mitigation Plan will be reviewed regularly, acknowledging the dynamic nature of hazard landscapes and the evolving understanding of risks. Stakeholders' engagement will be prioritized throughout the development and monitoring process, fostering transparency and accountability.

To maintain transparency and community involvement, the County has outlined several measures for continued public participation:

- **Public Access to Hazard Mitigation Documents:** A copy of the 2025 AHMP will be maintained on the Los Angeles County Hazard Mitigation Program website along with contact information. Los Angeles County OEM will notify the public of any changes or updates, including mitigation projects identified in the plan as they are implemented, via social media, and traditional local media channels.
- **Annual Public Engagement Opportunities:** Los Angeles County OEM will endeavor to hold multiple in-person public engagement opportunities for hazard mitigation to keep the public informed of progress on hazard mitigation projects, obtain ongoing public feedback, and educate the public about the County's hazard mitigation efforts.
- **Online Portal:** A Los Angeles County Hazard Mitigation Program website will be established to provide the public with more information on hazard mitigation and project updates. This portal will serve as a mechanism to obtain continuous public feedback as projects are implemented and offers access to mitigation resources.
- **Standing Advisory Committee:** The Hazard Mitigation Advisory Committee will be expanded to a standing status and will meet at least once per year or more often as determined necessary to support hazard mitigation projects. The standing Hazard Mitigation Advisory Committee will be comprised of representatives from diverse community groups to provide ongoing input and oversight of hazard mitigation efforts. The standing Hazard Mitigation Advisory Committee will also serve as an important forum for future updates of the AHMP.

These activities ensure that the community remains informed and actively engaged in the plan's implementation and maintenance.

8.2 Monitoring, Evaluation, and Maintenance

To ensure the continued effectiveness of this All-Hazard Mitigation Plan (AHMP), effective monitoring and evaluation will be conducted throughout the plan implementation period. Regular assessments will monitor progress and evaluate the achievements of the intended outcomes. Performance metrics will be developed to quantify the impact of each mitigation action, allowing for data driven adjustments and refinements.

The plan will be reviewed annually to assess progress on mitigation actions. Annual review will include the following elements:

- **Annual Review Worksheets:** Every year, LA County OEM will email each member of the Hazard Mitigation Advisory Committee an Annual Review Worksheet to complete. As shown in Appendix E, the Annual Review Worksheet reflects the FEMA Local Hazard Mitigation Plan Review Tool and includes the following sections: planning process, hazard profile, risk assessment, and mitigation strategy. Each member of the Hazard Mitigation Advisory Committee will email completed worksheets back to LA County OEM to review. LA County OEM will summarize these findings and email them out to the committee. Additionally, the findings from the review worksheets will be presented to the full Hazard Mitigation Advisory Committee at its next regular 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 LA County OEM. 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 E, 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.
- **Post-Incident Mitigation Review:** Following a major disaster event impacting Los Angeles County, a post-disaster review will be initiated by LA County OEM to evaluate the need to update the AHMP based on the circumstances of the disaster and incorporate any specific mitigation actions required due to the incident. If LA County OEM finds that an update to the AHMP is needed, the Hazard Mitigation Advisory Committee will be convened to begin drafting the update.

8.3 Criteria for Updating the Hazard Mitigation Plan

The All-Hazards Mitigation Plan (AHMP) is required to be updated every five years in compliance with the Disaster Mitigation Act of 2000 (DMA 2000) and FEMA guidance (44 CFR § 201.6). The update process is not merely an administrative requirement but a critical mechanism to evaluate the plan's effectiveness in reducing risk and guiding mitigation strategies.

1. Review of Past Actions and Effectiveness

The update process begins with a thorough review of the mitigation actions outlined in the previous plan. This includes:

- Evaluating the implementation status of each action (completed, in progress, not started).
- Assessing the impact and effectiveness of completed actions in reducing hazard risk.
- Determining if the objectives are still relevant or require modification based on new data or circumstances.

2. Integration of New Data and Changing Conditions

- Hazard profiles and risk assessments are updated with new hazard event data, climate science, and changes in development or land use.
- Demographic shifts and infrastructure changes are reviewed to reassess vulnerability.
- Technological advancements or improved modeling tools (e.g., Hazus, National Risk Index) are incorporated to refine risk analysis.

3. Community and Stakeholder Input

The update process must actively include community participation to maintain transparency and ensure the plan reflects local priorities. This includes:

- Public workshops and surveys.
- Targeted outreach to vulnerable populations including those with Access and Functional Needs (AFN).
- Feedback from County departments, cities, NGOs, and regional partners.

4. Performance Evaluation and Metrics

To ensure effectiveness, the plan maintenance strategy includes:

- Annual progress reports that monitor implementation progress and identify barriers.
- Metrics to evaluate the reduction of risk or exposure over time.
- Documentation of lessons learned from real events and exercises to inform changes.

5. Revision of Goals, Objectives, and Actions

Based on the evaluation findings, the plan's goals and mitigation actions are revised to improve alignment with current capabilities, risk levels, and funding opportunities. Each updated action includes:

- Clear responsibilities.
- Realistic timelines.
- Evaluation metrics to measure future success.

8.4 Plan Update

The 2025 LHMP includes an updated methodology for future revisions, ensuring compliance with federal and state guidelines. A full plan update will occur every five years.

- **2030 AHMP Update Kickoff:** LA County OEM will convene the Hazard Mitigation Advisory Committee for a meeting to review the worksheet findings and endeavor to begin the process of updating the AHMP in approximately November 2028. The planning process should begin a minimum of 18 months prior to the plan's expiration. LA County OEM, in consultation with the Hazard Mitigation Advisory Committee, will develop a work plan for the update, conduct

research and review relevant documentation, determine hazards to be included in the 2030 AHMP, and begin the process to draft an updated AHMP.

- **Plan Submission and Adoption:** Once updated, the plan is submitted to Cal OES and FEMA for review. Upon conditional approval, it must be adopted by the Los Angeles County Board of Supervisors and participating jurisdictions to maintain eligibility for FEMA Hazard Mitigation Assistance (HMA) grants.

8.5 Integration with Other Plans

Los Angeles County is committed to ensuring that hazard mitigation planning is not a standalone effort, but a fully integrated component of broader County planning initiatives. By strategically weaving the goals, objectives, and actions of the All-Hazards Mitigation Plan (AHMP) into a variety of local and regional plans such as the General Plan, Capital Improvement Plans, Climate Action and Adaptation Plans, and departmental strategic plans; the County promotes a more cohesive and effective approach to building long-term resilience. This integration is achieved through ongoing collaboration with County departments, cities, and regional agencies to align land use, infrastructure development, and emergency preparedness efforts with identified hazard risks. Embedding hazard mitigation principles into existing policies and planning mechanisms ensures that they become an inherent part of decision-making processes, project funding prioritization, and long-term investment strategies ultimately reducing vulnerabilities and enhancing the resilience of communities across Los Angeles County.

The Los Angeles County AHMP will be shared across all jurisdictions within the operational area. Those jurisdictions will have the opportunity to incorporate the 2025 AHMP into their established planning process. The Hazard Mitigation Advisory Committee will assess the plan at a yearly basis, acknowledging the dynamic nature of hazard landscapes and the evolving understanding of risks. The OEM Hazard Mitigation Program will make the AHMP available for all county departments to incorporate into departmental planning efforts, and other relevant documents produced by Los Angeles County departments.

9 Plan Adoption

9.1 Plan Adoption Overview

Plan Adoption addressed Element F of the Local Mitigation Plan Regulation Checklist under single jurisdiction plan requirement.

The Los Angeles County Board of Supervisors officially adopted the 2025 All Hazard Mitigation Plan (AHMP) through a formal resolution on September 9, 2025. A scanned copy of the resolution is included in Appendix F. The Los Angeles County Office of Emergency Management (OEM) will retain the resolution for its records, while copies will be submitted to both Cal OES and FEMA.

This Plan adoption completes the mitigation planning process and department agencies, stakeholders, and community's commitment to the goals and actions. It also recognizes the current planning process and acknowledges changes from the past five years and validates the priorities for hazard mitigation actions. It makes the community eligible for certain FEMA assistance that can fund some mitigation actions.

After being adopted by the Los Angeles County Board of Supervisors, the 2025 AHMP transitions into the implementation phase. The success of the plan hinges on the integrating its mitigation strategies and actions into the local plans and policies. The mitigation action items collectively establish a robust framework to guide the County's hazard mitigation strategies over the next five years. To ensure these strategies are effective, actionable and well aligned with the county's long term resilience goals, the Planning Advisory Committee has set clear objectives. Their prioritized approach focuses on seamlessly blending mitigation actions with current policies, plans, and emphasizing collaboration and coherence throughout.

Appendices

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX K

WATER RATES

Monthly Service Charges

Meter Size	FY 2023-24 3/1/2024	FY 2024-25 7/1/2024	FY 2025-26 7/1/2025	FY 2026-27 7/1/2026	FY 2027-28 7/1/2027
5/8" meters	$19.48	$21.04	$22.51	$24.09	$25.53
3/4" meters	$26.29	$28.39	$30.38	$32.51	$34.46
1" meters	$39.91	$43.10	$46.12	$49.34	$52.30
1 1/2" meters	$73.95	$79.86	$85.46	$91.44	$96.92
2" meters	$114.80	$123.98	$132.66	$141.95	$150.47
3" meters	$223.74	$241.64	$258.55	$276.65	$293.25
4" meters	$346.29	$373.99	$400.17	$428.19	$453.88
6" meters	$686.72	$741.66	$793.57	$849.12	$900.07
8" meters	$1,095.23	$1,182.85	$1,265.65	$1,354.25	$1,435.50

Water Consumption Charge (per hcf = 748 gallons)

Monthly Use	FY 2023-24 3/1/2024	FY 2024-25 7/1/2024	FY 2025-26 7/1/2025	FY 2026-27 7/1/2026	FY 2027-28 7/1/2027
Single Family Residential					
Tier 1 (0 - 10 hcf)	$3.17	$3.43	$3.67	$3.92	$4.16
Tier 2 (11 - 16 hcf)	$4.19	$4.52	$4.84	$5.18	$5.49
Tier 3 (17+ hcf)	$7.92	$8.55	$9.15	$9.79	$10.38
All Other					
All Consumption	$3.95	$4.27	$4.57	$4.89	$5.18

CITY OF MONTEREY PARK

2025 URBAN WATER MANAGEMENT PLAN

APPENDIX L

RESOLUTION ADOPTING 2025 PLAN AND WSCP

RESOLUTION NO. 2026-R55

A RESOLUTION ADOPTING THE 2025 URBAN WATER MANAGEMENT PLAN, INCLUDING THE WATER SHORTAGE CONTINGENCY PLAN, AND AUTHORIZING SUBMITTAL TO THE CALIFORNIA DEPARTMENT OF WATER RESOURCES

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 a UWMP;

C. The Act requires that a UWMP be updated every five years;

D. The Urban Water Management Planning Act and related provisions of the California Water Code require urban water suppliers to prepare and adopt a Water Shortage Contingency Plan (WSCP) in accordance Water Code § 10632 and related requirements.

E. The City retained Stetson Engineers, Inc. to prepare the City's UWMP, including the WSCP contained therein. The UWMP and WSCP were reviewed by the Public Works Director and circulated for public review;

F. The City reviewed the UWMP and WSCP'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");

G. The Department of Public Works completed its review of the UWMP, including the WSCP, and scheduled a public hearing before the City Council for July 1, 2026, to consider adoption of both plans.

H. On July 1, 2026, the City Council conducted a public hearing to receive public testimony and other evidence regarding the proposed UWMP and WSCP, including, without limitation, information provided to the City Council by the

accompanying staff report;

I. 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 1, 2026, public hearing, including, without limitation, the staff report submitted by the Department of Public Works;

SECTION 2: *Environmental Assessment*. The UWMP, including the WSCP, 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)). California Water Code § 10652 provides that CEQA "does not apply" to the preparation and adoption of an urban water management plan or to the implementation of actions taken pursuant to a water shortage contingency plan prepared under Water Code § 10632. Consistent with this statute, CEQA Guidelines § 15282(v) identifies the preparation and adoption of an Urban Water Management Plan pursuant to Water Code § 10652 as a statutory exemption. Because the UWMP is being prepared and adopted pursuant to Water Code §§ 10610–10656, no environmental impact report, negative declaration, or other CEQA document is required for its adoption. This statutory exemption is absolute and not subject to the exceptions applicable to categorical exemptions. The exemption does not, however, extend to separate implementation projects that may be identified in the UWMP; any such future discretionary projects would be evaluated for CEQA compliance, to the extent CEQA would otherwise apply, at the time they are proposed.

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 California and federal agencies to identify the source and causes of contamination plumes with the groundwater basin, and to ensure clean up consistent with California 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 2025 Urban Water Management Plan, including the Water Shortage Contingency Plan contained therein, prepared by Stetson Engineers, Inc. and dated "June 2025", is hereby incorporated by this reference and adopted by the City Council. Because the UWMP is too voluminous to be attached to this Resolution, a copy is on file with the City Clerk's office and made available online at the City's website https://www.montereypark.ca.gov/1735/2025-Urban-Water-Management-Plan-UWMP

SECTION 5: *Notification.* The Public Works Director, or designee, is authorized and directed to submit the adopted 2025 Urban Water Management Plan, including the Water Shortage Contingency Plan, to 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 1st day of July, 2026

Henry Lo Mayor

Attest:

Maychelle Yee, City Clerk

Approved as to Form:

Karl H. Berger, City Attorney

State of California)
County of Los Angeles) §
City of Monterey Park)

I, Maychelle Yee, City Clerk of the City of Monterey Park, California, do hereby certify that the foregoing Resolution No. 2026-R55 was duly and regularly adopted by the City Council of the City of Monterey Park at a regular meeting held on the 1st day of July, 2026, by the following vote:

Ayes:	Council Members:	Yang, Ngo, Wong, Sanchez, Lo
Noes:	Council Members:	None
Absent:	Council Members:	None
Abstain:	Council Members:	None
Recusal:	Council Members:	None

Dated this 1st day of July, 2026.

Maychelle Yee, City Clerk
Monterey Park, California