APPENDIX

APPENDIX A

APPENDIX B

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	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	Sources of supply: Chapter 6 (p.6-1 to 6-27); Uses: Chapter 4 (p. 4-1 to 4-13); Reclamation: Chapter 6 (p. 6-13 to 6-21); Demand Management: Chapter 9 (p. 9-1 to 9-14).
x	x	Chapter 1	10630.5	Each plan shall include a simple lay description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Chapter 1 (p. 1-4 to 1-8).
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Chapter 2 (p. 2.1)
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.2 (pp. 2-3 to 2-5) & Appendix D
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Sections 10.2.1 & 10.2.2 (pp. 10-1 to 10-3) & Appendix D,
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.2 (p. 2-3) & Appendix C
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Not applicable
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Sections 3.1 & 3.2 (pp. 3-1 to 3-5, Figures 3-1 to 3-8)
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3 (pp. 3-5 to 3-9)
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4.1 (pp. 3-19 to 3-22)
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4.3 & 3.4.4 (pp. 3-22 to 3-24, Fig. 3-4)
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.4.1, pp. 3-19 to 3-21
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5 p. 3-24 to 3-32, (Fig. 3-6, 3-8)
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Sections 4.1, 4.2 & 4.3 (p. 4-1 to 4-5)
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.4.1, (pp. 4-6 & 4-7) Appendix G
x	x	Section 4.2.6	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	Section 4.3 (p. 4-4)
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.3 (p. 4-4)
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.4 (pp. 4-5 to 4-7)
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5 (pp. 4-7 to 4-8)
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.6 (pp. 4-8 to 4-11)
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5, Appendix I.
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.5 (pp. 5-8 & 5-9)
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Not applicable
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.5 (p. 5-9)
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Sections 5.2 and 5.5 (pp. 5-4, 5-8)
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.5 (pp.5-8,5-9) & Appendix I
x	x	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.	System Supplies	Sections 7.1.3 to 7.1.5
x	x	Sections 6.1	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	Sections 6.10.1 & 7.1.3 to 7.1.5,
x	x	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	Sections 6.1 to 6.7 (pp. 6-1 to 6-13)

x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.9 (pp. 6-16 to 6-18)
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.9 (pp. 6-16 to 6-18)
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2 (p. 6-2)
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Sections 6.2.1 and 6.2.2 (pp. 6-2 to 6-4) & Appendices J and K
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Sections 6.2.1 and 6.2.2 (pp. 6-2 to 6-4) & Appendices J and K
x	x	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	Section 6.2.2 (pp. 6-2 to 6-4) & Appendices J and K
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Not applicable
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.3 (pp. 6-4 to 6-9)
x	x	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	Sections 6.8, 6.9 & 6.10 (p. 6-14 to 6-20)
x	x	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	Section 6.7 (p. 6-13)
x	x	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)	Section 6.5 (pp. 6-10 to 6-13)
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1 (p. 6-11)
x	x	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)	Sections 6.5.4 & 6.5.5 (pp. 6-12 & 6-13)
x	x	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 a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Sections 6.5.4 & 6.5.5 (pp. 6-12 & 6-13)
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5 (p. 6-13)
x	x	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)	Sections 6.5.4 & 6.5.5 (pp. 6-12 & 6-13)
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6 (p. 6-13)
x	x	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)	Section 6.5.2 (pp. 6-11 to 6-12)
x	x	Section 6.2.8, Section 6.3.7	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 5 consecutive water years.	System Supplies	Sections 6.8, 6.9 & 6.10 (pp. 6-14 to 6-20)
x	x	Section 6.4 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	Section 6.11 (pp. 6-20, 6-21)
x	x	Section 7.2	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	Section 7.1.2 (pp. 7-3, 7-4) & Appendix L
x	x	Section 7.2.4	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	Section 7.1.7 (p. 7-15)
x	x	Section 7.3	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 water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.1 (pp. 7-1 to 7-14)
x	x	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	Section 7.1 (pp. 7-1 to 7-14)
x	x	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 5 consecutive years.	Water Supply Reliability Assessment	Section 7.2.1 (pp. 7-16, 7-17)
x	x	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	Section 7.2.2 (pp. 7-17 to 7-19)
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.2.3 (pp. 7-19, 7-20)
x	x	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	Section 7.1.2 (pp. 7-3 to 7-6)
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8 (pp. 8-1 to 8-26) & Appendix A
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Section 8.1 (pp. 8-1, 8-2)

x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.2 Introduction (p. 8-3) & Section 8.10 (p 8-22)
x	x	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	Section 8.2.1 (p. 8-3)
x	x	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	Section 8.2.2 (pp. 8-3 to 8-6)
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.3 (pp. 8-6 to 8-8) & Appendix M
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Not applicable
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.4.2 (pp. 8-11, 8-12) & Appendix K
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4.1 (pp. 8-8 to 8-11)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4.3 (p. 8-12)
x	x	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	Section 8.4.4 (p. 8-12)
x	x	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	Section 8.4.7 (pp. 8-17 to 8-18)
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.4.6 (pp. 8-14 to 8-17) & Appendix N
x	x	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	Section 8.5 (p. 8-18)
x	x	Section 8.5 and 8.6	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	Section 8.5 (p. 8-18)
x		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	Section 8.6 (p. 8-18)
x		Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7 (p. 8-19) & Appendix I
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7 (pp. 8-19, 8-20)
x	x	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	Section 8.7 (p. 8-20)
x	x	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	Section 8.8 (pp. 8-20, 8-21)
x	x	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	Section 8.8 (pp. 8-20, 8-21)
x		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	Section 8.8.1 (p. 8-21)
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9 (p. 8-22)
x		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	Section 8.11 (pp. 8-22, 8-23)
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 8.12 (pp. 8-23 to 8-25) & Appendix P
x	x	Section 8.12	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 8.12 (pp. 8-23 to 8-25) & Appendix P
	x	Sections 9.1 and 9.3	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	Not applicable
x		Sections 9.2 and 9.3	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	Sections 9.1, & 9.39.2 (pp. 9-1 to 9.10) & Appendix M
x		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	Section 10.2 (p. 10-1) & Appendix P
x	x	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 urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2.1 (pp. 10-1, 10.2) & Appendix D
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4.2 (p. 10-4) & Appendix P
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.2 (p. 10-3) & Appendix P

x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2.1 (pp. 10-1, 10.2) & Appendix D
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1 (p. 10-4) & Appendix A
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3 (pp. 10-5, 10.6) & Appendix P
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4 (p. 10-4) & Appendix P
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4.2 (p. 10-4) & Appendix P
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5 (p. 10-5) & Appendix P
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5 (pp. 10-1, 10.2) & Appendix D
x	x	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	Section 10.6 (p. 10-5) Not applicable
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.7.1 (p. 10-6)

APPENDIX C

Rubidoux Community Services District

Water Resource Management | Refuse Collection | Street Lights | Fire / Emergency Services | Weed Abatement

February 19, 2021

Mr. Joe Perez
Director of Community Development
CITY OF JURUPA VALLEY
8930 Limonite Avenue
Jurupa Valley, CA 92509

RE: Rubidoux Community Services District 2020 Urban Water Management Plan

Dear Mr. Perez,

Rubidoux Community Services District (RCSD) is in the process of preparing its 2020 Urban Water Management Plan (UWMP) for submittal to the State Department of Water Resources by July 1, 2021. The UWMP is updated every five years and is a legal and technical water resources planning document required by water suppliers throughout the State.

Because most of our service area lies within the City boundary, I am reaching out to you today to coordinate pursuant to Water Code Section 10631(a), which requires that RCSD write a service area description in the UWMP that:

> *…shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code."*

This coordination can also support the concurrent effort RCSD is undertaking to update our Water Master Plan and Sewer Master Plan. Both master plans require current land use information for modeling purposes.

Pursuant to Water Code Section 10631(a), RCSD and their engineering consultants at Albert A. Webb Associates request to meet with City staff, via teleconference at their earliest convenience, to discuss the City's current and future land use information for the purpose of including it in the UWMP as well as the forthcoming Water Master Plan and Sewer Master Plan.

Thank you for your prompt attention to this meeting request. Please feel free to contact me at (951) 512-1255 or via email at tbeckwith@rcsd.org with any questions and we look forward to hearing from your staff so that we can make the appropriate arrangements for a meeting.

Sincerely,

Rubidoux Community Services District

Ted Beckwith
Director of Engineering

cc: Jeff Sims, General Manager, Rubidoux Community Services District
Autumn DeWoody, Albert A. Webb Associates

Total Service Area Demand Projections - Normal Year (AF)

Agenices: Please provide estimates for total demand projections for your service area that will be shown in 2020 UWMPs, if available. If 2020 UWMP projections are not available, please provide best available estimate from other sources, such as the 2015 UWMP. Total demands for the region may be used for Reduced Delta Reliance reporting in Western's UWMP, if necessary. Detailed total demand projections by agency will not be published in Western's 2020 UWMP. Please add any explanatory notes that may be helpful (such as whether the values are draft or final estimates).

Agency	CY 2025	CY 2030	CY 2035	CY 2040	CY 2045	Notes
Box Springs Mutual Water District						
City of Corona						
City of Norco						
Eagle Valley Mutual Water Company						
Elsinore Valley Municipal Water District						
Home Gardens County Water District						
Jurupa Community Services District						
Rancho California Water District						
Riverside Highland Water Company						
Riverside Public Utilities						
Rubidoux Community Services District	9899	10421	10920	11181	11431	Demand + System Loss + Transfers + Construction
	7012	7434	7933	8394	8644	Retail demand only
Santa Ana River Water Company						
Temescal Valley Water District						

Imported Water Supply Projections for Urban Water Management Plan 2020 Update - Normal Year

Agencies: please review and provide updated estimates for future imported water purchases from Western. These values will be published in Western's 2020 UWMP as imported water demands by agency for a Normal Year. Ideally, these would match the values to be published in each agency's 2020 UWMP. Please update as needed below and add any explanatory notes that may be helpful (such as whether the values are draft or final estimates).

Revised: 1/6/2021

Agency Estimates Provided November 2020 (In Acre-Feet)

Agency	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2030	CY 2035	CY 2040	CY 2045	CY 2050	Notes
Treated Domestic and Municipal											
City of Norco											
Elsinore Valley Municipal Water District											
Riverside Public Utilities											
Temescal Valley Water District											
City of Corona											
Rancho California Water District											
Jurupa Community Services District											
Rubidoux Community Services District	0	0	0	0	1,200	2,000	2,000	2,000	2,000	2,000	
Untreated Domestic and Municipal											
City of Corona											
Eagle Valley											
Treated Agriculture											
Rancho California Water District											
Untreated Groundwater Replenishment											
Rancho California Water District											
Untreated Stream Release (per CWRMA)											
Rancho California Water District											

Dry Year Supply Projections

Agencies: Please indicate whether your imported water supply needs are expected to change in a Single Dry Year or a 5-Year Drought. Please express changes as a percent of normal supply projections shown in the table to the left or enter 0 for no change. These values will be used to adjust imported water demands in Western's Water Supply Reliability and Drought Risk Assessment. If no values are provided, no change will be assumed.

% Change in Imported Water Needs during Dry Years

Single Dry Year	Year 1 of a 5-Year Drought	Year 2 of a 5-Year Drought	Year 3 of a 5-Year Drought	Year 4 of a 5-Year Drought	Year 5 of a 5-Year Drought	Notes
Treated Domestic and Municipal						
Untreated Domestic and Municipal						
Treated Agriculture						
Untreated Groundwater Replenishment						
Untreated Stream Release (per CWRMA)						

Local Water Supply Projections for Urban Water Management Plan 2020 Update

Agenices: These estimates for future local supplies were provided by each agency in November 2020. These estimates will be totaled by source type (groundwater, groundwater recovery, recycled water) to provide context in Western's UWMP for how much the region expects to use imported water from Western relative to other local supplies. Total local supplies may also be used for Reduced Delta Reliance reporting, if necessary. Detailed projections by agency and basin will not be published in Western's 2020 UWMP. Projections below will be used unless unless updated values are provided.

Revised: 1/6/2021

Agency Estimates Provided November 2020

Agency	Basin	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2030	CY 2035	CY 2040	CY 2045	CY 2050	Notes
		Groundwater Direct										
EVMWD	Bedford Basin											
	Coldwater Basin											
	Elsinore Basin											
	Lee Lake Basin											
	Warm Springs Basin											
City of Corona	Bedford Basin											
	Coldwater Basin											
	Temescal Basin											
RCWD	Temecula-Murrieta Basin											
City of Norco	Chino Basin											
	Temescal Basin											
RPU	Bunker Hill Basin											
	Riverside Basin											
Box Springs RHWC	Riverside Basin											
	Bunker Hill Basin											
	Riverside Basin											
RCSD	Riverside Basin	5500	7000	7500	8250	9899	10421	10920	11181	11431	11700	
JCSD	Chino Basin											
	Riverside Basin											

Agency	Basin	Groundwater Recovery - Desalters
City of Norco	Arlington Desalter	
	Chino Desalter	
JCSD	Chino Desalter	
Santa Ana River Water Company	Chino Desalter	
City of Corona	Temescal Basin Desalter	

Agency	Source	Surface Water
EVMWD	Canyon Lake	

Agency	Source	Recycled Water
EVMWD	Horse Thief	
	Railroad Canyon	
	Wildomar	
City of Corona	Reclaimed Water Distribution	
RCWD	Rancho California Reclamation	
WRCWRA	WRCWRA	

APPENDIX D

Agency	Contact	Title	Address	City, State Zipcode
City of Jurupa Valley	Mr. Paul Toor	City Engineer/Dir. Of Public Works	8930 Limonite Avenue	Jurupa Valley, CA 92509
City of Riverside Public Utilities	Mr. Todd Corbin	General Manager	3901 Orange Street,	Riverside, CA 92501
City of Riverside Water Quality Control Plant	Ed Filadelfia	System Manager	5950 Acorn Street	Riverside, CA 92504
County of Riverside	Mr. Steven Jones	Principal Planner for District 2	4080 Lemon Street, 12th Floor	Riverside, CA 92501
County of San Bernardino	Gerry Newcombe	Dir. Of Public Works	825 E. 3rd Street	San Bernardino, CA 92415
Cucamonga Valley Water District	Mr. John Bosler	General Manager/CEO	10440 Ashford Street,	Rancho Cucamonga, CA 91730
Inland Empire Utilities Agency	Mr. Shivaji Deshmukh	General Manager	6075 Kimball Ave	Chino, CA 91708
Jurupa Community Services District	Mr. Chris Berch	General Manager	11201 Harrel Street	Jurupa Valley, CA 91752
Jurupa Unified School District	Mr. Elliott Duchon	Superintendent	4850 Pedley Road,	Jurupa Valley, CA 92509
Santa Ana River Water Company	Mr. John Lopez	General Manager	10530 54th Street	Jurupa Valley, CA 91752-2331
Western-San Bernardino Watermaster	Craig Miller	Watermaster	14205 Meridian Parkway	Riverside, CA 92518
Western-San Bernardino Watermaster	Wen Huang	Watermaster	380 East Vanderbilt Way	San Bernardino, CA 92408
Western Municipal Water District	Mr. Derek Kawaii	Dir. Of Engineering	14205 Meridian Parkway	Riverside, CA 92518
West Valley Water District	Shamindra Manbahal	Acting General Manager	855 W. Baseline Road	Rialto, CA 92376
City of Colton Water Dept.	Mike Cory	Water Utility Manager	106 S. 10th Street	Colton, CA 92324
Riverside Highland Water Company	Don Hough	General Manager	12374 Michigan Street	Grand Terrace, CA 92313-5602
Santa Ana Watershed Project Authority	Jeff Mosher	General Manager	11615 Sterling Avenue	Riverside, CA 92503

Rubidoux Community Services District

Water Resource Management | Refuse Collection | Street Lights | Fire / Emergency Services | Weed Abatement

RUBIDOUX COMMUNITY SERVICES DISTRICT

PUBLIC NOTICE ON URBAN WATER MANAGEMENT PLAN UPDATE

Notice is hereby given that Rubidoux Community Services District (the District) is in the process of reviewing and updating its Urban Water Management Plan and considering changes thereto in compliance with the California Water Code. Any changes will be incorporated into the District's Draft 2020 Urban Water Management Plan which will include a Water Shortage Contingency Plan.

The District intends to hold a public hearing, adopt the 2020 Urban Water Management Plan, and submit it to the California Department of Water Resources by the July 1, 2021 deadline.

The District will hold a public hearing on the Draft 2020 Urban Water Management Plan at a Board of Director's meeting in Spring 2021, no less than 60 days from the date of this notice.

A printed copy of the District's Draft 2020 Urban Water Management Plan will be available for review at the District Office (3590 Rubidoux Blvd., Jurupa Valley) and on the District's Web site (www.rcsd.org) in Spring of 2021, no less than two weeks prior to the public hearing. The District will issue a second notice when the public hearing is scheduled.

All interested parties are now noticed and invited to submit comments and consult with the District regarding its forthcoming 2020 Urban Water Management Plan.

Dated: March 10, 2021

Jeff Sims, PE
General Manager

3590 Rubidoux Blvd. Jurupa Valley, CA 92509 P.O. Box 3098 Jurupa Valley, CA 92519 951-684-7580 Fax: 951-369-4061
www.rcsd.org

RUBIDOUX COMMUNITY SERVICES DISTRICT

NOTICE OF PUBLIC HEARING ON

PROPOSED URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Notice is hereby given that Rubidoux Community Services District (the District) will conduct a public hearing on **Thursday, June 17, 2021, at 4:00 PM**, at the regular meeting of the Board of Directors, to be held at 3590 Rubidoux Boulevard, Jurupa Valley, California, 92509.

The public hearing is set for receiving comments on the District's proposed **2020 Urban Water Management Plan** which includes the **2020 Water Shortage Contingency Plan**. Copies of both plans are available for public viewing beginning June 3, 2021 at the District Office during normal business hours and online at www.rcsd.org.

All interested parties are invited to attend the public hearing to provide input on these documents.

Pursuant to Paragraph 3 of Executive Order N-29-20, executed by the Governor of California on March 17, 2020 as a response to mitigating the spread of corona virus known as COVID-19:

During this regular meeting of the Rubidoux Community Services District Board of Directors, members of the public will have the choice to attend and address the Board in person or attend and address the Board via Zoom.

Note the following:

All persons including members of the public, Board Members, and staff attending the Board Meeting in-person are required to wear a face covering while inside District Facilities consistent with ongoing and current Executive Order N-29-20, and/or requirements of local state health officials.

Members of the public wanting to attend and/or address the Board may do so by:

- Using the Zoom App or website for free at: https://zoom.us/
  - Once installed ahead of the meeting, you may choose your audio source as either computer speakers/microphone or telephone.
  - If you wish to make public comments via the Zoom platform, the Board Secretary will identify you at your time to speak.
  - Meeting ID is **433-532-2766**.
  -
- Calling into the meeting at any one of the following numbers:

-
- +1 669 900 9128
- +1 346 248 7799
- +1 301 715 8592
- +1 312 626 6799
- +1 646 558 8656
- +1 253 215 8782

Dated: April 28, 2021

Jeff Sims, PE
General Manager
Rubidoux Community Services District

APPENDIX E

WUEdata - Rubidoux Community Service District

Sign Out

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Ted Beckwith	Rubidoux Community Service District	7476545035	4/20/2021 3:47:02 PM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	RCSD Boundary.kml	1199
2000	RCSD Boundary.kml	1199
2010	RCSD Boundary.kml	1199
1990	RCSD Boundary.kml	1199
2000	RCSD Boundary.kml	1199
2010	RCSD Boundary.kml	1199
1990	RCSD Boundary.kml	1199
2000	RCSD Boundary.kml	1199
2010	RCSD Boundary.kml	1199
1990	RCSD Boundary.kml	1199
2000	RCSD Boundary.kml	1199
2010	RCSD Boundary.kml	1199
1990	RCSD Boundary.kml	1199
2000	RCSD Boundary.kml	1199
2010	RCSD Boundary.kml	1199

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period:	10
Year beginning baseline period range:	1999
Year ending baseline period range[1]:	2008

5-year baseline period

Year beginning baseline period range:	2003
Year ending baseline period range[2]:	2007

[1] The ending year must be between December 31, 2004 and December 31, 2010.
[2] The ending year must be between December 31, 2007 and December 31, 2010.

Persons per Connection

Year	Census Block Level Total Population	Number of Connections *	Persons per Connection
1990	20,353	5170	3.94
1991	-	-	3.94
1992	-	-	3.94
1993	-	-	3.95
1994	-	-	3.95
1995	-	-	3.95
1996	-	-	3.95
1997	-	-	3.95
1998	-	-	3.96
1999	-	-	3.96
2000	25,367	6403	3.96
2001	-	-	4.05
2002	-	-	4.15
2003	-	-	4.24
2004	-	-	4.33
2005	-	-	4.42
2006	-	-	4.52
2007	-	-	4.61
2008	-	-	4.70
2009	-	-	4.80
2010	30,089	6156	4.89
2011	-	-	4.98
2012	-	-	5.07
2013	-	-	5.17
2014	-	-	5.26
2015	-	-	5.35

2020	-	-	5.81 **

Population Using Persons-Per-Connection

Year		Number of Connections *	Persons per Connection	Total Population
10 to 15 Year Baseline Population Calculations				
Year 1	1999	6280	3.96	24,856
Year 2	2000	6403	3.96	25,367
Year 3	2001	6378	4.05	25,850
Year 4	2002	6353	4.15	26,340
Year 5	2003	6328	4.24	26,824
Year 6	2004	6303	4.33	27,305
Year 7	2005	6278	4.42	27,780
Year 8	2006	6253	4.52	28,251
Year 9	2007	6228	4.61	28,717
Year 10	2008	6203	4.70	29,179
5 Year Baseline Population Calculations				
Year 1	2003	6328	4.24	26,824
Year 2	2004	6303	4.33	27,305
Year 3	2005	6278	4.42	27,780
Year 4	2006	6253	4.52	28,251
Year 5	2007	6228	4.61	28,717
2020 Compliance Year Population Calculations				
2020		6335	5.81 **	36,827

Hide Print Confirmation

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK
MWELO QUESTIONS / ISSUES? CONTACT THE MWELO HELP DESK

APPENDIX F

General Plan Land Use Designation[a]		General Plan Residential Density (DU/ac) or Non-Residential Intensity (FAR)	Acres within RCSD Water Service Area	Residential Density / Non-Residential Intensity		Projected Development		Population Projections[d]		
				Maximum Density (DU/ac) or Intensity (FAR)	Mid-Range Density (DU/ac) or Intensity (FAR)[b]	Maximum DUs or SF of Non-Residential Uses	Mid-Range DUs or SF of Non-Residential Uses[c]	Maximum Projected Population	Mid-Range Projected Population	
Residential										
OS-RUR	Open Space Rural	0-1 du/20 ac	76	0.05	0.03	4	3	21	16	*
RR	Small Farm, Rural Residential	1 du/5 ac	0	0.2	0.2	0	0	0	0	*
EDR	Estate Density, Ranch	1 du/2 ac	257	0.5	0.4	129	90	660	460	*
VLDR	Rural Neighborhood	1 du/1 ac	0	1.0	1.0	1	1	6	6	*
LDR	Country Neighborhood	1.1 - 2 du/ac	147	2.0	1.6	295	236	1,508	1,183	*
MDR	Medium Density Residential	2.1 - 5 du/ac	1,283	5.0	3.6	6,417	4,620	32,150	23,610	*
MHDR	Medium High Density Residential	5.1 - 8 du/ac	361	8.0	6.6	2,888	2,382	14,759	12,173	*
HDR	High Density Residential	8.1 - 14 du/ac	205	14.0	11.1	2,863	2,270	14,344	11,373	
VHDR	Very High Density Residential	14.1 - 20 du/ac	13	20.0	17.1	252	216	1,263	1,083	
HHDR	Highest Density Residential	20 - 25 du/ac	27	25.0	22.5	668	601	3,347	3,012	
		Subtotal Residential	2,368	-	-	13,517	10,419	**68,100**	**52,900**	***rounded**
Commercial										
CR	Commercial Retail	0.20 - 0.35 FAR	307	0.35	0.30	4,685,096	4,015,796			
CT	Commercial Tourist	0.20 - 0.35 FAR	8	0.35	0.30	115,870	99,317			
CN	Commercial Neighborhood	0.20 - 0.60 FAR	0	0.60	0.40	0	0			
CO	Commercial Office	0.35 - 1.0 FAR	9	1.00	0.70	400,752	280,526			
		Subtotal Commercial	324	-	-	5,201,717	4,395,640			
Industrial										
LI	Light Industrial	0.25 - 0.60 FAR	447	0.60	0.40	11,680,178	7,786,786			
HI	Heavy Industrial	0.15 - 0.50 FAR	199	0.50	0.30	4,336,398	2,601,839			
BP	Business Park	0.25 - 0.60 FAR	18	0.60	0.40	480,902	320,602			
		Subtotal Industrial	664	-	-	16,497,479	10,709,226			
Mixed Use and Other										
PF	Public Facilities	N/A	224	N/A	N/A	N/A	N/A			
OS-C	Open Space Conservation	N/A	23	N/A	N/A	N/A	N/A			
OS-CH	Open Space Conservation Habitat	N/A	0	N/A	N/A	N/A	N/A			
OS-MIN	Open Space Mineral Resources	N/A	0	N/A	N/A	N/A	N/A			
OS-W	Open Space Water	N/A	51	N/A	N/A	N/A	N/A			
OS-R	Open Space Recreation	N/A	221	N/A	N/A	N/A	N/A			
Rail	Railroad	N/A	24	N/A	N/A	N/A	N/A			
School		N/A	0	N/A	N/A	N/A	N/A			
		Subtotal Mixed Use and Other	543	-	-	-	-			
		Grand Total	**3,900**			**Dwelling Units**		**13,520**	**10,420**	***rounded**
						SF of Non Residential Uses		**21,699,200**	**15,104,870**	***rounded**

***Persons/DU for land uses that allow ADUs:** **5.11**

Persons/DU: **5.0**

US Census Bureau Quickfacts (2015-2019 data)	4.21
DWR Population Tool (2020)	5.81

Notes: DU/ac: dwelling unit per acre; FAR: floor-to-area ratio; SF: square feet

[a] City of Jurupa Valley General Plan Land Use data, including approved General Plan amendments through March 2021. Acreages shown here do not include roads or road rights-of way because they do not have a land use designation.

[b] The mid-point range of dwelling units per acre for each residential land use designation (and FAR for non-residential designations) are used to forecast EDUs and SF, respectively

[c] Projected dwelling units are the product of the acres of each residential use and the DU/Acre used for projected buildout rounded up to the nearest whole number. Projected non-residential square footage is the product of the FAR and acreage.

[d] Population projections for HDR, VHDR, HHDR are based on 5.0 people per DU multiplied by the number of dwelling units. This is the average of 4.21 and 5.81 sourced from the U.S. Census Bureau Quickfacts (2015-2019 data) and DWR Population Tool (2020), respectively. Projections for OS-RUR through MHDR are based on 5.11 persons per DU. Persons per household sourced from U.S. Census Bureau QuickFacts for City of Jurupa Valley, Persons Per Household, 2015-2019.

APPENDIX G

AWWA Free Water Audit Software: Water Balance

WAS v5.0

Water Audit Report for:	Rubidoux Community Services District
Reporting Year:	2016 — 1/2016 - 12/2016
Data Validity Score:	49

Water Exported 662.870

Billed Water Exported

Revenue Water 662.870

Own Sources (Adjusted for known errors) 2,145.700

Water Imported 0.000

System Input 2,145.700

Water Supplied 1,482.830

Authorized Consumption 1,339.507

Water Losses 143.323

Billed Authorized Consumption 1,335.800

Unbilled Authorized Consumption 3.707

Apparent Losses 34.308

Real Losses 109.015

Billed Metered Consumption (water exported is removed) 1,335.800

Billed Unmetered Consumption 0.000

Revenue Water 1,335.800

Unbilled Metered Consumption 0.000

Unbilled Unmetered Consumption 3.707

Unauthorized Consumption 3.707

Customer Metering Inaccuracies 27.261

Systematic Data Handling Errors 3.340

Leakage on Transmission and/or Distribution Mains Not broken down

Leakage and Overflows at Utility's Storage Tanks Not broken down

Leakage on Service Connections Not broken down

Non-Revenue Water (NRW) 147.030

AWWA Free Water Audit Software: Water Balance

Water Audit Report for:	Rubidoux Community Services District
Reporting Year:	2017 1/2017 - 12/2017
Data Validity Score:	49

		Water Exported 756.820	Billed Water Exported			Revenue Water 756.820
Own Sources (Adjusted for known errors) 2,299.000	System Input 2,299.000	Water Supplied 1,542.180	Authorized Consumption 1,361.745	Billed Authorized Consumption 1,357.890	Billed Metered Consumption (water exported is removed) 1,357.890	Revenue Water 1,357.890
					Billed Unmetered Consumption 0.000	
				Unbilled Authorized Consumption 3.855	Unbilled Metered Consumption 0.000	Non-Revenue Water (NRW) 184.290
					Unbilled Unmetered Consumption 3.855	
			Water Losses 180.435	Apparent Losses 34.962	Unauthorized Consumption 3.855	
					Customer Metering Inaccuracies 27.712	
					Systematic Data Handling Errors 3.395	
Water Imported 0.000				Real Losses 145.472	Leakage on Transmission and/or Distribution Mains Not broken down	
					Leakage and Overflows at Utility's Storage Tanks Not broken down	
					Leakage on Service Connections Not broken down	

AWWA Free Water Audit Software: Water Balance

WAS v5.0

Water Audit Report for:	Rubidoux Community Services District	
Reporting Year:	2018	1/2018 - 12/2018
Data Validity Score:	47	

Water Exported
0.000

Billed Water Exported

Own Sources
(Adjusted for known errors)
1,578.300

Water Supplied
1,578.300

Authorized Consumption
1,414.604

Billed Authorized Consumption
1,410.658

Billed Metered Consumption (water exported is removed)
1,410.658

Billed Unmetered Consumption
0.000

Revenue Water
1,410.658

Unbilled Authorized Consumption
3.946

Unbilled Metered Consumption
0.000

Unbilled Unmetered Consumption
3.946

Non-Revenue Water (NRW)
167.642

Water Losses
163.696

Apparent Losses
33.894

Unauthorized Consumption
1.578

Customer Metering Inaccuracies
28.789

Systematic Data Handling Errors
3.527

Real Losses
129.802

Leakage on Transmission and/or Distribution Mains
Not broken down

Leakage and Overflows at Utility's Storage Tanks
Not broken down

Leakage on Service Connections
Not broken down

Water Imported
0.000

AWWA Free Water Audit Software: Water Balance

Water Audit Report for:	Rubidoux Community Services District (CA3310044)
Reporting Year:	2019 1/2019 - 12/2019
Data Validity Score:	47

Own Sources (Adjusted for known errors)
1,395.600

Water Imported
0.000

System Input
1,395.600

Water Exported
0.000

Water Supplied
1,395.600

Authorized Consumption
1,291.502

Billed Authorized Consumption
1,288.013

Billed Water Exported

Billed Metered Consumption (water exported is removed)
1,288.013

Billed Unmetered Consumption
0.000

Unbilled Authorized Consumption
3.489

Unbilled Metered Consumption
0.000

Unbilled Unmetered Consumption
3.489

Water Losses
104.098

Apparent Losses
16.442

Unauthorized Consumption
3.489

Customer Metering Inaccuracies
9.733

Systematic Data Handling Errors
3.220

Real Losses
87.656

Leakage on Transmission and/or Distribution Mains
Not broken down

Leakage and Overflows at Utility's Storage Tanks
Not broken down

Leakage on Service Connections
Not broken down

Revenue Water
0.000

Revenue Water
1,288.013

Non-Revenue Water (NRW)
107.587

APPENDIX H

WESTERN MUNICIPAL WATER DISTRICT
Securing Your Water Supply

Technical Memorandum

To: Drought Contingency Plan Task Force

From: Drought Contingency Plan Development Team

CC: Melissa Matlock, Western Municipal Water District

Date: 4/22/2021

Re: Western Drought Contingency Plan – Climate Change Vulnerability Assessment

---

Executive Summary

This technical memorandum (memo) describes the retrieval and analysis of climate data provided by the California Department of Water Resources (DWR) to project the impact of climate change on future water supplies and demands within Western Municipal Water District's (Western) service area. The DWR climate data is assembled from the results of 20 global climate models, which best represent California's climate processes. Biases in the climate model results have been adjusted using historical hydrologic data in the state. DWR projected climate change data is most appropriate for this analysis because it is the only climate projection dataset specifically developed to meet the requirements of water resources planners in California. Western is making this memo available to its retail agencies for their use in their respective water resource planning efforts to reduce the data processing burden on individual agencies. The results are intended for use by Western and its member agencies as they prepare the 2020 updates to their Urban Water Management Plan (UWMP) and a regional Drought Contingency Plan (DCP). This technical memo provides:

- A description of the area subject to the vulnerability assessment
- A description of the analysis approach and data sources chosen for the analysis
- Narrative discussions of the climate change factors calculated for local supply and demand conditions in multiple scenarios
- Discussion of the water supply and demand projections resulting from the vulnerability assessment

Summary of Findings

Projected changes in future water supplies and water demand are analyzed during a normal year, a single dry year and multi-year (5-year) droughts over the next 20 years, using climate projections developed for the water resources planning by DWR. This analysis of future climate impacts on water supplies and demands is based on the median projected change from the majority of the climate models selected for water resources planning in California. The results of this analysis show:

- Projected decreases in water supplies from Santa Ana and Santa Margarita River basins under normal and drought conditions relative to baseline conditions in 2020, due to projected decreases

in precipitation and projected increases in surface water evaporation caused by increasing temperatures.

- Smaller decreases in projected precipitation and natural recharge under normal and multi-year drought years. However, the single dry year was slightly wetter under future conditions compared to the baseline. Precipitation will occur during shorter rainy seasons with higher intensity.
- Outdoor water uses are projected to increase under normal, single dry, and multi-year drought conditions, caused by projected temperature increases, which lead to higher evapotranspiration (ET) rates for landscaping, irrigated crops, and native vegetation.

This technical memo also includes worksheets for using the vulnerability assessment results with Western's water supplies and growth-adjusted water demand forecasts for the Western's wholesale service area.

1. INTRODUCTION

The study of climate change impacts on water resources is continuously yielding new models and updated local and regional datasets. This continuous improvement makes it necessary to narrow the selection of data sources and methods of data analysis most applicable to local conditions. The scope of this vulnerability assessment is limited to improving our understanding of climate change impacts on future water demand in Western's wholesale service area and the sources of Western's water supplies during normal and drought periods.

The following section provides the background information for the requirements of both the DCP and the UWMP, a general description of the impacts analyzed in the vulnerability assessment, and information about Western's sources of information used in the assessment.

1.1 DCP and UWMP Requirements for Climate Change Analysis

In accordance with Sections 10610 to 10657 of the California Water Code, the UWMP requires the consideration of climate change impacts for drought planning because of the significant duration of recent droughts in California. This includes an analysis of projected future uses and the reliability of anticipated water supplies during a normal year, a single dry year and drought lasting 5 consecutive dry water years. This drought risk assessment (DRA) compares projected water supply sources with projected water use over the next 20-years, in 5-year increments.

A vulnerability assessment is required as part of the DCP to understand the characteristics and potential risk of future droughts and to develop appropriate mitigation and response actions. Since future droughts cannot be predicted by observed past drought information, the inclusion of a climate change analysis is needed to provide the incorporation of historic and future climate projections to assess the hydrological impacts of climate change on drought conditions, thereby creating a more effective plan. The DCP requires either a qualitative and/or quantitative assessment of a range of potential drought conditions derived from climate change information to determine potential the risk to critical resources.

Imported water projections are also required for preparing both the UWMP and DCP. However, the imported water projections for Western's service area are being developed by Metropolitan Water District (Metropolitan) as part of their 2020 UWMP Drought Risk Assessment and the 2020 Integrated Resources Plan (IRP). The current (November 2020) draft of Metropolitan's 2020 UMWP Drought Risk Assessment indicates that no service reliability concerns are projected for imported water during normal and drought periods before 2045. For purposes of the UWMP, imported water supplies to Western can be assumed to be unchanged during normal years, single dry years and 5-year droughts.

However, the 2020 IRP considered a range of more extreme potential future scenarios, which include: low demands with stable imported supplies, high demand with stable imported supplies, low demand with reduced imported supplies, and high demand with reduced imported supplies. The analysis found that service reliability issues could occur more frequently and generate increasingly more severe deficits of imported supplies under the high future demand scenarios. Options for managing these imported water supplies deficits will be explored more extensively as part of regional analysis for the DCP.

1.2 Prior Climate Studies

Climate change is primarily caused by increasing global concentrations of greenhouse gases which lead to increases in temperature, disruption of the hydrologic cycle, and increased variability of precipitation. The regional impacts of climate change analyzed in two previous studies for the region, California's Fourth Climate Change Assessment and the United States Bureau of Reclamation (USBR) Santa Ana Watershed Study, are summarized in this section.

The state of California produces periodic assessments on the potential impacts of climate change in the state and reports on potential adaptation responses as required by Executive Order #S-03-05. California's Fourth Climate Change Assessment includes a Statewide Summary Report (Bedsworth et al., 2018), nine regional summary reports, a climate justice summary report, and over 40 technical reports which translate climate science into actionable adaptation and resilience policies and plans. The Los Angeles Regional Report (Hall et al., 2018) summarizes climate science, impacts, and adaptation information for Ventura, Los Angeles, Orange, and the western parts of San Bernardino and Riverside Counties. This study projects regional increases in average maximum temperatures of around four to five degrees Fahrenheit (° F) by the mid-21st century, and five to eight ° F by the late 21st century. The hottest days of the year could become up to 10° F warmer for many locations in the region by the late 21st century.

California's report also projects small changes in average annual precipitation, and in the recurrence of extreme dry and wet years. However, rainfall intensification could result in more severe atmospheric river events and rainfall increases of up to 25 to 30% on the wettest days of the year. While these assessments provide information on the magnitude of regional climate impacts, they do not provide information about climate change impacts at a scale that is directly applicable to local watersheds, water supplies, and demands.

The USBR conducted a study of local climate change impacts in the Santa Ana River Watershed (USBR, 2013). The study used a groundwater screening tool to simulate monthly water balance changes in the Orange County, Upper Santa Ana Valley, and Elsinore/San Jacinto groundwater basins. Historical monthly time series of precipitation over the groundwater basin as well as municipal and industrial

water demand were analyzed for the period 1990-2009. Future water supply was analyzed for the Santa Ana River Watershed using a hydrologic model to simulate streamflow using 112 different future climate conditions. The results show future increases in water demand and reservoir evaporation due to increased temperature. Smaller, long-term decreases in precipitation are also projected. The combined impacts of these changes include decreases in annual available surface water and increased reliance on groundwater. In the 2013 USBR study, groundwater was estimated to provide approximately 54% of total water supply.

The 2013 USBR study does not account for analysis methods instituted for studying and avoiding adverse impacts under California's Sustainable Groundwater Management Act (SGMA) which was passed by the state legislature in 2014. In particular, the 2013 USBR study used a transient climate change analysis method to generate a continuous future projection from the present through end of century. The results of a such a transient climate analysis cannot be used to analyze extreme events such as a single dry year or a multi-year drought as required under the UWMP regulations.

In summary, prior studies which include statewide and regional climate assessments provide relevant background information. However, they do not provide information on climate change impacts on local water supplies and demands within the Santa Margarita basin and other service areas outside of the Santa Ana basin or on the changing severity of future drought periods. This climate change vulnerability assessment aims to provide a uniform analysis of climate impacts for all areas of Western's service area for use in regional water supply and drought planning.

1.3 Study Objectives

The objectives of this vulnerability study are to:

1. Identify the appropriate datasets for use in this analysis,
2. Project the magnitude of climate-driven changes in water supply and demand for Western's service area, and
3. Estimate the projected future impacts using the climate change factors applied to the water supply sources and water demands in the service area.

Temperatures increases and changes in precipitation patterns with climate change are expected to shift the balance between local water supply and demand within Western's service area and other parts of the state. Increases in temperature lead to increases in consumptive water use for irrigated agriculture and to maintain landscaping for residential, commercial, and recreational use. This increase in consumptive water use is compounded by increases in the portion of rainfall that is evaporated back into the atmosphere from open spaces and water bodies and consumed by native vegetation outside of urban areas. In addition, population growth within the plan area could also lead to expansion of demand.

Annual precipitation in southern California is highly variable and a significant portion of the regional rainfall is concentrated in winter months from November to April. There are typically years with much greater than average precipitation and years with much less than average precipitation. During wet years, seasonal precipitation replenishes aquifers, streams, rivers, and reservoirs which are the sources of water supply. During dry years, there is increased extraction of groundwater reserves to make up the

deficit. Climate change is expected to increase the year-to-year variability in precipitation within the region as well as in other parts of the state from which imported water is sourced. The second objective of this vulnerability study is to estimate the severity of future water supply and demand changes during drought years for use in drought management and mitigation planning for Western's service area.

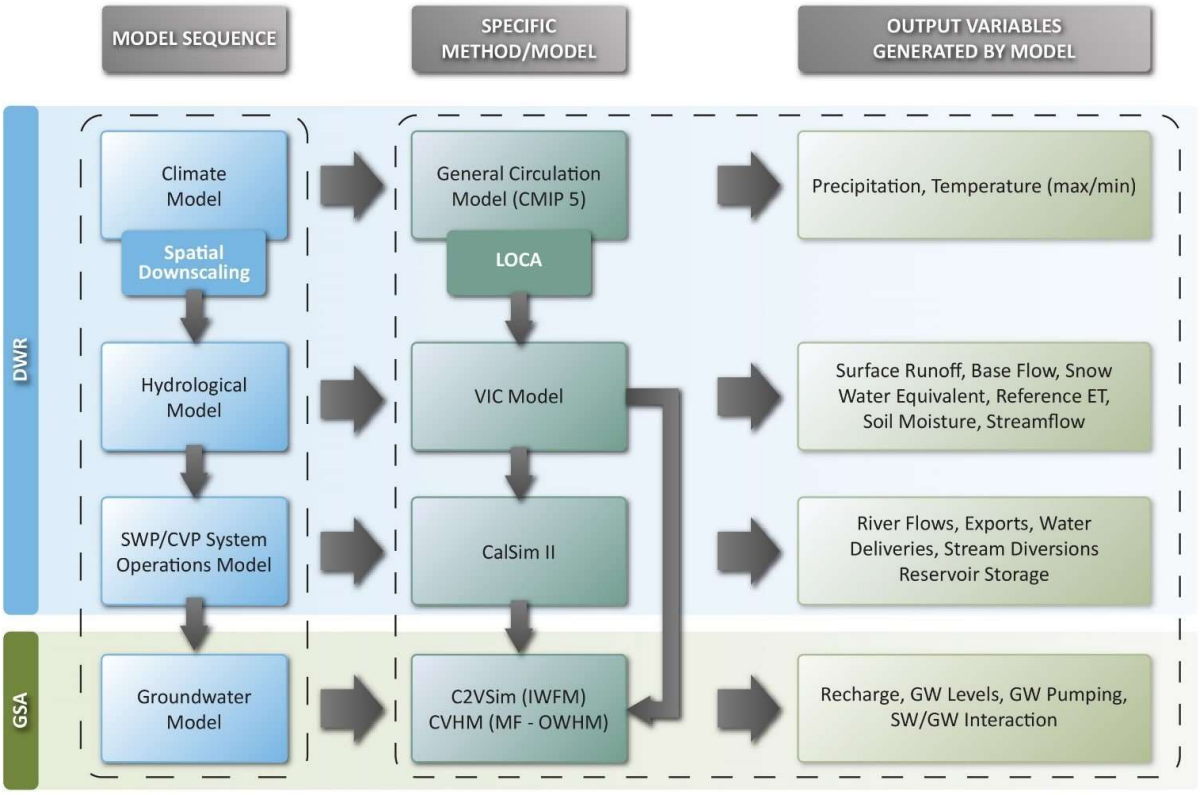
1.4 Description of Data Sources

DWR has developed statewide climate change datasets to for use in the water resource planning. The datasets depict climate conditions in California under historical and future climate conditions which are defined as follows:

- Year 2030 future condition with projected climate and sea level conditions for a 30-year period, centered at 2030
- Year 2070 future condition with projected climate and sea level conditions for a 30-year period, centered at 2070
- Year 1995 historical condition with climate and sea level conditions for a 30-year period, centered at 1995

The 2030 and 2070 climate projections are based on an ensemble of 20 global climate projections selected by the DWR Climate Change Technical Advisory Group (CCTAG) as the most appropriate projections for California water resources evaluation and planning (DWR CCTAG, 2015). The datasets are provided at a spatial resolution of 1/16th degree (approximately 3.75-mile grid cells) over California for each calendar month from 1915 through 2011.

Figure 1 shows an overview of the modeling processes used by DWR (highlighted with a blue background) in creating the statewide climate datasets which are used in this study. The lower section of the image (highlighted with a green background) shows how individual groundwater sustainability agencies are expected to use the data in groundwater models to model groundwater conditions as they collaborate to attain sustainability objectives.



DWR: Department of Water Resources; GSA: Groundwater Sustainability Agency; SWP: State Water Project; CVP: Central Valley Project; LOCA: Localized Constructed Analogs; VIC: Variable Infiltration Capacity; CalSim: SWP & CVP Operations Model; C2VSim: California Central Valley Groundwater - Surface Water Simulation Model; IWFM: Integrated Water Flow Model; CVHM: Central Valley Hydrologic Model; MF - OWHM: MODFLOW One Water Hydrologic Flow Model; ET: Evapotranspiration, SW: Surface Water; GW: Groundwater; CMIP 5: Coupled Model Intercomparison Project

Figure 1: Overview of Modeling Processes Used by DWR in Creating the Statewide Climate Datasets (SOURCE: DWR, 2018).

DWR has also run the climate datasets run through a hydrologic model called the Variable Infiltration Capacity (VIC) model to simulate future hydrologic conditions and route runoff to the outlet of subbasins defined by each eight-digit Hydrologic Unit Code (HUC) in California. Streamflow change projections from the VIC model are provided as monthly time series from 1915 through 2011 for each eight-digit HUC subbasin. As illustrated in Figure 2, the VIC model takes input climate variables such as precipitation and temperature, and it performs a series of hydrologic computations within each cell to output variables such as soil moisture, evapotranspiration, and surface runoff within each cell. The RVIC routing algorithm is then used to route runoff from each cell to its associated subbasin outlet.

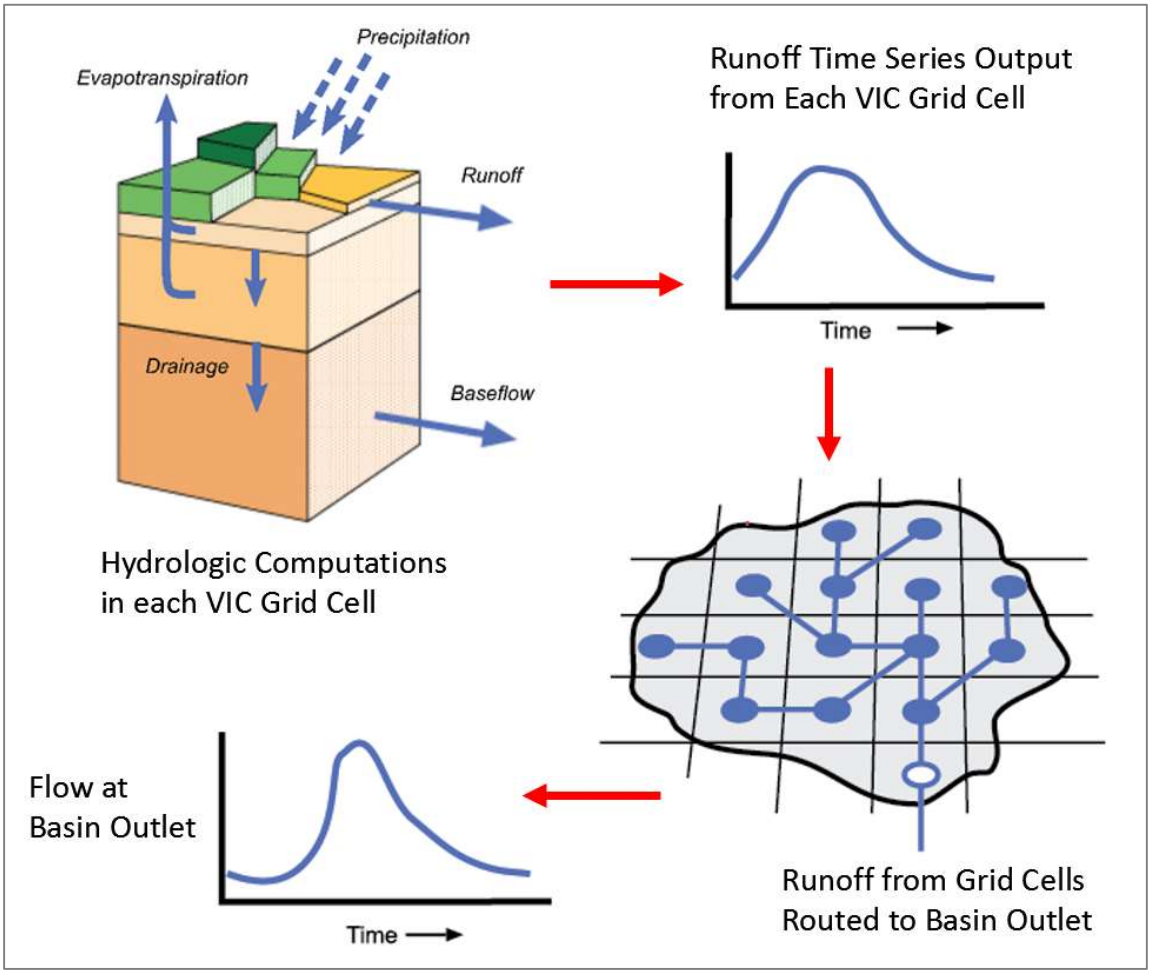


Figure 2: Schematic of the VIC Model Showing Hydrologic Computations Within Each Grid Cell and Runoff Routing

DWR has applied the VIC model to perform hydrologic simulations under historical climate conditions and under projected future climate conditions in 2030 and 2070 over 8,000 grid cells statewide. Runoff from these grid cells have also been routed to the outlet of each eight-digit HUC watersheds in the state for use in the water resource planning.

As previously shown in Figure 1, climate assessments are performed with a chain of models, each of which introduces some biases in the modeling process and derived products. To minimize the impact of such biases in decision processes, DWR presents the simulated climate projections in terms of relative change from historical conditions rather than as absolute values. For example, each monthly precipitation value simulated under 2030 conditions is divided by the precipitation value simulated for the same month under historical conditions, using the same chain of models. The resulting ratio of a simulated future value to the corresponding simulated historical value is referred to as a change factor. DWR has computed monthly time series of change factors for precipitation and evapotranspiration in each VIC grid cell and the streamflow for each HUC-8 watershed. The resulting change factor datasets are available for retrieval and use in water resources planning from the publicly accessible SGMA Data Viewer (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer). A more complete description

of methods used in computing the climate datasets is provided in a publication entitled "Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development" (California DWR, 2018).

2. CLIMATE ANALYSIS APPROACH

2.1. Preprocessing Data for Western's Service Area

The statewide climate datasets include 57 grid cells each with a spatial resolution of 1/16th degree (approximately 3.75-mile) for Western's service area are shown in Figure 3.

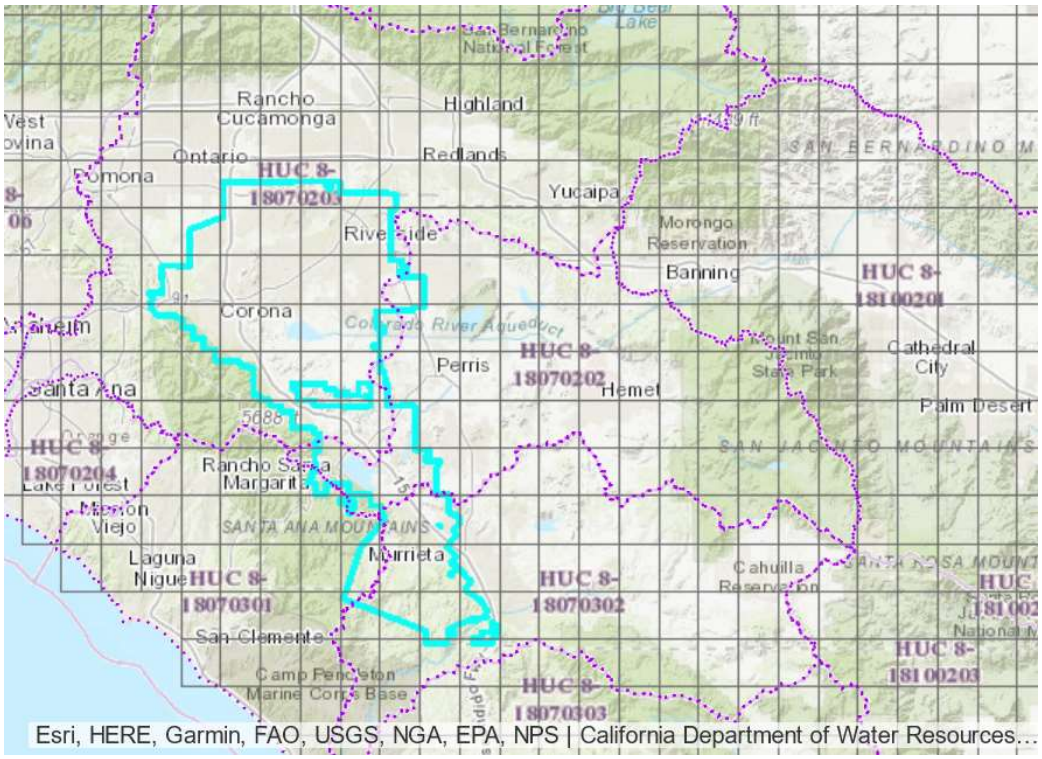


Figure 3: Climate Grid Cells and Watersheds Covering Western's service area.

Each grid cell contains 97 years of monthly time series (1915 to 2011) showing projected precipitation and evapotranspiration changes under 2030 and 2070 climate conditions relative to 1995 conditions. The area of each grid cell which falls within the service area is estimated by spatially intersecting feature layers of the climate grid and Western's service area boundary. Regional time series of projected precipitation and evapotranspiration changes are computed from the cell time series by using an area-weighted average of data from grid cells which fall wholly or partially within the service area. Projections of future streamflow change were also retrieved for the Santa Ana River (HUC- 18070203) and the Santa Margarita River (HUC- 18070302) basins which provide surface water supplies to portions of the service area.

2.2. Analysis of Normal, Single, and Multi-Year Drought Periods

Every urban water supplier is required to assess water service reliability in normal year, single-dry year, and multiple-dry years lasting 5-years. For imported water supplies, the normal and dry years used by Metropolitan are adopted for Western since it is the largest source of imported water. For local water supplies, year types are selected by reviewing time series data at two local precipitation gauges with long time historical records. The monthly time series for the gauge at Riverside Fire Station 3 are available online in the California DWR Bulletin 195 from back as far back as 1882 but were last updated in 2007. The CIMIS #44 gauge has more current data available from 1986 to present. For this analysis, the Riverside FS3 gauge is used because it has full coverage of the normal period of record (1922 to 2004) used in the imported water analysis.

Table 1: Analysis Periods for Normal, Single and Multi-Year Droughts

Year Type	Imported Supplies	Riverside FS3 Gauge	CIMIS #44 Gauge
Normal	1922 - 2004	1922 - 2004	1986 - 2020
Single Dry-Year	1977	1989	2007
Five-Year Drought	1988 - 1992	1971 - 1975	2005 - 2009

The results shown in Table 1 indicate that 1989 was the single driest year locally, while 1977 was the driest year for imported water. The driest 5-year period for local supplies was from 1971 to 1975, while imported water supplies were lowest from 1988 to 1992. Year types for the CIMIS #44 gauge are also provided in the table for reference.

2.3. Computing Water Supply Change Factors

Local water sources used within Western's service area include local groundwater from 12 different groundwater basins, surface water supplies from Santa Ana River and the Santa Margarita River basins, recycled water from indoor water use, and reclaimed groundwater. Groundwater systems are recharged through a variety of water sources. These sources of recharge can be described as:

- Natural recharge is the portion of precipitation that infiltrates to the underlying aquifer within the same grid cell in which precipitation occurs. Changes in natural recharge are directly related to changes in precipitation in the grid cell.
- Artificial recharge (including injection systems)) is water that is diverted from rivers and streams for the purpose of replenishing the underlying aquifer. Since artificial recharge relies on surface water and other remotely sourced water supplies, it is influenced by accumulative flow changes in the source watersheds.

Supplies of recycled water and reclaimed water which are sourced from indoor uses are largely insensitive to changes in climate. For this analysis, three different sets of climate change results are

computed for use with natural recharge, the Santa Ana River, and the Santa Margarita River sources, respectively.

For characterization of future changes in natural recharge, precipitation change projections from the DWR-provided climate change dataset is used. The 97-year monthly time series of precipitation for Western's service area is used to compute Water Supply Change Factors which show percentage changes in mean monthly and mean annual precipitation under future 2030 and 2070 climate conditions relative to historical conditions under 1995 conditions. The 2030 and 2070 Water Supply Change Factors for natural recharge are computed for normal year, single dry year, and 5-year drought periods.

Characterization of future changes in the Santa Ana and Santa Margarita River basins are based on streamflow projections from the VIC model under 2030 and 2070 climate conditions. The streamflow projections are used to compute Water Supply Change Factors which show percentage changes in mean monthly and mean streamflow under future 2030 and 2070 climate conditions relative to historical conditions under 1995 conditions. Change factors are similarly computed for normal year, single dry year, and 5-year drought periods.

Each set of Water Supply Change Factors is interpolated at 5-year intervals from 2020 to 2045. The 1995 to 2011 conditions are used to project climate change conditions out to 2030. Linear interpolation is used to determine the climate change factors between 2020 and 2030, based on the historic conditions from 2011 and the projected conditions for 2030. Different climate change conditions are anticipated between 2030 and 2070 because of the implementation of policies and practices that are expected to influence the rate of climate change further out in time. For the years between 2030 and 2070, linear interpolation is used for the 5-year increments based on the difference in projected conditions at 2030 and the projected conditions at 2070. Time series of Water Supply Change Factors are similarly interpolated at 5-year intervals for normal year, single dry year, and 5-year drought periods for application to local water sources for 2020 to 2045.

2.4 Computing Water Demand Change Factors

Indoor and outdoor water uses are computed separately when considering climate impacts. Outdoor water use, particularly landscape irrigation, is sensitive to changes in climate while indoor water use is generally not sensitive. Plants require more water to sustain growth in a warmer climate, and users respond to increases in temperature by increasing landscape irrigation to keep their plants alive and flourishing. This increase in water requirement is characterized in climate models using the rate of evapotranspiration which represents total amount of water released from soil, plants, and water bodies from the land surface to the atmosphere through evaporation and transpiration.

The DWR datasets includes 57 grid cells each with a spatial resolution of 1/16th degree (approximately 3.75-mile) for Western's service area. Each grid cell contains 96 years of monthly time series (1915 to 2011) showing projected evapotranspiration changes under 2030 and 2070 climate conditions. An area-weighted average of the evapotranspiration data from the 57 cells is first computed to generate a single time series for Western's service area. The regional time series is used to compute Water Demand Change Factors which show percentage changes in mean monthly and mean annual evapotranspiration under future 2030 and 2070 climate conditions relative to historical conditions under 1995 conditions.

Similar values of 2030 and 2070 Water Demand Change Factors are computed for normal year, single dry year, and 5-year drought periods.

The Water Demand Change Factors are computed for 5-year intervals from 2020 to 2045 by interpolation. The 1995 to 2011 conditions are used to project climate change conditions out to 2030. Linear interpolation is used to determine the climate change factors between 2020 and 2030, based on the historic conditions from 2011 and the projected conditions for 2030. Different climate change conditions are anticipated between 2030 and 2070 because of the implementation of policies and practices that are expected to influence the rate of climate change further out in time. For the years between 2030 and 2070, linear interpolation is used for the 5-year increments based on the difference in projected conditions at 2030 and the projected conditions at 2070. The 5-year time series of Water Demand Change Factors are similarly interpolated for normal year, single dry year, and 5-year drought periods for application to growth adjusted indoor water use projections for 2020 to 2045.

3. LOCAL CLIMATE CHANGE RESULTS

3.1. Water Supply Change Factor Results

The water supply change factors for precipitation and natural recharge are shown in Table 2. For normal years, precipitation and natural recharge are initially projected to decrease during the first decade before stabilizing during the second decade. The maximum projected range of decrease for normal year values is 1.7 percent. However, the projections show that droughts will initially be less severe from the perspective of local rainfall and recharge for the single dry year with increases of up to 1 percent. Recharge during 5-year droughts is projected to decrease by up to 2.3 percent by 2045.

Table 2: Water Supply Change Factors for Precipitation and Natural Recharge with 2020 as the Baseline Year

Year	Normal	Dry	5-year Dry
2020	100.0%	100.0%	100.0%
2025	99.1%	100.5%	99.5%
2030	98.3%	101.0%	98.9%
2035	98.5%	100.8%	98.5%
2040	98.7%	100.7%	98.1%
2045	98.9%	100.5%	97.7%

Table 3 shows the effects climate change on water supply change factors for use with the Santa Ana River basin water supplies using 2020 as the baseline year. Flows are projected to decrease for normal,

single dry, and multi-year periods. Normal year flows are projected to gradually decrease by up to 3.1 percent by 2045. Flow decreases of up to 7.2 percent during single dry years and 5.5 percent during multi-year droughts are projected by 2045.

Table 3: Water Supply Change Factors for the Santa Ana River Flows with 2020 as the Baseline Year

Year	Normal	Dry	5-year Dry
2020	100.0%	100.0%	100.0%
2025	99.6%	99.6%	99.0%
2030	99.1%	99.2%	98.1%
2035	98.4%	97.1%	96.9%
2040	97.6%	94.9%	95.7%
2045	96.9%	92.8%	94.5%

Table 4 shows the effects climate change on water supply change factors for the Santa Margarita River basin supplies using 2020 as the baseline year. The projected changes in normal year flows are very similar to those in the Santa Ana River basin with decreases reaching 3.6 percent by 2045. Flow decreases of up to 5 percent during single dry years and 5-year droughts are projected by 2045.

Table 4: Water Supply Change Factors for the Santa Margarita River Flows with 2020 as the Baseline Year

Year	Normal	Dry	5-year Dry
2020	100.0%	100.0%	100.0%
2025	99.7%	99.9%	99.5%
2030	99.3%	99.8%	98.9%
2035	98.4%	98.2%	97.6%
2040	97.4%	96.6%	96.3%
2045	96.4%	95.0%	95.0%

These water supply change projections indicate that as climate change progresses, local water systems which rely on natural recharge are likely to become more reliable water supply sources, while river supplies that are water sources for artificial recharge are likely to become less reliable. Natural groundwater recharge will still occur in normal and dry year, but the timing of available water will change as precipitation will increasingly fall during a shorter rainy season with a longer dry season each year. Furthermore, the increase in temperatures over time will also lead to increases in evaporation from surface water bodies and land surface which will decrease the volume of water available for diversion from rivers. diversions from rivers. Increased attention should be paid to understanding the adequacy and operational constraints of natural and artificial recharge systems in the service area.

3.2 Water Demand Change Factors Results

Table 5 shows water demand change factors for outdoor water uses for Western's service area. The impacts of climate change on outdoor water demand are projected to be similar during normal and drought years over the next two decades. This is because climate change datasets show that temperatures are projected to increase over time, regardless of hydrologic conditions. These projected increases in temperature are estimated to increase ET rates for landscaping, irrigated agriculture, and native vegetation. For all year types, outdoor water use is projected to increase by about 3 percent during the next two decades.

Table 5: Water Demand Change Factors for Outdoor Water Uses with 2020 as the Baseline Year

Year	Normal	Dry	5-year Dry
2020	100.0%	100.0%	100.0%
2025	100.6%	100.6%	99.8%
2030	101.2%	101.3%	101.2%
2035	101.8%	101.9%	101.8%
2040	102.4%	102.5%	102.4%
2045	103.1%	103.2%	103.0%

The water demand change factors are applied to outdoor water uses, which have been adjusted for future population growth and conservation measures. Indoor water uses are assumed to respond to future population growth and conservation as well but are not sensitive to climate change.

4. APPLYING RESULTS TO LOCAL WATER ANALYSIS

4.1. Computing Future Water Supply and Demand

Climate change impacts on future water supplies and demands must be considered by Western and its retail agencies when preparing the 2020 updates to their respective UWMPs, in accordance with California Water Code requirements, and will also inform development of the DCP.

This technical memo provides Western and its retail agencies with the ability to utilize the data in the DWR climate change projections and methods of climate change analysis for Western's service area to evaluate the impacts of climate change either qualitatively or quantitatively. If quantitative methods are used, computations needed to convert the percent change results presented in this memo into quantitative estimates of future water supply and demand are provided as worksheets included as Appendix A of this report. The worksheets consist of the following six tables:

- Table A1: Normal Year Water Supply Projections
- Table A2: Single Dry Year Water Supply Projections
- Table A3: Multi-Year Drought Water Supply Projections
- Table A4: Normal Year Water Demand Projections
- Table A5: Single Dry Year Water Demand Projections
- Table A6: Multi-Year Drought Water Demand Projections

If an agency desires to use these worksheets, an agency would enter its baseline water supply and demand values in Section 1 of each table. Section 2 of each table is prepopulated with the regional water supply and demand change factor results. Instruction for finalizing future water supply and demand values by multiplying values from section 1 with corresponding values from Section 2 of each table are includes in the "Notes" column of each table.

While not required for preparing the UWMPs, monthly change factors are useful for understanding how seasonal changes are contributing to the annual changes discussed in Section 3 of this report. Monthly values are also useful for planning management actions and mitigation actions in the DCP. Monthly water supply and demand change factors computed for the service area are presented in Appendix B which consists of the following six tables:

- Table B1: Monthly Water Supply Change Factors for Normal Year
- Table B2: Monthly Water Supply Change Factors for Single Dry Year
- Table B3: Monthly Water Supply Change Factors for Multi-Year Drought
- Table B4: Monthly Water Demand Change Factors for Normal Year
- Table B5: Monthly Water Demand Change Factors for Single Dry Year
- Table B6: Monthly Water Demand Change Factors for Multi-Year Drought

4.2. Constraints and Limitations

This technical memo presents planning-level projections of climate impacts on water supplies and demand for Western's service area during normal and drought periods. The results are intended for

use by Western in preparing climate-impacted water supply and demand projections for its wholesale UWMP and the regional DCP. This memo is also available for Western's retail agencies to use in their respective 2020 UWMPs if they choose to use the DWR climate change factors rather than another method of estimating projected climate change impacts to supply and demand. These agencies are required to develop adaptive management actions and projects as part of their 2020 UWMPs to address any deficits in future supply relative to future demand.

This analysis of future climate impacts on water supplies and demands is based on the median projected change from the majority of the climate models selected for water resources planning in California. DWR has also developed two more extreme climate scenarios for 2070, which were not used in the analysis presented in this technical memo. The first extreme scenario uses future projections from the 10 global climate models with least warming and least precipitation while the second extreme scenario using the 10 global models with the most warming and highest precipitation. These extreme scenarios have not been used in this round of planning. However, it would be prudent to analyze the extreme scenarios when preparing longer range plans and projects beyond mid-century.

The results are not intended for use in other applications such as flood resilience planning, infrastructure design, or for making decisions about operating any specific structure. Flood resilience planning requires analysis of daily or finer temporal resolution using statistical methods to fit frequency distributions to extreme values. Infrastructure design and operations applications require more detailed analysis and ground-truthing of site-specific characteristics, operations and regulations that are not considered in this report.

Climate change can also impact water resources indirectly. For example, wildfire hazards are projected to increase in southern California with climate change. Wildfires can impact water resources by increasing water requirements for firefighting, changing surface vegetation and runoff patterns in burn areas, causing debris flows, and increasing siltation of reservoirs and hydraulic structures. Such secondary impacts of climate change on water resource are not captured in this study.

Future water supplies and demands can also be impacted by policy and regulatory decisions made at the local, state, and federal level. It is difficult to anticipate and quantify the impacts of policy and regulatory considerations that have not yet been made. Therefore, it is not the intention of this report to anticipate future policy or regulatory decisions and their impacts to future water supplies or demands.

4.3. Next Steps

The next step in the planning process is for Western and its member agencies to use the change factors and analysis provided in this technical memorandum, if desired, to compute quantitative estimates of future supplies and demands during normal and drought years, incorporating the effects of climate change. The net change in future water supply for each member agency will depend on the percentage of their local water supply that is sourced from the direct precipitation and natural recharge, Santa Margarita, or Santa Ana basins. Similarly, the net change in future water demand will depend on the percentage of outdoor water use and projections of future growth within each member agency's service area. The difference between net future water supply and net future water demand, if any, is the net water deficit that the agency will need to address by developing new management actions and

projects. A calculated deficit, if any, would represent the minimum gap that would need to be addressed; however, it is prudent for water managers to consider additional management actions and projects to prepare for uncertain future conditions.

This technical memo provides Western and its retail agencies with the ability to utilize the data in the DWR climate change projections and methods of climate change analysis for Western's service area to evaluate the impacts of climate change either qualitatively or quantitatively. Should a retail agency choose to use the analysis presented in this technical memo, the agency may use the forms provided in Appendices A and B to compute quantitative estimates of their future water supplies, demands and deficits. For use in the DCP, the projections used in each agency's UWMP will be aggregated and quantitative estimations of the magnitude and location of regional water supplies, demands and deficits. The aggregated regional quantitative results would be discussed during future workshops to inform development of the DCP, regional project planning, and estimation of import requirements.

References

Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja, 2018. Statewide Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-013.

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US Bureau of Reclamation, 2013, Climate Change Analysis for the Santa Ana River Watershed, Santa Ana Watershed Basin Study, California. Technical Memorandum No. 86-68210-2013-02.

Appendix A: Projection Worksheets

Table A1: Normal Year Water Supply Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	Normal Year	Current Water Supply from Natural Recharge (AFY)						Repeat 2020 Value for All Years
1b	Normal Year	Current Water Supply from Santa Ana River (AFY)						Repeat 2020 Value for All Years
1c	Normal Year	Current Water Supply from Santa Margarita River (AFY)						Repeat 2020 Value for All Years
2a	Normal Year	Water Supply Change Factor for Natural Recharge	99.1%	98.3%	98.5%	98.7%	98.9%	From Memo Results
2b	Normal Year	Water Supply Change Factor for Santa Ana River	99.6%	99.1%	98.4%	97.6%	96.9%	From Memo Results
2c	Normal Year	Water Supply Change Factor for Santa Margarita River	99.7%	99.3%	98.4%	97.4%	96.4%	From Memo Results
3a	Normal Year	Future Water Supply from Natural Recharge						Multiply Row 1a by Row 2a
3b	Normal Year	Future Water Supply from Santa Ana River (AFY)						Multiply Row 1b by Row 2b
3c	Normal Year	Future Water Supply from Santa Margarita River (AFY)						Multiply Row 1c by Row 2c
4	**Normal Year**	**Total Future Water Supply from Local Sources**						**Sum of Rows 3a, 3b and 3c**

Table A2: Single Dry Year Water Supply Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	Single Dry Year	Current Water Supply from Natural Recharge (AFY)						Repeat 2020 Value for All Years
1b	Single Dry Year	Current Water Supply from Santa Ana River (AFY)						Repeat 2020 Value for All Years
1c	Single Dry Year	Current Water Supply from Santa Margarita River (AFY)						Repeat 2020 Value for All Years
2a	Single Dry Year	Water Supply Change Factor for Natural Recharge						From Memo Results
2b	Single Dry Year	Water Supply Change Factor for Santa Ana River						From Memo Results
2c	Single Dry Year	Water Supply Change Factor for Santa Margarita River						From Memo Results
3a	Single Dry Year	Future Water Supply from Natural Recharge (AFY)	100.5%	101.0 %	100.8%	100.7%	100.5%	Multiply Row 1a by Row 2a
3b	Single Dry Year	Future Water Supply from Santa Ana River (AFY)	99.6%	99.2%	97.1%	94.9%	92.8%	Multiply Row 1b by Row 2b
3c	Single Dry Year	Future Water Supply from Santa Margarita River (AFY)	99.9%	99.8%	98.2%	96.6%	95.0%	Multiply Row 1c by Row 2c
4	**Single Dry Year**	**Total Future Water Supply from Local Sources (AFY)**						**Sum of Rows 3a, 3b and 3c**

Table A3: Multi-Year Drought Water Supply Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	5-Year Drought	Current Water Supply from Natural Recharge (AFY)						Repeat 2020 Value for all Years
1b	5-Year Drought	Current Water Supply from Santa Ana River (AFY)						Repeat 2020 Value for all Years
1c	5-Year Drought	Current Water Supply from Santa Margarita River (AFY)						Repeat 2020 Value for all Years
2a	5-Year Drought	Water Supply Change Factor for Natural Recharge	99.5%	98.9%	98.5%	98.1%	97.7%	From Memo Results
2b	5-Year Drought	Water Supply Change Factor for Santa Ana River	99.0%	98.1%	96.9%	95.7%	94.5%	From Memo Results
2c	5-Year Drought	Water Supply Change Factor for Santa Margarita River	99.5%	98.9%	97.6%	96.3%	95.0%	From Memo Results
3a	5-Year Drought	Future Water Supply from Natural Recharge (AFY)						Multiply Row 1a by Row 2a
3b	5-Year Drought	Future Water Supply from Santa Ana River (AFY)						Multiply Row 1b by Row 2b
3c	5-Year Drought	Future Water Supply from Santa Margarita River (AFY)						Multiply Row 1c by Row 2c
4	**5-Year Drought**	**Total Future Water Supply from Local Sources (AFY)**						**Sum of Rows 3a, 3b and 3c**

Table A4: Normal Year Water Demand Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	Normal Year	Growth-Adjusted Outdoor Water Demand (AFY)						Different for Each Year
1b	Normal Year	Growth-Adjusted Indoor Water Demand (AFY)						Different for Each Year
2a	Normal Year	Water Demand Change Factor for Outdoor Use	100.6%	101.2%	101.8%	102.4%	103.1%	From Memo Results
3a	Normal Year	Climate-Adjusted Future Water Demand (AFY)						(Row 1a * Row 2a) + Row1b
3b	Normal Year	Climate-Adjusted Future Water Demand (AFY)						(Row 1a * Row 2a) + Row1b
4	**Normal Year**	**Total Climate-Adjusted Water Demand**						**Sum of Rows 3a, 3b and 3c**

Table A5: Single Dry Year Water Demand Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	Single Dry Year	Growth-Adjusted Outdoor Water Demand (AFY)						Different for Each Year
1b	Single Dry Year	Growth-Adjusted Indoor Water Demand (AFY)						Different for Each Year
2a	Single Dry Year	Water Demand Change Factor for Outdoor Use	100.6%	101.3%	101.9%	102.5%	103.2%	From Memo Results
3a	Single Dry Year	Climate-Adjusted Future Water Demand (AFY)						(Row 1a * Row 2a) + Row1b
3b	Single Dry Year	Climate-Adjusted Future Water Demand (AFY)						(Row 1a * Row 2a) + Row1b
4	**Single Dry Year**	**Total Climate-Adjusted Water Demand**						**Sum of Rows 3a, 3b and 3c**

Table A6: Multi-Year Drought Water Demand Projections

Agency: _____

Notes: _____

Row	Year Type	Variable	2025	2030	2035	2040	2045	Notes
1a	Multi-Year Drought Year 1	Growth-Adjusted Outdoor Water Demand (AFY)						Enter Future Demand
1b	Multi-Year Drought Year 2	Growth-Adjusted Outdoor Water Demand (AFY)						Enter if Different from 1a
1c	Multi-Year Drought Year 3	Growth-Adjusted Outdoor Water Demand (AFY)						Enter if Different from 1a
1d	Multi-Year Drought Year 4	Growth-Adjusted Outdoor Water Demand (AFY)						Enter if Different from 1a
1e	Multi-Year Drought Year 5	Growth-Adjusted Outdoor Water Demand (AFY)						Enter if Different from 1a
1f	Normal Year	Growth-Adjusted Indoor Water Demand (AFY)						Enter Future Demand
2a	5-Year Drought	Water Demand Change Factor	99.8%	101.2%	101.8%	102.4%	103.0%	From Memo Results
3a	Multi-Year Drought Year 1	Climate-Adjusted Future Water Demand (AFY)						(Row 1a * Row 2a) + Row 1f
3b	Multi-Year Drought Year 2	Growth-Adjusted Outdoor Water Demand (AFY)						(Row 1b * Row 2a) + Row 1f
3c	Multi-Year Drought Year 2	Growth-Adjusted Outdoor Water Demand (AFY)						(Row 1c * Row 2a) + Row 1f
3d	Multi-Year Drought Year 2	Growth-Adjusted Outdoor Water Demand (AFY)						(Row 1d * Row 2a) + Row 1f
3e	Multi-Year Drought Year 2	Growth-Adjusted Outdoor Water Demand (AFY)						(Row 1e * Row 2a) + Row 1f

Appendix B: Monthly Change Factors

Table B1: Monthly Water Supply Change Factors for Normal Year

Precipitation and Natural Recharge

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.5%	99.4%	100.0%	100.4%	96.2%	99.5%	99.3%	100.8%	100.6%	96.4%	97.9%	99.0%
2030	101.0%	98.9%	100.0%	100.8%	92.3%	99.0%	98.7%	101.6%	101.2%	92.8%	95.8%	98.0%
2035	101.9%	99.2%	99.3%	97.7%	90.7%	98.3%	100.7%	102.6%	103.7%	91.5%	93.3%	97.3%
2040	102.7%	99.5%	98.5%	94.6%	89.0%	97.6%	102.8%	103.6%	106.1%	90.3%	90.9%	96.6%
2045	103.5%	99.7%	97.8%	91.5%	87.3%	97.0%	104.8%	104.5%	108.6%	89.0%	88.4%	95.9%

Santa Ana River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.6%	100.1%	99.3%	97.7%	96.2%	98.0%	99.4%	100.2%	100.5%	99.4%	98.9%	99.6%
2030	101.1%	100.3%	98.5%	95.4%	92.3%	95.9%	98.7%	100.4%	100.9%	98.9%	97.8%	99.2%
2035	101.2%	100.2%	97.3%	92.7%	89.8%	94.9%	98.4%	100.3%	101.8%	98.6%	96.9%	97.9%
2040	101.2%	100.2%	96.2%	90.0%	87.3%	93.9%	98.1%	100.1%	102.7%	98.3%	96.0%	96.6%
2045	101.3%	100.2%	95.0%	87.2%	84.7%	92.9%	97.8%	100.0%	103.6%	97.9%	95.1%	95.4%

Santa Margarita River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.3%	99.8%	99.5%	99.1%	98.8%	99.5%	99.6%	100.3%	100.3%	99.4%	98.9%	99.5%
2030	100.6%	99.6%	99.0%	98.2%	97.6%	99.0%	99.2%	100.6%	100.5%	98.9%	97.9%	98.9%
2035	100.4%	99.0%	97.5%	96.1%	96.2%	98.2%	99.0%	100.3%	101.4%	98.6%	96.9%	97.3%
2040	100.1%	98.4%	96.0%	94.0%	94.9%	97.5%	98.8%	99.9%	102.2%	98.3%	95.9%	95.7%
2045	99.9%	97.8%	94.5%	91.8%	93.6%	96.8%	98.5%	99.6%	103.0%	98.0%	94.9%	94.1%

Table B2: Monthly Water Supply Change Factors for Single Dry Year

Precipitation and Natural Recharge

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.9%	98.5%	100.7%	105.5%	98.1%	99.9%	100.0%	100.4%	100.0%	99.1%	99.8%	100.1%
2030	101.9%	97.1%	101.5%	111.1%	96.1%	99.8%	100.0%	100.8%	100.0%	98.2%	99.6%	100.2%
2035	102.8%	97.0%	100.9%	104.8%	95.2%	100.1%	100.0%	99.2%	100.0%	98.9%	94.4%	98.3%
2040	103.7%	96.9%	100.4%	98.6%	94.4%	100.4%	100.0%	97.6%	100.0%	99.5%	89.1%	96.5%
2045	104.6%	96.8%	99.8%	92.3%	93.5%	100.7%	100.0%	96.1%	100.0%	100.2%	83.9%	94.6%

Santa Ana River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	101.4%	98.1%	100.2%	98.1%	96.0%	96.5%	99.2%	100.5%	98.0%	98.9%	99.1%	98.4%
2030	102.8%	96.2%	100.4%	96.1%	91.9%	93.0%	98.4%	101.1%	96.0%	97.7%	98.3%	96.8%
2035	105.4%	95.8%	99.9%	94.3%	90.2%	91.9%	98.2%	99.9%	96.0%	97.6%	97.9%	94.4%
2040	108.0%	95.5%	99.5%	92.5%	88.4%	90.9%	98.0%	98.7%	95.9%	97.4%	97.5%	91.9%
2045	110.6%	95.1%	99.0%	90.7%	86.7%	89.8%	97.8%	97.6%	95.9%	97.3%	97.0%	89.4%

Santa Margarita River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	99.0%	98.8%	100.2%	99.7%	96.1%	99.0%	99.5%	104.8%	100.3%	100.1%	100.1%	100.5%
2030	98.0%	97.5%	100.4%	99.3%	92.3%	98.1%	99.0%	109.6%	100.7%	100.2%	100.3%	101.0%
2035	99.5%	97.8%	99.0%	98.7%	90.4%	97.6%	98.8%	104.0%	100.2%	99.9%	100.0%	97.6%
2040	100.9%	98.0%	97.7%	98.1%	88.5%	97.1%	98.6%	98.3%	99.6%	99.6%	99.7%	94.2%
2045	102.4%	98.3%	96.4%	97.4%	86.6%	96.7%	98.3%	92.7%	99.1%	99.3%	99.4%	90.9%

Table B3: Monthly Water Supply Change Factors for Multi-Year Drought

Precipitation and Natural Recharge

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.8%	100.2%	99.5%	100.8%	95.5%	100.1%	99.4%	100.2%	101.3%	96.1%	98.9%	98.1%
2030	101.6%	100.4%	98.9%	101.6%	91.0%	100.1%	98.7%	100.3%	102.7%	92.2%	97.8%	96.3%
2035	102.2%	100.5%	98.8%	98.7%	89.6%	99.0%	101.0%	100.6%	106.5%	90.4%	94.8%	96.3%
2040	102.7%	100.7%	98.6%	95.8%	88.1%	97.9%	103.3%	100.8%	110.4%	88.6%	91.8%	96.4%
2045	103.3%	100.9%	98.5%	92.9%	86.7%	96.7%	105.6%	101.1%	114.2%	86.8%	88.8%	96.4%

Santa Ana River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.8%	99.9%	99.2%	97.6%	96.5%	98.5%	99.5%	100.0%	100.0%	99.1%	99.3%	100.4%
2030	101.6%	99.8%	98.3%	95.2%	93.0%	96.9%	99.1%	100.1%	99.9%	98.3%	98.6%	100.7%
2035	102.2%	100.2%	97.6%	93.0%	90.9%	96.3%	98.9%	100.0%	100.3%	97.7%	97.8%	99.6%
2040	102.9%	100.5%	96.9%	90.7%	88.8%	95.7%	98.8%	99.9%	100.7%	97.2%	96.9%	98.4%
2045	103.5%	100.9%	96.2%	88.5%	86.6%	95.1%	98.6%	99.8%	101.1%	96.7%	96.1%	97.3%

Santa Margarita River Basin

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	100.4%	99.6%	99.1%	98.2%	98.7%	99.3%	99.6%	100.4%	99.9%	99.7%	99.6%	99.8%
2030	100.8%	99.2%	98.2%	96.3%	97.5%	98.6%	99.2%	100.8%	99.9%	99.3%	99.2%	99.7%
2035	101.2%	98.7%	97.1%	94.5%	96.4%	98.0%	99.0%	100.3%	100.1%	99.0%	98.7%	98.0%
2040	101.5%	98.2%	96.0%	92.7%	95.4%	97.4%	98.8%	99.8%	100.3%	98.7%	98.2%	96.3%
2045	101.9%	97.7%	95.0%	90.9%	94.4%	96.8%	98.6%	99.3%	100.5%	98.5%	97.7%	94.6%

Table B4: Monthly Water Demand Change Factors for Normal Year

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	101.0%	100.7%	100.4%	100.5%	100.8%	100.5%	100.5%	100.5%	100.6%	100.7%	100.9%	101.0%
2030	102.1%	101.3%	100.9%	101.1%	101.7%	101.1%	100.9%	101.1%	101.2%	101.4%	101.8%	102.0%
2035	102.8%	102.1%	101.6%	101.8%	102.4%	101.7%	101.3%	101.5%	101.6%	102.0%	102.7%	103.1%
2040	103.6%	102.9%	102.2%	102.5%	103.0%	102.3%	101.6%	101.9%	101.9%	102.6%	103.6%	104.2%
2045	104.4%	103.6%	102.9%	103.3%	103.7%	102.9%	102.0%	102.3%	102.3%	103.2%	104.5%	105.3%

Table B5: Monthly Water Demand Change Factors for Single Dry Year

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	101.0%	100.7%	100.6%	100.5%	101.0%	100.6%	100.5%	100.6%	100.6%	100.6%	100.6%	100.7%
2030	102.0%	101.5%	101.1%	100.9%	102.1%	101.3%	101.1%	101.1%	101.2%	101.3%	101.2%	101.4%
2035	102.5%	101.9%	101.7%	101.7%	103.1%	101.8%	101.5%	101.6%	101.8%	102.0%	102.2%	102.3%
2040	103.0%	102.3%	102.2%	102.4%	104.0%	102.4%	101.9%	102.1%	102.4%	102.8%	103.2%	103.3%
2045	103.5%	102.7%	102.8%	103.2%	105.0%	103.0%	102.3%	102.6%	103.0%	103.5%	104.2%	104.2%

Table B6: Monthly Water Demand Change Factors for Multi-Year Drought

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2025	101.0%	100.6%	100.4%	100.5%	100.9%	100.6%	100.5%	100.5%	100.6%	100.7%	100.8%	101.0%
2030	102.0%	101.3%	100.8%	101.1%	101.8%	101.1%	101.0%	101.0%	101.2%	101.4%	101.6%	101.9%
2035	102.8%	101.9%	101.4%	101.8%	102.5%	101.7%	101.3%	101.4%	101.6%	102.0%	102.4%	103.0%
2040	103.6%	102.6%	102.1%	102.5%	103.2%	102.3%	101.7%	101.8%	102.0%	102.6%	103.3%	104.0%
2045	104.4%	103.3%	102.7%	103.1%	103.9%	102.9%	102.1%	102.2%	102.4%	103.2%	104.1%	105.0%

APPENDIX I

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	6,511	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range[3]	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

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

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

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

NOTES:

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

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1999	24,856
Year 2	2000	25,367
Year 3	2001	25,850
Year 4	2002	26,340
Year 5	2003	26,824
Year 6	2004	27,305
Year 7	2005	27,780
Year 8	2006	28,251
Year 9	2007	28,717
Year 10	2008	29,179
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	26,824
Year 2	2004	27,305
Year 3	2005	27,780
Year 4	2006	28,251
Year 5	2007	28,717
2015 Compliance Year Population		
2015		33,441
NOTES:		

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

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1999	5,466			-		-	5,466
Year 2	2000	5,631			-		-	5,631
Year 3	2001	5,922			-		-	5,922
Year 4	2002	6,733			-		-	6,733
Year 5	2003	6,113			-		-	6,113
Year 6	2004	6,595			-		-	6,595
Year 7	2005	6,304			-		-	6,304
Year 8	2006	6,841			-		-	6,841
Year 9	2007	6,894			-		-	6,894
Year 10	2008	6,511			-		-	6,511
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**6,301**
5 Year Baseline - Gross Water Use								
Year 1	2003	6,113			-		-	6,113
Year 2	2004	6,595			-		-	6,595
Year 3	2005	6,304			-		-	6,304
Year 4	2006	6,841			-		-	6,841
Year 5	2007	6,894			-		-	6,894
5 year baseline average gross water use								**6,549**
2015 Compliance Year - Gross Water Use								
2015		6,774	-		-		-	**6,774**

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

NOTES:

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

Complete one table for each source.

Name of Source	Source 1
This water source is:	
☐	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999			-
Year 2	2000			-
Year 3	2001			-
Year 4	2002			-
Year 5	2003			-
Year 6	2004			-
Year 7	2005			-
Year 8	2006			-
Year 9	2007			-
Year 10	2008			-
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003			-
Year 2	2004			-
Year 3	2005			-
Year 4	2006			-
Year 5	2007			-
2015 Compliance Year - Water into Distribution System				
2015				-

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

NOTES:

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

Baseline Year *Fm SB X7-7 Table 3*		**Surface Reservoir Augmentation**					**Groundwater Recharge**			**Total Deductible Volume of Indirect Recycled Water Entering the Distribution System**
		Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
10-15 Year Baseline - Indirect Recycled Water Use										
Year 1	1999			-		-			-	-
Year 2	2000			-		-			-	-
Year 3	2001			-		-			-	-
Year 4	2002			-		-			-	-
Year 5	2003			-		-			-	-
Year 6	2004			-		-			-	-
Year 7	2005			-		-			-	-
Year 8	2006			-		-			-	-
Year 9	2007			-		-			-	-
Year 10	2008			-		-			-	-
Year 11	0			-		-			-	-
Year 12	0			-		-			-	-
Year 13	0			-		-			-	-
Year 14	0			-		-			-	-
Year 15	0			-		-			-	-
5 Year Baseline - Indirect Recycled Water Use										
Year 1	2003			-		-			-	-
Year 2	2004			-		-			-	-
Year 3	2005			-		-			-	-
Year 4	2006			-		-			-	-
Year 5	2007			-		-			-	-
2015 Compliance - Indirect Recycled Water Use										
2015				-		-			-	-

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

NOTES:

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	24,856	5,466	196
Year 2	2000	25,367	5,631	198
Year 3	2001	25,850	5,922	205
Year 4	2002	26,340	6,733	228
Year 5	2003	26,824	6,113	203
Year 6	2004	27,305	6,595	216
Year 7	2005	27,780	6,304	203
Year 8	2006	28,251	6,841	216
Year 9	2007	28,717	6,894	214
Year 10	2008	29,179	6,511	199
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**208**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	26,824	6,113	203
Year 2	2004	27,305	6,595	216
Year 3	2005	27,780	6,304	203
Year 4	2006	28,251	6,841	216
Year 5	2007	28,717	6,894	214
5 Year Average Baseline GPCD				**210**
2015 Compliance Year GPCD				
2015		33,441	6,774	**181**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	208
5 Year Baseline GPCD	210
2015 Compliance Year GPCD	181
NOTES:	

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

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
208	**166**
NOTES:	

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**0**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
210	200	166	**166**

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

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
166	208	**187**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
181	187	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	-	181	181	**YES**
NOTES:								

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

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

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	36,827
NOTES: Source DWR Population Tool	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	5,187			-		-	**5,187**

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

NOTES:

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

Complete one table for each source.

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

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	5,187	-	5,187

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

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

NOTES: Source 2020 Annual Report to the Drinking Water Program for Year Ending December 31, 2020.

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
5,187	36,827	**126**
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
126	-	-	-	-	126	166	**YES**

[1] *All values are reported in GPCD*

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

NOTES:

APPENDIX J

JUDGMENT

ENTERED IN
JUDGMENT BOOK
No. 362 Page 303
Date APR 17 1969

SUPERIOR COURT FOR THE STATE OF CALIFORNIA
FOR THE COUNTY OF ORANGE

ORANGE COUNTY WATER DISTRICT,
Plaintiff,
v.
CITY OF CHINO, et al.,
Defendants.

CITY OF CHINO, et al.,
Cross-Complainants,
v.
CITY OF ANAHEIM, et al.,
Cross-Defendants.

No. 117628
JUDGMENT

CORONA FOOTHILL LEMON COMPANY, et al.,
Cross-Complainants,
v.
CITY OF ANAHEIM, et al.,
Cross-Defendants.

CITY OF POMONA, a municipal corporation,
Cross-Complainant,
v.
CITY OF ANAHEIM, et al.,
Cross-Defendants.

CITY OF RIVERSIDE, et al.,

Cross-Complainants,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

BEAR VALLEY MUTUAL WATER COMPANY, et al.,

Cross-Complainants,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT, a municipal water district,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

EAST SAN BERNARDINO COUNTY WATER DISTRICT, a county water district,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CITY OF SAN BERNARDINO, a municipal corporation,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CITY OF REDLANDS, a municipal corporation,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CITY OF COLTON, a municipal corporation,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT, a water conservation district,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CITY OF RIALTO, a municipal corporation,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

BIG BEAR MUNICIPAL WATER DISTRICT, a municipal water district,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

TABLE OF CONTENTS

JUDGMENT

EXHIBITS

RECITALS

a. Complaint. The complaint herein was filed on October 18, 1963, seeking an adjudication of water rights against substantially all water users in the area tributary to Prado Dam in the Santa Ana River Watershed.

b. Cross-Complaints. Thirteen cross-complaints were subsequently filed in the period of February 22 to March 22, 1968, by which said adjudication of rights was extended to substantially all water users within the Santa Ana River Watershed downstream from Prado Dam.

c. Physical and Legal Complexities. The physical and legal complexities of the case as framed by the complaint and cross-complaints are unprecedented. In excess of 4,000 individual parties have been served and the water supply and water rights of an entire stream system extending over 2,000 square miles and into four counties have been brought into issue. Every type and nature of water rights known to California law, excepting only Pueblo rights, is in issue in the case. Engineering studies by the parties jointly and severally leading toward adjudication of these rights or, in the alternative, to a physical solution, have required the expenditure of over four years' time and many hundreds of thousands of dollars.

d. Need for Physical Solution. It is apparent to the parties and to the Court that development of a physical solution based upon a formula for inter-basin allocation of obligations and rights is in the best interests of all the parties and is in furtherance of the water policy of the State. For purposes of such a physical solution, it is neither necessary nor helpful to define individual rights of all claimants within the watershed. Nontributary supplemental sources of water are or will be available to the parties in quantities sufficient to assure implementation of a solution involving inter-basin allocation of the natural water

supply of the Santa Ana River system. Sufficient information and data of a general nature are known to formulate a reasonable and just allocation as between the major hydrologic sub-areas within the watershed, and such a physical solution will allow the public agencies and water users within each such major hydrologic sub-area to proceed with orderly water resource planning and development.

e. Parties. Orange County Water District, Chino Basin Municipal Water District, Western Municipal Water District of Riverside County and San Bernardino Valley Municipal Water District are public districts overlying, in the aggregate, substantially all of the major areas of water use within the watershed. Said districts have the statutory power and financial resources to implement a physical solution. Accordingly, dismissals have been entered as to all defendants and cross-defendants other than said four public districts.

f. Cooperation by Dismissed Parties. As a condition of dismissal of said defendants and cross-defendants, certain of said parties have stipulated to cooperate and support the inter-basin water quality and water management objectives of the physical solution and this Judgment.

DECREE

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

1. Jurisdiction. The Court has jurisdiction of the subject matter of this action and of the parties herein.

2. Exhibits. The following exhibits are attached to this Judgment and made a part hereof.

(a) Exhibit A -- map entitled "Santa Ana River Watershed", showing boundaries and other relevant features of the area subject to this Judgment.

(b) Exhibit B -- Engineering Appendix.

3. Definitions. As used in this Judgment, the following

terms shall have the meanings herein set forth:

(a) OCWD -- Orange County Water District, appearing and acting individually and in a representative capacity for and on behalf of all riparian, overlying and other landowners, water users and inhabitants within said District pursuant to Subdivision 7 of Section 2 of the Orange County Water District Act, as amended.

(b) CBMWD -- Chino Basin Municipal Water District, appearing and acting pursuant to Section 71751 of the California Water Code.

(c) WMWD -- Western Municipal Water District of Riverside County, appearing and acting pursuant to said Section 71751.

(d) SBVMWD -- San Bernardino Valley Municipal Water District, appearing and acting pursuant to said Section 71751.

(e) Upper Districts -- CBMWD, WMWD and SBVMWD.

(f) Upper Area -- The area on Exhibit A which lies upstream from Prado.

(g) Lower Area -- The area on Exhibit A which lies downstream from Prado.

(h) Prado -- Said term shall be synonomous with Prado Dam, a facility constructed and maintained by the United States Corps of Engineers, as shown on Exhibit A.

(i) Riverside Narrows -- That bedrock narrows in the Santa Ana River indicated as such on Exhibit A.

(j) Storm Flow -- That portion of the total surface flow passing a point of measurement, which originates from precipitation and runoff without having first percolated to ground water storage in the zone of saturation, calculated in accordance with procedures

referred to in Exhibit B.

(k) Base Flow -- That portion of the total surface flow passing a point of measurement, which remains after deduction of Storm Flow, and modified as follows:

(1) At Prado. Base Flow shall:

(i) include any water caused to be delivered by CBMWD or WMWD directly to OCWD, pursuant to its direction and control and not measured at the gages at Prado;

(ii) exclude any nontributary water or reclaimed sewage water purchased by OCWD and delivered into the river upstream and which subsequently passes Prado, and

(iii) exclude water salvaged from evapo-transpiration losses by OCWD on lands presently owned by it above Prado.

(2) At Riverside Narrows. Base Flow shall:

(i) include any water caused to be delivered by SBVMWD directly to CBMWD or WMWD pursuant to their direction and control, or directly to OCWD with the consent of CBMWD and WMWD and pursuant to the direction and control of OCWD, and not measured at the gage at Riverside Narrows;

(ii) exclude any nontributary water purchased by CBMWD, WMWD or OCWD and delivered into the river upstream and which subsequently passes Riverside Narrows; and

(iii) exclude any effluent discharged from the City of Riverside sewage treatment plant.

(l) TDS -- Total dissolved solids determined as set forth in Exhibit B.

(m) Water Year -- The period from October 1 to the following September 30. Where reference is made herein to "year" or "annual", such terms shall be construed as referring to Water Year, unless the context indicates otherwise.

(n) Adjusted Base Flow -- Actual Base Flow in each year adjusted for quality as provided hereinbelow. Compliance with the respective obligations under Paragraph 5 shall be measured by the Adjusted Base Flow.

4. Declaration of Rights. Substantially all of the parties to this action, whether situate in Upper Area or Lower Area have or claim rights to the use of a portion of the water supply of the Santa Ana River system. In the aggregate, water users and other entities in Lower Area have rights, as against all Upper Area claimants, to receive an average annual supply of 42,000 acre feet of Base Flow at Prado, together with the right to all Storm Flow reaching Prado Reservoir. Water users and other entities in Upper Area have rights in the aggregate, as against all Lower Area claimants, to divert, pump, extract, conserve, store and use all surface and ground water supplies originating within Upper Area without interference or restraint by Lower Area claimants, so long as Lower Area receives the water to which it is entitled under this Judgment and there is compliance with all of its provisions.

5. Physical Solution. The Court hereby declares the following physical solution to be a fair and equitable basis for satisfaction of all said rights in the aggregate between Lower Area and Upper Area. The parties are hereby ordered and directed to comply with this Physical Solution and such compliance shall constitute full and complete satisfaction of the rights declared in

Paragraph 4 hereof.

(a) General Format. In general outline, SBVMWD shall be responsible for the delivery of an average annual amount of Base Flow at Riverside Narrows. CBMWD and WMWD shall jointly be responsible for an average annual amount of Base Flow at Prado. Insofar as Lower Area claimants are concerned, Upper Area water users and other entities may engage in unlimited water conservation activities, including spreading, impounding and other methods, in the area above Prado Reservoir, so long as Lower Area receives the water to which it is entitled under the Judgment and there is compliance with all of its provisions. Lower Area water users and other entities may make full conservation use of Prado Dam and reservoir, subject only to flood control use.

(b) Obligation of SBVMWD. SBVMWD shall be responsible for an average annual Adjusted Base Flow of 15,250 acre feet at Riverside Narrows. A continuing account, as described in Exhibit B, shall be maintained of actual Base Flow at Riverside Narrows, with all adjustments thereof and any cumulative debit or credit. Each year the obligation to provide Base Flow shall be subject to the following:

(1) Minimum Annual Quantities. Without regard to any cumulative credits, or any adjustment for quality for the current Water Year under subparagraph (2) hereof, SBVMWD each year shall be responsible at Riverside Narrows for not less than 13,420 acre feet of Base Flow plus one-third of any cumulative debit; provided, however, that for any year

commencing on or after October 1, 1986, when there is no cumulative debit, or for any year prior to 1986 whenever the cumulative credit exceeds 10,000 acre feet, said minimum shall be 12,420 acre feet.

(2) Adjustment for Quality. The amount of Base Flow at Riverside Narrows received during any year shall be subject to adjustment based upon the weighted average annual TDS in such Base Flow, as follows:

If the Weighted Average TDS in Base Flow at Riverside Narrows is:	Then the Adjusted Base Flow shall be determined by the formula:
Greater than 700 ppm	$Q - \frac{11}{15,250} Q (TDS-700)$
600 ppm - 700 ppm	Q
Less than 600 ppm	$Q + \frac{11}{15,250} Q (600-TDS)$

Where: Q = Base Flow actually received.

(3) Periodic Reduction of Cumulative Debit. At least once in any ten (10) consecutive years subsequent to October 1, 1976, SBVMWD shall provide sufficient quantities of Base Flow at Riverside Narrows to discharge completely any cumulative debits. Any cumulative credits shall remain on the books of account until used to offset any subsequent debits, or until otherwise disposed of by SBVMWD.

(c) Obligation of CBMWD and WMWD. CBMWD and WMWD shall be responsible for an average annual Adjusted Base Flow of 42,000 acre feet at Prado. A continuing account, as described in Exhibit B, shall

be maintained of actual Base Flow at Prado, with all adjustments thereof and any cumulative debit or credit. Each year the obligation to provide Base Flow shall be subject to the following:

(1) Minimum Annual Quantities. Without regard to any cumulative credits, or any adjustments for quality for the current Water Year under subparagraph (2) hereof, CBMWD and WMWD each year shall be responsible for not less than 37,000 acre feet of Base Flow at Prado, plus one-third of any cumulative debit; provided, however, that for any year commencing on or after October 1, 1986, when there is no cumulative debit, or for any year prior to 1986 whenever the cumulative credit exceeds 30,000 acre feet, said minimum shall be 34,000 acre feet.

(2) Adjustment for Quality. The amount of Base Flow at Prado received during any year shall be subject to adjustment based upon the weighted average annual TDS in Base Flow and Storm Flow at Prado as follows:

If the Weighted Average TDS in Base Flow and Storm Flow at Prado is:	Then the Adjusted Base Flow shall be determined by the formula:
Greater than 800 ppm	$Q - \frac{35}{42,000} Q\ (TDS-800)$
700 ppm - 800 ppm	Q
Less than 700 ppm	$Q + \frac{35}{42,000} Q\ (700-TDS)$

Where: Q = Base Flow actually received.

(3) Periodic Reduction of Cumulative Debit. At least once in ten (10) consecutive years subsequent to October 1, 1976, CBMWD and WMWD shall

provide sufficient quantities of Base Flow at Prado to discharge completely any cumulative debits. Any cumulative credits shall remain on the books of account until used to offset any subsequent debits, or until otherwise disposed of by CBMWD and WMWD.

(d) Inter-basin Export. Upper Districts are hereby restrained and enjoined from exporting water from Lower Area to Upper Area, directly or indirectly. OCWD is enjoined and restrained from pumping, producing and exporting or directly or indirectly causing water to flow from Upper to Lower Area, except as to salvage of evapo-transpiration losses, as follows: OCWD owns certain lands within and above Prado Reservoir on which it has or claims certain rights to salvage evapo-transpiration losses by pumping or otherwise. Pumping for said salvage purposes shall not exceed 5,000 acre feet of ground water in any water year. Only the actual net salvage, as determined by the Watermaster, shall be excluded from Base Flow.

(e) Inter-basin Acquisition of Rights. The acquisition by Upper Districts or other Upper Area entities of Lower Area water rights shall in no way affect or reduce Lower Area's entitlement; and the acquisition of Upper Area water rights by OCWD or other Lower Area entities shall be deemed to be included within the aggregate entitlement of Lower Area and shall not increase said entitlement.

(f) Effective Date. Obligations under this physical solution shall accrue from and after October 1, 1970.

6. Prior Adjudications. So long as SBVMWD is in

compliance with the terms of the physical solution herein, OCWD is enjoined and restrained from enforcing the judgments listed below against SBVMWD or any entities within or partially within SBVMWD which have stipulated to accept and adopt such physical solution. So long as WMWD and CBMWD are in compliance with the terms of the physical solution, OCWD is enjoined and restrained from enforcing the judgments listed below against WMWD and CBMWD or any entities within or partially within WMWD or CBMWD which have stipulated to accept and adopt such physical solution.

(a) The Irvine Company, plaintiff, Orange County Water District, intervenor, vs. San Bernardino Valley Water Conservation District, et al., defendants, U. S. Dist. Ct., S.D. Cal. Civ. No. Y-36-M, judgments entered September 11, 1942 (Judgment Book 11 page 134), and recorded Book 1540 page 251 and Book 1541 page 85, Official Records of San Bernardino County.

(b) Orange County Water District vs. City of Riverside, et al., San Bernardino Superior Court No. 84671.

7. Watermaster. The Watermaster, when appointed by the Court, shall administer and enforce the provisions of this Judgment and the instructions and subsequent orders of this Court.

(a) Composition, Nomination and Appointment. The Watermaster shall consist of a committee composed of five (5) persons. CBMWD, WMWD and SBVMWD shall each have the right to nominate one representative and OCWD shall have the right to nominate two (2) representatives to the Watermaster committee. Each such nomination shall be made in writing, served upon the other parties to the Stipulation for this Judgment and filed with the Court. Said Watermaster representatives shall be appointed by and serve at

the pleasure of and until further order of this Court.

(b) Watermaster Determinations. Each and every finding and determination of the Watermaster shall be made in writing certified to be by unanimous action of all members of the Watermaster Committee. In the event of failure or inability of said Watermaster Committee to reach unanimous agreement, the fact, issue, or determination in question shall forthwith be certified to this Court by the Watermaster, and after due notice to the parties and opportunity for hearing, said matter shall be determined by order of this Court.

(c) Annual Report. The Watermaster shall report to the Court and to each party in writing not more than five (5) months after the end of each Water Year, each of the items required by Paragraph 4 of the Engineering Appendix, Exhibit B hereto, and such other items as the parties may mutually request or the Watermaster may deem to be appropriate. All of the books and records of the Watermaster which are used in the preparation of, or are relevant to, such reported data, determinations and reports shall be open to inspection by the parties to the Stipulation for Judgment herein.

(d) Watermaster Service Expenses. The fees, compensation and expenses of each representative on the Watermaster shall be borne by the district which nominated such person. All other Watermaster service costs and expenses shall be borne by the parties in the following proportions:

OCWD - 40%

CBMWD - 20%

SBVMWD - 20%

WMWD - 20%

The Watermaster may from time to time in its discretion require advances of operating capital from the parties in said proportions.

8. Continuing Jurisdiction of the Court. Full jurisdiction, power and authority are retained and reserved by the Court for the purpose of enabling the Court, upon application of any party or of the Watermaster by motion and upon at least 30 days' notice thereof, and after hearing thereon:

(a) 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

(b) To modify, amend or amplify any of the provisions of this Judgment whenever substantial changes or 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; provided, however, that no such modification, amendment or amplification shall change or alter (1) the average annual obligation of CBMWD and WMWD for delivery of 42,000 acre feet of Base Flow per year at Prado, (2) the average annual obligation of SBVMWD for delivery of 15,250 acre feet of Base Flow per year at Riverside Narrows, (3) the respective minimum Base Flows at Riverside Narrows and Prado, nor (4) the right of the parties to this Judgment or of those who stipulate to accept and adopt the physical solution herein to conserve or store flows.

9. Notices. 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 its attorney entitled to notice and where required or appropriate, on the Watermaster. For all purposes of this paragraph, the mailing address of each party and attorney entitled to notice shall be that set forth below its signature in the Stipulation for Judgment, until changed as provided below. If any party or attorney for a party desires 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 receipt of any such notice, the Watermaster shall promptly give written notice thereof. Watermaster addresses for notice purposes shall be as specified in the orders appointing each representative on the Watermaster.

10. Successors. No party shall dissolve, nor shall it abandon or transfer all or substantially all of its powers or property, without first providing for its obligations under this Judgment to be assumed by a successor public agency, with the powers and resources to perform hereunder. Any such successor shall be approved by the Court after notice to all parties and an opportunity for hearing.

11. Future Actions. In the event that any Lower Area claimant shall in the future obtain from any court of competent jurisdiction a decree awarding to such claimant a right to receive a stated amount of water from the Upper Area for use in the Lower Area, any water delivered pursuant to such decree shall be considered as part of Base Flow. In the event that the relief obtained by any such claimant is in the form of a restriction imposed upon production and the use of water in Upper Area, rather than a right to receive a stated amount of water, then notwithstanding the proviso in Paragraph 8, any Upper District may apply to the Court to modify the physical solution herein.

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

Dated: April 17, 1969

John P. McMurray
Judge

APPENDIX K

JUDGMENT

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF RIVERSIDE

WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, a municipal water district; CITY OF RIVERSIDE, a municipal corporation; THE GAGE CANAL COMPANY, a corporation; AGUA MANSA WATER COMPANY, a corporation, MEEKS & DALEY WATER COMPANY, a corporation; RIVERSIDE HIGHLAND WATER COMPANY, a corporation, and THE REGENTS OF THE UNIVERSITY OF CALIFORNIA,

Plaintiffs,

-vs-

(A) EAST SAN BERNARDINO COUNTY WATER DISTRICT, et al.,

Defendants

No. 78426 78426
4/7/69

JUDGMENT

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RECITALS

(a) Complaint. The complaint in this action was filed by certain parties exporting water from the area defined herein as the San Bernardino Basin Area for use within Western, and sought a general adjudication of water rights.

(b) Orange County Water District Action. Subsequently the Orange County Water District filed an action for the adjudication of the water rights of substantially all water users in the area tributary to Prado Dam in the Santa Ana River Watershed. A decree of physical solution has been entered in such action whereby individual water users were dismissed, and San Bernardino Valley and Western assumed responsibility for the deliveries of certain flows at Riverside Narrows and Prado respectively.

(c) Physical Solution. The Judgment herein will further implement the physical solution in the Orange County Water District action, as well as determine the rights of the hereinafter named Plaintiffs to extract water from the San Bernardino Basin Area, and provide for replenishment of the area above Riverside Narrows. Such Judgment is fair and equitable, in the best interests of the parties, and in furtherance of the water policy of the State. San Bernardino Valley has the statutory power and resources to effectuate this Judgment and accordingly the other defendants may be dismissed.

(d) Stipulation. The parties named herein through their respective counsel have proposed and filed a written stipulation agreeing to the making and entry of this Judgment. By reason of such stipulation, and good cause appearing

therefor,

IT IS HEREBY ORDERED, ADJUDGED AND DECREED as follows:

I

ACTIVE PARTIES

(a) The parties to this Judgment are as follows:

(1) Plaintiff Western Municipal Water District of Riverside County, a California municipal water district, herein often called "Western", appearing and acting pursuant to Section 71751 of the Water Code;

(2) Plaintiff City of Riverside, a municipal corporation;

(3) Plaintiffs Riverside Highland Water Company, Agua Mansa Water Company and Meeks & Daley Water Company, each of which is a mutual water company and a California corporation;

(4) Plaintiff The Regents of the University of California, a California public corporation;

(5) Defendant San Bernardino Valley Municipal Water District, a California municipal water district, herein often called "San Bernardino Valley", appearing and acting pursuant to Section 71751 of the Water Code;

(b) This Judgment shall inure to the benefit of, and be binding upon, the successors and assigns of the parties.

II

DISMISSED PARTIES

All parties other than those named in the preceding Paragraph I are dismissed without prejudice.

III

PRIOR JUDGMENTS

(a) The Judgment dated and entered on May 13, 1959, in that certain action filed in the Superior Court of the State of California in and for the County of San Bernardino, entitled and numbered "San Bernardino Valley Water Conservation District, a State Agency, Plaintiff v. Riverside Water Company, a corporation, et al., Defendants", No. 97031, is superseded effective January 1, 1971, and for so long as this Judgment remains in effect as to any party hereto that was a party to that action, and as to any party hereto that is a successor in interest to the rights determined in that action.

(b) The Judgment dated June 23, 1965, and entered on April 21, 1966, in that certain action filed in the Superior Court of the State of California in and for the County of San Bernardino entitled and numbered "San Bernardino Valley Water Conservation District, a State Agency, Plaintiff, v. Riverside Water Company, a corporation, et al., Defendants," No. 111614, is superseded effective January 1, 1971, and for so long as this Judgment remains in effect as to any party hereto that was a party to that action, and as to any party hereto that is a successor in interest to any rights determined in that action.

(c) As used in this Paragraph III only, "party" includes any person or entity which stipulates with the parties hereto to accept this Judgment.

IV

DEFINITIONS

The following ground water basins and tributary areas are situated within the Santa Ana River watershed upstream from Riverside Narrows and are tributary thereto, and their approximate locations and boundaries for purposes of this Judgment are shown upon the map attached hereto as Appendix "A"; San Bernardino Basin Area (the area above Bunker Hill Dike, but excluding certain mountainous regions and the Yucaipa, San Timoteo, Oak Glen and Beaumont Basins); Colton Basin Area, Riverside Basin Area within San Bernardino County, and Riverside Basin Area within Riverside County.

As used herein the following terms shall have the meanings herein set forth:

(a) Bunker Hill Dike - The San Jacinto Fault, located approximately as shown on Appendix "A", and forming the principal downstream boundary of the San Bernardino Basin Area.

(b) Riverside Narrows - That bedrock narrows in the Santa Ana River indicated on Appendix "A".

(c) Extractions - Any form of the verb or noun shall include pumping, diverting, taking or withdrawing water, either surface or subsurface, by any means whatsoever, except extractions for hydroelectric generation to the extent that such flows are returned to the stream, and except for diversions for replenishment.

(d) Natural Precipitation - Precipitation which falls naturally in the Santa Ana River watershed.

(e) Imported Water - Water brought into the Santa Ana River watershed from sources of origin outside such watershed.

(f) Replenishment - Artificial recharge of the ground water body achieved through the spreading or retention of water for the purpose of causing it to percolate and join the underlying ground water body, or injection of water into the ground water resources by means of wells; provided that as used with reference to any obligation of Western to replenish the Riverside Basin Area in Riverside County, the term replenishment shall include any water caused to be delivered by Western for which credit is received by San Bernardino Valley against its obligation under the Orange County Judgment to provide base flow at Riverside Narrows.

(g) Safe Yield - Safe yield is that maximum average annual amount of water that could be extracted from the surface and subsurface water resources of an area over a period of time sufficiently long to represent or approximate long-time mean climatological conditions, with a given areal pattern of extractions, under a particular set of physical conditions or structures as such affect the net recharge to the ground water body, and with a given amount of usable underground storage capacity, without resulting in long-term, progressive lowering of ground water levels or other undesirable result. In determining the operational criteria to avoid such adverse results, consideration shall be given to maintenance of adequate ground water quality, subsurface outflow, costs of pumping, and other relevant factors.

The amount of safe yield is dependent in part upon the amount of water which can be stored in and used from the ground water reservoir over a period of normal water supply under a given set of conditions. Safe yield is thus related to factors which influence or control ground water recharge, and

to the amount of storage space available to carry over recharge occurring in years of above average supply to years of deficient supply. Recharge, in turn, depends on the available surface water supply and the factors influencing the percolation of that supply to the water table.

Safe yield shall be determined in part through the evaluation of the average net groundwater recharge which would occur if the culture of the safe yield year had existed over a period of normal native supply.

(h) Natural Safe Yield - That portion of the safe yield of the San Bernardino Basin Area which could be derived solely from natural precipitation in the absence of imported water and the return flows therefrom, and without contributions from new conservation. If in the future any natural runoff tributary to the San Bernardino Basin Area is diverted away from that Basin Area so that it is not included in the calculation of natural safe yield, any replacement made thereof by San Bernardino Valley or entities within it from imported water shall be included in such calculation.

(i) New Conservation - Any increase in replenishment from natural precipitation which results from operation of works and facilities not now in existence, other than those works installed and operations which may be initiated to offset losses caused by increased flood control channelization.

(j) Year - A calendar year from January 1 through December 31. The term "annual" shall refer to the same period of time.

(k) Orange County Judgment - The final judgment in Orange County Water District v. City of Chino, et al., Orange County Superior Court No. 117628, as it may from time to

time be modified.

(l) Return Flow - That portion of the water applied for use in any particular ground water basin which subsequently reaches the ground water body in that basin.

(m) Five Year Period - a period of five consecutive years.

V

EXTRACTIONS FROM THE SAN BERNARDINO BASIN AREA

(a) For Use by Plaintiffs. The average annual extractions from the San Bernardino Basin Area delivered for use in each service area by each Plaintiff for the five year period ending with 1963 are hereby determined to be as set forth in Table B-1 of Appendix "B". The amount for each such Plaintiff delivered for use in each service area as set forth in Table B-1 shall be designated, for purposes of this Judgment, as its "base right" for such service area.

(b) For Use by Others. The total actual average annual extractions from the San Bernardino Basin Area by entities other than Plaintiffs for use within San Bernardino County for the five year period ending with 1963 are assumed to be 165,407 acre feet; the correct figure shall be determined by the Watermaster as herein provided.

VI

SAN BERNARDINO BASIN AREA RIGHTS AND REPLENISHMENT

(a) Determination of Natural Safe Yield. The natural safe yield of the San Bernardino Basin Area shall be computed by the Watermaster, reported to and determined initially by supplemental order of this Court, and thereafter

shall be subject to the continuing jurisdiction thereof.

(b) Annual Adjusted Rights of Plaintiffs.

1. The annual "adjusted right" of each Plaintiff to extract water from the San Bernardino Basin Area for use in each service area designated in Table B-1 shall be equal to the sum of the following:

(a) its base right for such service area, until the natural safe yield of the San Bernardino Basin Area is determined, and thereafter its percentage of such natural safe yield determined by the methods used in Table B-2; and (b) an equal percentage for each service area of any new conservation, provided the conditions of the subparagraph 2 below have been met.

2. In order that the annual adjusted right of each such Plaintiff shall include its same respective percentage of any new conservation, such Plaintiff shall pay its proportionate share of the costs thereof. Each Plaintiff shall have the right to participate in new conservation projects, under procedures to be determined by the Watermaster for notice to Plaintiffs of the planned construction of such projects. With respect to any new conservation brought about by Federal installations, the term "costs" as used herein shall refer to any local share required to be paid in connection with such project. Each Plaintiff shall make its payment at times satisfactory to the constructing agency, and new conservation shall be credited to any participating Plaintiff as such conservation is effected.

3. In any five year period, each Plaintiff shall have the right to extract from the San Bernardino Basin Area for use in each service area designated in Table B-1 an amount of water equal to five times its adjusted right for such service area; provided, however, that extractions by each Plaintiff in any year in any service area shall not exceed such Plaintiff's adjusted right for that service area by more than 30 percent.

4. If the natural safe yield of the San Bernardino Basin Area has not been determined by January 1, 1972, the initial determination thereof shall be retroactive to that date and the rights of the Plaintiffs, and the replenishment obligation of San Bernardino Valley as hereinafter set forth, shall be adjusted as of such date. Any excess extractions by Plaintiffs shall be charged against their respective adjusted rights over the next five year period, or in the alternative, Plaintiffs may pay to San Bernardino Valley the full cost of any replenishment which it has provided as replenishment for such excess extractions. Any obligation upon San Bernardino Valley to provide additional replenishment, by virtue of such retroactive determination of natural safe yield, may also be discharged over such next five year period.

5. Plaintiffs and each of them and their agents and assigns are enjoined from extracting any more water from the San Bernardino Basin Area than is permitted under this Judgment. Changes in place

of use of any such water from one service area to another shall not be made without the prior approval of Court upon a finding of compliance with Paragraph XV(b) of this Judgment. So long as San Bernardino Valley is in compliance with all its obligations hereunder, and Plaintiffs are allowed to extract the water provided for in this Judgment, Plaintiffs are further enjoined from bringing any action to limit the water extracted from the San Bernardino Basin Area for use within San Bernardino Valley.

6. Nothing in this Judgment shall prevent future agreements between San Bernardino Valley and Western under which additional extractions may be made from the San Bernardino Basin Area, subject to the availability of imported water not required by San Bernardino Valley, and subject to payment satisfactory to San Bernardino Valley for replenishment required to compensate for such additional extractions.

(c) San Bernardino Valley Replenishment. San Bernardino Valley shall provide imported water for replenishment of the San Bernardino Basin Area at least equal to the amount by which extractions therefrom for use within San Bernardino County exceed during any five year period the sum of: (a) five times the total average annual extractions determined under Paragraph V(b) hereof, adjusted as may be required by the natural safe yield of the San Bernardino Basin Area; and (b) any new conservation to which users within San Bernardino Valley are entitled. Such replenishment shall be

supplied in the year following any five year period; provided that during the first five year period, San Bernardino Valley shall supply annual amounts on account of its obligations hereunder, and such amounts shall be not less than fifty percent of the gross amount of excess extractions in the previous year.

1. Against its replenishment obligation over any five year period San Bernardino Valley shall receive credit for that portion of such excess extractions that returns to the ground water of the San Bernardino Basin Area.

2. San Bernardino Valley shall also receive credit against any future replenishment obligations for all replenishment which it provides in excess of that required herein, and for any amounts which may be extracted without replenishment obligation, which in fact are not extracted.

(d) In this subparagraph (d), "person" and "entity" mean only those persons and entities, and their successors in interest, which have stipulated with the parties to this Judgment within six months after its entry to accept this Judgment.

San Bernardino Valley agrees that the base rights of persons or entities other than Plaintiffs to extract water from the San Bernardino Basin Area for use within San Bernardino Valley will be determined by the average annual quantity extracted by such person or entity during the five year period ending with 1963. After the natural safe yield of the San Bernardino Basin Area is determined hereunder, such

base rights will be adjusted to such natural safe yield; the adjusted right of each such person or entity shall be that percentage of natural safe yield as determined hereunder from time to time which the unadjusted right of such person or entity is of the amount determined under Paragraph V(b).

San Bernardino Valley further agrees that in the event the right to extract water of any of such persons or entities in the San Bernardino Basin Area is adjudicated and legal restrictions placed on such extractions which prevent extracting of water by said persons or entities in an amount equal to their base rights, or after natural safe yield is determined, their adjusted rights, San Bernardino Valley will furnish to such persons or entities or recharge the ground water resources in the area of extraction for their benefit with imported water, without direct charge to such persons or entities therefor, so that the base rights, or adjusted rights, as the case may be, may be taken by the person or entity.

Under the provisions hereof relating to furnishing of such water by San Bernardino Valley, such persons or entities shall be entitled to extract in addition to their base rights or adjusted rights any quantities of water spread for repumping in their area of extractions, which has been delivered to them by a mutual water company under base rights or adjusted base rights included by the Watermaster under the provisions of Paragraph V (b) hereof. Extractions must be made within three years of spreading to so qualify.

VII

WATER DISCHARGED ACROSS THE BUNKER HILL DIKE

San Bernardino Valley shall keep in force an agreement with the City of San Bernardino that the present annual quantity of municipal sewage effluent discharged across Bunker Hill Dike, assumed for all purposes herein to be 16,000 acre feet annually, shall be committed to the discharge of the downstream obligations imposed on San Bernardino Valley under this Judgment or under the Orange County Judgment, and that such effluent shall comply with the requirements of the Santa Ana River Basin Regional Water Quality Control Board in effect December 31, 1968.

VIII

EXTRACTIONS FROM COLTON BASIN AREA AND RIVERSIDE BASIN AREA IN SAN BERNARDINO COUNTY.

(a) The average annual extractions from the Colton Basin Area and that portion of the Riverside Basin Area within San Bernardino County, for use outside San Bernardino Valley, for the five year period ending with 1963 are assumed to be 3,349 acre feet and 20,191 acre feet, respectively; the correct figures shall be determined by the Watermaster as herein provided.

(b) Over any five year period, there may be extracted from each such Basin Area for use outside San Bernardino Valley, without replenishment obligation, an amount equal to five times such annual average for the Basin Area; provided, however, that if extractions in any year exceed such average by more than 20 percent, Western shall provide replenishment in the following year equal to the excess

extractions over such 20 percent peaking allowance.

(c) To the extent that extractions from each such Basin Area for use outside San Bernardino Valley exceed the amounts specified in the next preceding Paragraph (b), Western shall provide replenishment. Except for any extractions in excess of the 20 percent peaking allowance, such replenishment shall be supplied in the year following any five year period, and shall not be from reclaimed water produced within San Bernardino Valley. Such replenishment shall also be of a quality at least equal to the water extracted from the Basin Area being recharged; provided, that water from the State Water Project shall be deemed to be of acceptable quality. Replenishment shall be supplied to the Basin Area from which any excess extractions have occurred and in the vicinity of the place of the excess extractions to the extent required to preclude influence on the water level in the three wells below designated; provided that discharge of imported water into the Santa Ana River or Warm Creek from a connection on the State Aqueduct near the confluence thereof, if released in accordance with a schedule approved by the Watermaster to achieve compliance with the objectives of this Judgment, shall satisfy any obligation of Western to provide replenishment in the Colton Basin Area, or that portion of the Riverside Basin Area in San Bernardino County, or the Riverside Basin Area in Riverside County.

(d) Extractions from the Colton Basin Area and that portion of the Riverside Basin Area within San Bernardino County, for use within San Bernardino Valley, shall not be limited. However, except for any required replenishment by Western, San Bernardino Valley shall provide the water to maintain the static water levels in the area, as determined by wells numbered

1S 4W 21 Q3, 1S 4W 29 H1, and 1S 4W 29 Q1 at an average level no lower than that which existed in the Fall season of 1963. Such 1963 average water level is hereby determined to be 822.04 feet above sea level. In future years, the level shall be computed by averaging the lowest static water levels in each of the three wells occurring at or about the same time of the year, provided that no measurements will be used which reflect the undue influence of pumping in nearby wells, or in the three wells, or pumping from the Riverside Basin in Riverside County in excess of that determined pursuant to Paragraph IX(a) hereof.

(e) Extractions by Plaintiffs from the Colton Basin Area and the portion of the Riverside Basin Area in San Bernardino County may be transferred to the San Bernardino Basin Area if the level specified in Paragraph (d) above is not maintained, but only to the extent necessary to restore such 1963 average water level, provided that Western is not in default in any of its replenishment obligations. San Bernardino Valley shall be required to replenish the San Bernardino Basin Area in an amount equal to any extractions so transferred. San Bernardino Valley shall be relieved of responsibility toward the maintenance of such 1963 average water level to the extent that Plaintiffs have physical facilities available to accommodate such transfers of extractions, and insofar as such transfers can be legally accomplished.

(f) The Colton Basin Area and the portion of the Riverside Basin Area in San Bernardino County constitute a major source of water supply for lands and inhabitants in both San Bernardino Valley and Western, and the parties hereto have a mutual interest in the maintenance of water quality in these Basin Areas and in the preservation of such supply. If

the water quality in such Areas, as monitored by the City of Riverside wells along the river, falls below the Objectives set therefor by the Santa Ana River Basin Regional Water Quality Control Board, the Court shall have jurisdiction to modify the obligations of San Bernardino Valley to include, in addition to its obligation to maintain the average 1963 water level, reasonable provisions for the maintenance of such water quality.

(g) The primary objectives of Paragraph VIII and related provisions are to allow maximum flexibility to San Bernardino Valley in the operation of a coordinated replenishment and management program, both above and below Bunker Hill Dike; to protect San Bernardino Valley against increased extractions in the area between Bunker Hill Dike and Riverside Narrows, which without adequate provision for replenishment might adversely affect base flow at Riverside Narrows, for which it is responsible under the Orange County Judgment; and to protect the area as a major source of ground water supply available to satisfy the historic extractions therefrom for use within Western, without regard to the method of operation which may be adopted by San Bernardino Valley for the San Bernardino Basin Area, and without regard to the effect of such operation upon the historic supply to the area below Bunker Hill Dike.

If these provisions should prove either inequitable or unworkable, the Court upon the application of any party hereto shall retain jurisdiction to modify this Judgment so as to regulate the area between Bunker Hill Dike and Riverside Narrows on a safe yield basis; provided that under such method of operation, (1) base rights shall be determined on the basis of total average annual extractions for use within San Bernardino Valley and Western, respectively, for the five year period ending

with 1963; (2) such base rights for use in both Districts shall be subject to whatever adjustment may be required by the safe yield of the area, and in the aggregate shall not be exceeded unless replenishment therefor is provided; (3) in calculating safe yield, the outflow from the area at Riverside Narrows shall be determined insofar as practical by the base flow obligations imposed on San Bernardino Valley under the Orange County Judgment; and (4) San Bernardino Valley shall be required to provide replenishment for any deficiency between the actual outflow and the outflow obligation across Bunker Hill Dike as established by safe yield analysis using the base period of 1934 through 1960.

IX

EXTRACTIONS FROM THE PORTION OF RIVERSIDE BASIN AREA IN RIVERSIDE COUNTY WHICH IS TRIBUTARY TO RIVERSIDE NARROWS.

(a) The average annual extractions from the portion of the Riverside Basin Area in Riverside County which is tributary to Riverside Narrows, for use in Riverside County, for the five year period ending with 1963 are assumed to be 30,044 acre feet; the correct figures shall be determined by the Watermaster as herein provided.

(b) Over any five year period, there may be extracted from such Basin Area, without replenishment obligation, an amount equal to five times such annual average for the Basin Area; provided, however, that if extractions in any year exceed such average by more than 20 percent, Western shall provide replenishment in the following year equal to the excess extractions over such 20 percent peaking allowance.

(c) To the extent that extractions from such Basin Area exceed the amounts specified in the next preceding

Paragraph (b), Western shall provide replenishment. Except for any extractions in excess of the 20 percent peaking allowance, such replenishment shall be supplied in the year following any five year period, and shall be provided at or above Riverside Narrows.

(d) Western shall also provide such replenishment to offset any reduction in return flow now contributing to the base flow at Riverside Narrows, which reduction in return flow results from the conversion of agricultural uses of water within Western to domestic or other uses connected to sewage or waste disposal systems, the effluent from which is not tributary to the rising water at Riverside Narrows.

X

REPLENISHMENT TO OFFSET NEW EXPORTS OF WATER TO AREAS NOT TRIBUTARY TO RIVERSIDE NARROWS.

Certain average annual amounts of water extracted from the San Bernardino Basin Area and the area downstream therefrom to Riverside Narrows during the five year period ending in 1963 have been exported for use outside of the area tributary to Riverside Narrows and are assumed to be 50,667 acre feet annually as set forth in Table C-1 of Appendix "C"; the correct amount shall be determined by the Watermaster as herein provided. Western shall be obligated to provide replenishment at or above Riverside Narrows for any increase over such exports by Western or entities within it from such areas for use within areas not tributary to Riverside Narrows. San Bernardino Valley shall be obligated to provide replenishment for any increase over the exports from San Bernardino Valley for use in any area not within Western nor tributary to Riverside Narrows as set forth in Table C-2 of

Appendix "C", such amounts being subject to correction by the Watermaster, or for any exports from the San Bernardino Basin Area for use in the Yucaipa, San Timoteo, Oak Glen and Beaumont Basins.

XI

REPLENISHMENT CREDITS AND ADJUSTMENT FOR QUALITY

(a) All replenishment provided by Western under Paragraph IX and all credits received against such replenishment obligation shall be subject to the same adjustments for water quality applicable to base flow at Riverside Narrows, as set forth in the Orange County Judgment.

(b) Western shall receive credit against its replenishment obligations incurred under this Judgment for the following:

1. As against its replenishment obligation under Paragraph VIII, any return flow to the Colton Basin Area or the portion of the Riverside Basin Area within San Bernardino County, respectively, resulting from any excess extractions therefrom; and as against its replenishment obligation under Paragraph IX, any return flow to the portion of the Riverside Basin Area in Riverside County, which contributes to the base flow at Riverside Narrows, resulting from any excess extractions therefrom, or from the Riverside Basin Area in San Bernardino County, or from the Colton Basin Area.

2. Subject to adjustment under Paragraph (a) hereof, any increase over the present amounts of sewage effluent discharged from

treatment plants within Riverside County which are tributary to Riverside Narrows, and which results from the use of imported water.

3. Any replenishment which may be provided in excess of that required; any amounts which hereunder are allowed to be extracted from the Colton and Riverside Basin Areas without replenishment obligation by Western, and which in fact are not extracted; any storm flows conserved between Bunker Hill Dike and Riverside Narrows by works financed solely by Western, or entities within it, which would not otherwise contribute to base flow at Riverside Narrows; and any return flow from imported water used in Riverside County which contributes to base flow at Riverside Narrows; provided, however, that such use of the underground storage capacity in each of the above situations does not adversely affect San Bernardino Valley in the discharge of its obligations at Riverside Narrows under the Orange County Judgment, nor interfere with the accomplishment by San Bernardino Valley of the primary objectives of Paragraph VIII, as stated in Subdivision (g).

(c) The replenishment obligations of Western under this Judgment shall not apply during such times as amounts of base flow at Riverside Narrows and the amounts of water stored in the ground water resources below Bunker Hill Dike and tributary to the maintenance of such flow are found by Order of the Court to be sufficient to satisfy any obligation which San Bernardino Valley may have under this Judgment, or under the

Orange County Judgment, and if the Court further finds by Order that during such times any such increase in pumping, changes in use or exports would not adversely affect San Bernardino Valley in the future.

(d) The replenishment obligations of San Bernardino Valley under Paragraph X of this Judgment for increase in exports from the Colton and Riverside Basin Areas within San Bernardino Valley below the Bunker Hill Dike shall not apply during such times as the amounts of water in the ground water resources of such area are found by Order of the Court to be sufficient to satisfy the obligations which San Bernardino Valley may have to Plaintiffs under this Judgment, and if the Court further finds by Order that during such times any such increases in exports would not adversely affect Plaintiffs in the future.

XII

CONVEYANCE OF WATER BY SAN BERNARDINO VALLEY TO RIVERSIDE NARROWS.

If San Bernardino Valley determines that it will convey reclaimed sewage effluent, or other water, to or near Riverside Narrows, to meet its obligations under this or the Orange County Judgment, the City of Riverside shall make available to San Bernardino Valley for that purpose any unused capacity in the former Riverside Water Company canal, and the Washington and Monroe Street storm drains, without cost except for any alterations or capital improvements which may be required, or any additional maintenance and operation costs which may result. The use of those facilities shall be subject to the requirements of the Santa Ana River Basin Regional Water Quality Control Board and of the State Health Department, and compliance

therewith shall be San Bernardino Valley's responsibility.

XIII

WATERMASTER

(a) This Judgment and the instructions and subsequent orders of this Court shall be administered and enforced by a Watermaster. The parties hereto shall make such measurements and furnish such information as the Watermaster may reasonably require, and the Watermaster may verify such measurements and information and obtain additional measurements and information as the Watermaster may deem appropriate.

(b) The Watermaster shall consist of a committee of two persons. San Bernardino Valley and Western shall each have the right to nominate one of such persons. Each such nomination shall be made in writing, served upon the other parties to this Judgment, and filed in Court. Such person shall be appointed by and serve at the pleasure of and until further order of this Court. If either Western or San Bernardino Valley shall at any time nominate a substitute appointee in place of the last appointee to represent it, such appointee shall be appointed by the Court in place of such last appointee.

(c) Appendix "D" to this Judgment contains some of the data which have been used in preparation of this Judgment, and shall be utilized by the Watermaster in connection with any questions of interpretation.

(d) Each and every finding and determination of the Watermaster shall be made in writing certified to be by unanimous action of both members of the Watermaster committee. In the event of failure or inability of such Watermaster Committee to reach agreement, the Watermaster committee may determine to submit the dispute to a third person to be selected

by them, or if they are unable to agree on a selection, to be selected by the Court, in which case the decision of the third person shall be binding on the parties; otherwise the fact, issue, or determination in question shall forthwith be certified to this Court by the Watermaster, and after due notice to the parties and opportunity for hearing, said matter shall be determined by order of this Court, which may refer the matter for prior recommendation to the State Water Resources Control Board. Such order of the Court shall be a determination by the Watermaster within the meaning of this Judgment.

(e) The Watermaster shall report to the Court and to each party hereto in writing not more than seven (7) months after the end of each year, or within such other time as the Court may fix, on each determination made by it pursuant to this Judgment, and such other items as the parties may mutually request or the Watermaster may deem to be appropriate. All of the books and records of the Watermaster which are used in the preparation of, or are relevant to, such reported data, determinations and reports shall be open to inspection by the parties hereto. At the request of any party this Court will establish a procedure for the filing and hearing of objections to the Watermaster's report.

(f) The fees, compensation and expenses of each person on the Watermaster shall be borne by the District which nominated such person. All other Watermaster service costs and expenses shall be borne by San Bernardino Valley and Western equally.

(g) The Watermaster shall initially compute and report to the Court the natural safe yield of the San Bernardino Basin Area, said computation to be based upon the cultural

conditions equivalent to those existing during the five calendar year period ending with 1963.

(h) The Watermaster shall as soon as practical determine the correct figures for Paragraphs V(b), VI(b)1, VIII(a), IX(a) and X, as the basis for an appropriate supplemental order of this Court.

XIV

CONTINUING JURISDICTION OF THE COURT

(a) The Court hereby reserves continuing jurisdiction of the subject matter and parties to this Judgment, and upon application of any party, or upon its own motion, may review and redetermine, among other things, the following matters and any matters incident thereto:

1. The hydrologic condition of any one or all of the separate basins described in this Judgment in order to determine from time to time the safe yield of the San Bernardino Basin Area.

2. The desirability of appointing a different Watermaster or a permanent neutral member of the Watermaster, or of changing or more clearly defining the duties of the Watermaster.

3. The desirability of providing for increases or decreases in the extraction of any particular party because of emergency requirements or in order that such party may secure its proportionate share of its rights as determined herein.

4. The adjusted rights of the Plaintiffs as required to comply with the provisions hereof with respect to changes in the natural safe yield of the San Bernardino Basin

Area. If such changes occur, the Court shall adjudge that the adjusted rights and replenishment obligations of each party shall be changed proportionately to the respective base rights.

5. Conforming the obligations of San Bernardino Valley under this Judgment to the terms of any new judgment hereafter entered adjudicating the water rights within San Bernardino Valley, if inconsistencies of the two judgments impose hardship on San Bernardino Valley.

6. Adjusting the figures in Paragraphs V(b), VI(b) 1, VIII(a) IX(a), and X, to conform to determination by the Watermaster.

7. Credit allowed for return flow in the San Bernardino Basin Area if water levels therein drop to the point of causing undue hardship upon any party.

8. Other matters not herein specifically set forth which might occur in the future and which would be of benefit to the parties in the utilization of the surface and ground water supply described in this Judgment, and not inconsistent with the respective rights of the parties as herein established and determined.

(b) Any party may apply to the Court under its continuing jurisdiction for any appropriate modification of this Judgment if its presently available sources of imported water are exhausted and it is unable to obtain additional supplies of imported water at a reasonable cost, or if there is any substantial delay in the delivery of imported water through the State Water Project.

XV

SAVING CLAUSES

(a) Nothing in this Judgment precludes San Bernardino Valley, Western, or any other party from exercising such rights as it may have or obtain under law to spread, store underground and recapture imported water, provided that any such use of the underground storage capacity of the San Bernardino Basin Area by Western or any entity within it shall not interfere with any replenishment program of the Basin Area.

(b) Changes in the place and kind of water use, and in the transfer of rights to the use of water, may be made in the absence of injury to others or prejudice to the obligations of either San Bernardino Valley or Western under Judgment or the Orange County Judgment.

(c) If any Plaintiff shall desire to transfer all or any of its water rights to extract water within San Bernardino Valley to a person, firm, or corporation, public or private, who or which is not then bound by this Judgment, such Plaintiff 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 Plaintiff under this Judgment as to such transferred water rights. Such appearance and assumption of obligation 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 Plaintiff shall have transferred all of its said water rights and each transferee not theretofore bound by this Judgment as a Plaintiff shall have appeared in this action

and filed a valid and effective express assumption of the obligations imposed upon such Plaintiff under this Judgment as to such transferred water rights, such transferring Plaintiff shall thereupon be discharged from all obligations hereunder. If any Plaintiff shall cease to own any rights in and to the water supply declared herein 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 Plaintiff shall thereupon be relieved and discharged from all further obligations hereunder. Any such discharge of any Plaintiff hereunder shall not impair the aggregate rights of defendant San Bernardino Valley or the responsibility hereunder of the remaining Plaintiffs or any of the successors.

(d) Non-use of any right to take water as provided herein shall not result in any loss of the right. San Bernardino Valley does not guarantee any of the rights set out herein for Western and the other Plaintiffs as against the claims of third parties not bound hereby. If Western or the other Plaintiffs herein should be prevented by acts of third parties within San Bernardino County from extracting the amounts of water allowed them by this Judgment, they shall have the right to apply to this Court for any appropriate relief, including vacation of this Judgment, in which latter case all parties shall be restored to their status prior to this Judgment insofar as possible.

(e) Any replenishment obligation imposed hereunder on San Bernardino Valley may be deferred until imported water first is available to San Bernardino Valley under its contract with the California Department of Water Resources and the

obligation so accumulated may be discharged in five approximately equal annual installments thereafter.

(f) No agreement has been reached concerning the method by which the cost of providing replenishment will be financed, and no provision of this Judgment, nor its failure to contain any provision, shall be construed to reflect any agreement relating to the taxation or assessment of extractions.

XVI

EFFECTIVE DATE

The provisions of Paragraphs III and V to XII of this Judgment shall be in effect from and after January 1, 1971; the remaining provisions are in effect immediately.

XVII

COSTS

No party shall recover its costs herein as against any other party.

THE CLERK WILL ENTER THIS JUDGMENT FORTHWITH.

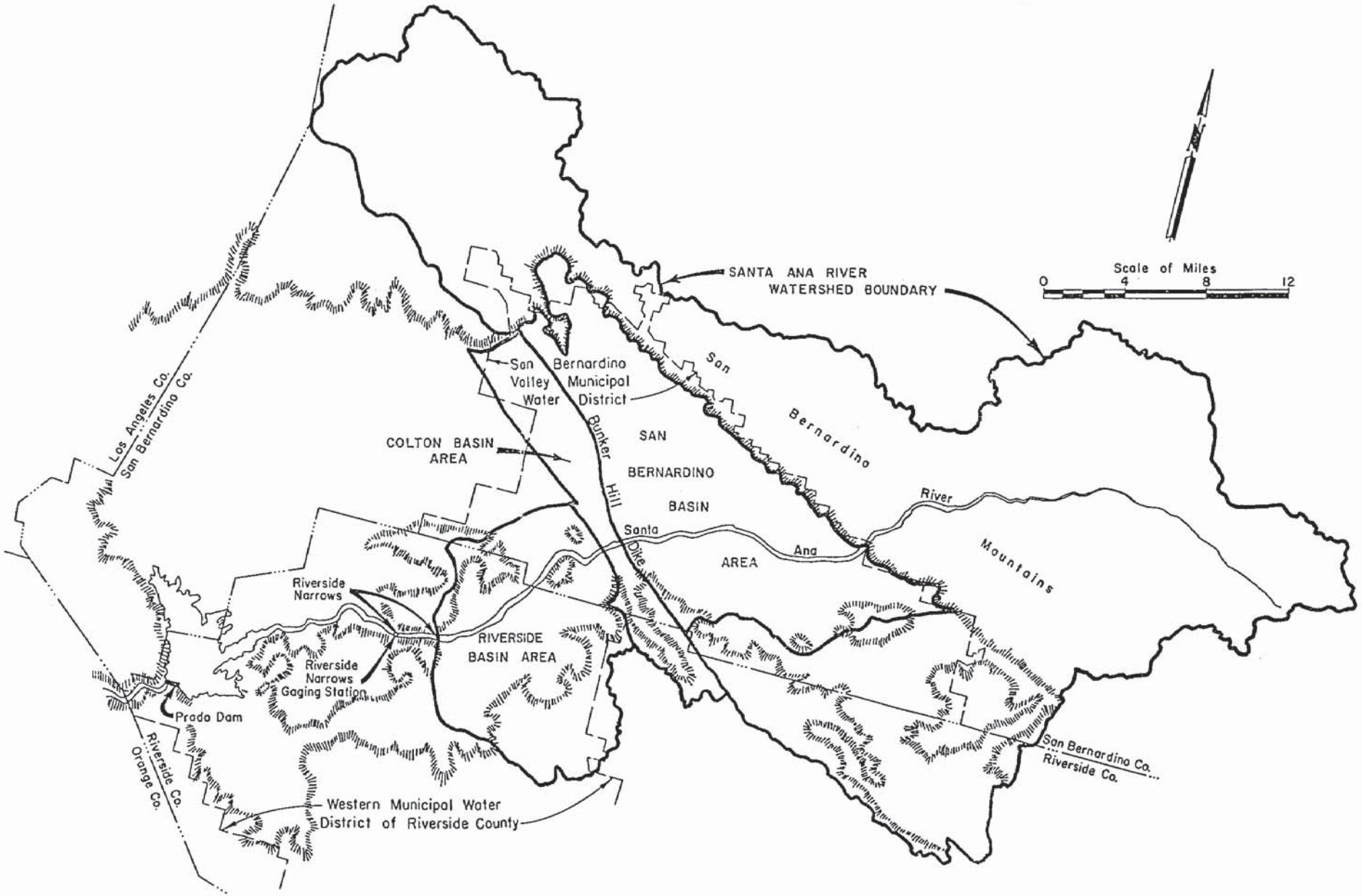
DATED: April 17, 1969

ENTERED

APR 17 1969

Albert P. McDonnell
JUDGE OF THE SUPERIOR COURT

JUDGMENT BOOK 124 PG 42



MAP SHOWING

SAN BERNARDINO BASIN AREA, COLTON BASIN AREA, AND RIVERSIDE BASIN AREA SITUATED WITHIN SAN BERNARDINO COUNTY; RIVERSIDE BASIN AREA WITHIN RIVERSIDE COUNTY; BUNKER HILL DIKE; RIVERSIDE NARROWS; AND BOUNDARIES OF SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT & WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY.

APPENDIX B
TABLE B-1

EXTRACTIONS BY PLAINTIFFS FROM THE SAN BERNARDINO BASIN AREA FOR AVERAGE OF 5-YEAR PERIOD ENDING WITH 1963

(All Values in Acre Feet)
Classified According to Service Area

Plaintiff	Total Extractions in San Bernardino Basin Area	Delivery to San Bernardino Basin Area	Delivery to Colton Basin Area & Riverside Basin Area in San Bernardino County	Delivery to Areas Outside San Bernardino Valley
City of Riverside (including those rights acquired as successor to the Riverside Water Company and The Gage Canal Company)	53,448	1462	1260	50,726
Riverside High-Land Water Company	4,399	0	2509	1,890
Agua Mansa Water Company, and Meeks & Daley Water Company	8,026	0	326	7,700
The Regents of the University of California	581	0	0	581
Total	66,454	1,462	4,095	60,897

APPENDIX B
TABLE B-2

PLAINTIFFS' PERCENTAGES OF BASE RIGHT TO TOTAL PRODUCTION FROM SAN BERNARDINO VALLEY BASIN AREA,
231,861 Acre Feet Annually,
For 5-Year Average Ending With 1963
Classified According to Service Area

Plaintiff	Delivery to San Bernardino Basin Area	Delivery to Colton Basin Area & Riverside Basin Area in San Bernardino County	Delivery to Areas Outside San Bernardino Valley
City of Riverside (including those rights acquired as successor to the Riverside Water Company and The Gage Canal Company)	.630	.543	21,878
Riverside Highland Water Company		1,082	0.815
Aqua Mansa Water Company, and Meeks & Daley Water Company		.141	3.321
The Regents of the University of California			0.250
Total	.630	1.766	26.264

APPENDIX C
TABLE C-1

EXTRACTIONS FOR USE WITHIN WESTERN
FROM
THE SAN BERNARDINO BASIN AREA, COLTON BASIN AREA,
AND THE RIVERSIDE BASIN AREA
FOR USE ON LANDS THAT ARE NOT TRIBUTARY
TO THE RIVERSIDE NARROWS FOR
AVERAGE OF FIVE-YEAR PERIOD ENDING IN 1963

Extractor	Five-Year Average Ac. Ft.
City of Riverside, including Irrigation Division water extracted by Gage Canal Co. and former Riverside Water Co.	30,657
Meeks & Daley Water Co., Agua Mansa Water Co., and Temescal Water Co., including water received from City of Riverside	13,731
Extractions delivered by West Riverside Canal received from Twin Buttes Water Co., La Sierra Water Co., Agua Mansa Water Co., Salazar Water Co., West Riverside 350" Water Co., and Jurupa Water Co.	5,712
Rubidoux Community Services District	531
Jurupa Hills Water Co.	36
TOTAL	50,667

APPENDIX C
TABLE C-2

EXTRACTIONS FOR USE WITHIN SAN BERNARDINO COUNTY
FROM
SAN BERNARDINO BASIN AREA AND COLTON BASIN AREA
FOR USE ON LANDS NOT TRIBUTARY TO
SANTA ANA RIVER OR ITS TRIBUTARIES
FIVE-YEAR PERIOD ENDING WITH 1953

(ALL VALUES IN ACRE FEET)

Entity	San Bernardino Basin Area	Colton Basin Area	Total
Fontana Union Water Co.	14,272	365	14,637
West San Bernardino County Water District	2,961	947	3,908
City of Rialto			700
TOTAL			19,245

APPENDIX D
TABLE D-1

EXTRACTIONS FROM SAN BERNARDINO BASIN AREA
FOR THE AVERAGE OF FIVE-YEAR PERIOD ENDING WITH 1963
FOR USE WITHIN SAN BERNARDINO COUNTY

(ALL VALUES IN ACRE FEET)

Basin	Five Year Avg. 1959-63
Beaumont	10,064
Big Bear	1,171
Borea Canyon	91
Bunker Hill	181,600
City Creek	337
Cook Canyon	197
Devil Canyon	3,326
Devil Creek	42
Lower Cajon	2,090
Little San Creek	15
Lytle	29,364
Mill Creek	11,084
Oak Glen	935
Plunge Creek	1,265
Santa Ana	1,790
Strawberry Creek	291
San Timoteo	2,272
Waterman Canyon	367
Yucaipa	13,837
Upper Basin Total	260,139
Less: Beaumont Oak Glen San Timoteo Yucaipa	27,107
Subtotal	233,032
Less Big Bear	1,171
Subtotal	231,861
Less extractions for use outside San Bernardino County	60,897
Extractions from San Bernardino for use in San Bernardino County	170,964

APPENDIX D
TABLE D-2

EXTRACTIONS FROM
COLTON BASIN AREA FOR AVERAGE OF
FIVE-YEAR PERIOD ENDING WITH 1963
BY SAN BERNARDINO AND RIVERSIDE COUNTY ENTITIES
FOR USE WITHIN EACH COUNTY

(VALUES IN ACRE FEET)

Extractor	Place of Use		Total
	San Bernardino Co.	Riverside Co.	
San Bernardino County Entities	8,480	0	8,480
Riverside County Entities	147	3,349	3,496
TOTAL EXTRACTIONS	8,627	3,349	11,976

APPENDIX D
TABLE D-3

EXTRACTIONS FROM
RIVERSIDE BASIN AREA IN SAN BERNARDINO COUNTY
FOR AVERAGE FIVE-YEAR PERIOD ENDING WITH 1963
BY SAN BERNARDINO AND RIVERSIDE COUNTY ENTITIES
FOR USE WITHIN EACH COUNTY

(VALUES IN ACRE FEET)

Extractor	Place of Use		Total
	San Bernardino Co.	Riverside Co.	
San Bernardino County Entities	9,582	0	9,582
Riverside County Entities	3,929	20,191	24,120
TOTAL EXTRACTIONS	13,511	20,191	33,702

APPENDIX D
TABLE D-4

EXTRACTIONS FROM
SAN BERNARDINO BASIN AREA, COLTON BASIN AREA
AND RIVERSIDE BASIN AREA USED WITHIN
RIVERSIDE COUNTY FOR THE AVERAGE
FIVE-YEAR PERIOD ENDING WITH 1963

(ALL VALUES IN ACRE FEET)

Basin	Five-Year Average
San Bernardino Basin Area	60,897
Colton Basin Area	3,349
Riverside Basin Area in San Bernardino County	20,191
Riverside Basin Area in Riverside County	30,044
TOTAL	114,481

APPENDIX D
TABLE D-5

IRRIGATED ACREAGE IN RIVERSIDE BASIN AREA IN RIVERSIDE COUNTY PRESENTLY TRIBUTARY TO RIVERSIDE NARROWS WHICH UPON CONVERSION TO URBAN USES REQUIRING SEWAGE DISPOSAL THROUGH THE RIVERSIDE TREATMENT PLANT WILL BE DISCHARGED TO THE RIVER BELOW RIVERSIDE NARROWS

Entity Serving Acreage	Acres
Gage Canal	1,752
Alta Mesa Water Co.	65
East Riverside Water Co.	926
Riverside Highland Water Company	1,173
TOTAL	3,916

APPENDIX L

The water Rubidoux Community Services District delivers to you comes from groundwater, which we currently pump from five active drinking water wells (Wells 1A, 2, 6, 8, and 18). All of our wells are located within the Rubidoux Community Services District boundaries and draw from the Riverside South Groundwater Basin. Water from Well 6 is treated at the District's Anita B. Smith Nitrate Removal Facility to reduce the concentration of nitrate before it enters the distribution system. To reduce the concentration of manganese in the water delivered to customers, water from Wells 1A and 8 is treated at the District's LaVerne J. Mahnke Manganese Removal Facility, and water from Well 18 is treated at the District's Leland J. Thompson Water Treatment Plant. The water is then blended with water from Well 2 before it enters the distribution system. Prior to blending, water from Well 2 is currently being treated for removal of 1,2,3-trichloropropane. A source water assessment was conducted for Well 1A in June 2019, prior to operation of Well 1A. No vulnerabilities were identified, and a copy of the source water assessment is available for review by contacting the District.

We routinely monitor for contaminants in your drinking water according to Federal and State laws. Tables 1 through 7 list all of the drinking water contaminants that were detected during the period of January 1st to December 31st, 2019. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

In this report are terms and abbreviations you might not be familiar with. To help you better understand these terms, we have provided the following definitions:

Parts per million (ppm) or milligrams per liter (mg/L) – a measure of concentration in water. One part per million (or milligram per liter) corresponds to one second in 11.5 days.

Parts per billion (ppb) or micrograms per liter (µg/L) – a measure of concentration in water. One part per billion (or microgram per liter) corresponds to one second in nearly 32 years.

Parts per trillion (ppt) or nanograms per liter (mg/L) – a measure of concentration in water. One part per trillion (or nanogram per liter) corresponds to one second in nearly 32,000 years.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Microsiemens per centimeter (µS/cm) - a measure of the electrical conductivity of water.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Regulatory Action Level (AL) or Notification Level (NL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level (MCL) - the highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG) - the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Public Health Goal (PHG) – the level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency. *Note: PHGs do not take into account economic or technological feasibility.*

Primary Drinking Water Standard (PDWS) – MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standard (SDWS) – MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

No violations of the nitrate MCL (10 mg/L of nitrate as nitrogen) occurred at any time during 2019. As shown in Table 2, nitrate is present in detectable quantities in the water at an average concentration of 7.1 mg/L. Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should seek advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms can include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

The State Water Resources Control Board, Division of Drinking Water (State Board) sets drinking water standards and has determined that chlorine is a health concern at certain levels of exposure. Chlorine is added to drinking water as a disinfectant to kill bacteria and other disease-causing microorganisms and is also added to provide continuous disinfection throughout the distribution system. Disinfection is required for surface water systems. However, at high doses for extended periods of time, chlorine has been shown to affect blood and the liver in laboratory animals. The State Board has set a drinking water standard for chlorine to protect against the risk of these adverse effects. Drinking water which meets this State Board standard is associated with little to none of this risk and should be considered safe with respect to chlorine.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If you have any questions about this report or concerning your water utility, please contact Jeff Sims, District Engineer, at the District office, (951) 684-7580. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Thursdays of each month at 4:00 p.m. at 3590 Rubidoux Boulevard, Jurupa Valley, CA 92509.

Annual Consumer Confidence Report

Spring 2020

The Rubidoux Community Services District is pleased to present to you this year's Annual Consumer Confidence Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. We are committed to ensuring the quality of your water. This report shows the quality of your water and what it means. We are pleased to report that your drinking water meets all federal and state requirements.

Este informe contiene información muy importante sobre su agua beber. Favor de comunicarse Rubidoux Community Services District a (951) 684-7580 para asistirlo en enspañol.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and State Water Resources Control Board, Division of Drinking Water (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by visiting the USEPA's website at http://water.epa.gov/drink/index.cfm or by calling the USEPA's Safe Drinking Water Hotline (800-426-4791), the National Radon Hotline (800-557-2366), or the California Dept. of Public Health Indoor Radon Program (800-745-7236).

TABLE 1 – SAMPLING RESULTS SHOWING DETECTION OF COLIFORM BACTERIA

Microbiological Contaminant	Highest Percentage of Detections (in a month)	No. of Months in Violation	MCL	PHG (MCLG)	Typical Source of Bacteria
Total Coliform Bacteria	1.90%	0	Detections in 5% of monthly samples	0	Naturally present in the environment

TABLE 2 – DETECTION OF INORGANIC CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent	Units	Average Level Detected	Range of Detection	MCL or MRDL	PHG (MCLG or MRDLG)	Typical Source of Contaminant
Arsenic[a]	ppb	0.034	<2.0-3.9	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine	ppm	0.76[b]	0.5 – 1.2	4.0	4.0	Drinking water disinfectant added for treatment
Total Chromium	ppb	2.02	<1.0 – 6.2	50	100	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride[c]	ppm	0.26	0.2 – 0.5	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as Nitrogen	ppm	7.1	4.1 – 9.4	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Perchlorate	ppb	<4.0	<4.0 - 5.2	6	1	Discharge from aerospace and other industrial facilities

TABLE 3 – DETECTION OF ORGANIC CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent	Units	Average Level Detected	Range of Detection	MCL or MRDL	PHG (MCLG or MRDLG)	Typical Source of Contaminant
TTHMs [Total Trihalomethanes]	ppb	20.5[d]	8.9 – 22	80	None established	Byproduct of drinking water disinfection
HAA [Haloacetic Acids]	ppb	2.1[d]	<2.0 – 3.9	60	None established	Byproduct of drinking water disinfection

TABLE 4 – SAMPLING RESULTS FOR RADIOACTIVITY[e]

Chemical or Constituent	Units	Average Level Detected	Range of Detection	MCL	PHG (MCLG)	Typical Source of Contaminant
Alpha Activity, Gross	pCi/L	7.66	3.34 – 8.81	15	0	Erosion of natural deposits
Uranium	pCi/L	4.41	2.23 – 6.85	20	0.43	Erosion of natural deposits

(a) Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
(b) Highest running annual average during 2019.
(c) Fluoride is naturally present in Rubidoux Community Services District's groundwater supply. The District does not add fluoride to your drinking water.
(d) Highest Locational Running Annual Average (LRAA) during 2019.
(e) The most recent samples for gross alpha activity were taken in 2017 and 2019, and the samples for uranium were taken in 2016 and 2017.
(f) There are no PHGs, MCLGs, or mandatory standard health effects language for these constituents because Secondary MCLs are set on the basis of aesthetics.

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent	Units	Average Level Detected	Range of Detection	MCL	PHG[f] (MCLG)	Typical Source of Contaminant
Chloride	ppm	69	45 – 83	500	None established	Runoff/leaching from natural deposits; seawater influence
Manganese	ppb	<20	<20 - 35	50	None established	Leaching from natural deposits
pH	pH Units	7.9	7.6 – 8.2	None established	None established	Erosion of natural deposits
Specific Conductance	µS/cm	800	760 – 810	1600	None established	Substances that form ions when in water; seawater influence
Sulfate	ppm	83	77 – 85	500	None established	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	498	460 – 530	1000	None established	Runoff/leaching from natural deposits
Turbidity	NTU	0.56	<0.1 – 8.9[g]	5	None established	Soil runoff

TABLE 6 – SAMPLING RESULTS[h] FOR LEAD[i] AND COPPER

Chemical or Constituent and Reporting Units	No. of Samples Collected	90th Percentile Level Detected	Action Level (AL)	No. of Sites Exceeding AL	PHG (MCLG)	Typical Source of Contaminant
Copper (ppm)	31	0.51	1.3	0	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)[i]	31	<5	15	0	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

TABLE 7 – SAMPLING RESULTS FOR UNREGULATED CONTAMINANTS

Chemical or Constituent	Units	Average Level Detected	Range of Detection	MCL or NL	PHG (MCLG)	Typical Source of Contaminant
Boron	ppb	156	<100 – 260	NL=1000	None established	Erosion of natural deposits
Sodium	ppm	61	38 – 74	None established	None established	Erosion of natural deposits
Hardness	ppm	267[j]	220 – 320	None established	None established	Erosion of natural deposits
PFOA[k]	ppt	10.98	7.4 - 13.0	NL=5.1	None established	Firefighting foams, nonstick coatings, industrial facilities
PFOS[l]	ppt	10.13	1.9 - 16.0	NL=6.5	None established	Firefighting foams, nonstick coatings, industrial facilities
Hexavalent Chromium (samples taken in 2014)	ppb	2.54	<1.0 – 4.8	None established	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits

(g) Out of 156 samples taken for turbidity during 2019, one sample exceeded the secondary MCL of 5 nephelometric turbidity units (NTU); however, the annual average level detected was below the MCL. Turbidity monitoring is conducted on a weekly basis.
(h) Samples for lead and copper are taken every three years, and the most recent samples were taken in 2017. No schools requested lead sampling from us during 2019.
(i) If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Rubidoux Community Services District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/lead.
(j) Equivalent to approximately 16 grains per gallon.
(k) PFOA is perfluorooctanoic acid. The District is currently working to install treatment facilities to reduce levels of PFOA to below the NL.
(l) PFOS is perfluorooctanesulfonic acid. The District is currently working to install treatment facilities to reduce levels of PFOS to below the NL.

APPENDIX M

RUBIDOUX COMMUNITY SERVICES DISTRICT
ORDINANCE NO. 111

AN ORDINANCE OF THE RUBIDOUX COMMUNITY SERVICES DISTRICT, ESTABLISHING A LANDSCAPE WATER USE EFFICIENCY PROGRAM PROVIDING COMPLIANCE MEASURES IN SUPPORT OF STATE LANDSCAPE MODEL ORDINANCE REQUIREMENTS

WHEREAS, the California Water Conservation in Landscaping Act, also known as the State Landscape Model Ordinance, has been implemented by a Statewide Landscape Task Force which was overseen by the California Urban Water Conservation Council. The California Water Conservation in Landscaping Act was amended pursuant to AB 2717 of 2004; and

WHEREAS, AB 1881 of 2006 requires local agencies, not later than January 1, 2010, to adopt the updated model ordinance or an equivalent document which is "at least as effective as" the State Model Ordinance. In the event local agencies do not take such action, the State's version will be deemed to be automatically adopted by statute; and

WHEREAS, The Riverside County Water Task Force, a county-wide stakeholder group, has constructed a local water efficiency ordinance designed to meet the requirements and guidelines of the State Model Ordinance; and

WHEREAS, enforcement of ordinances required by AB 1881 to be adopted by the County of Riverside and County of San Bernardino, will require supportive measures of the Rubidoux Community Services District ("RCSD"), a local water provider within a portion of these jurisdictions; and

WHEREAS, pursuant to California Water Code section 71610.5, the RCSD may undertake a water conservation program to reduce water use and may require that reasonable water-saving devices and water reclamation devices be installed to reduce water use; and

WHEREAS, pursuant to California Water Code section 71640, the RCSD may restrict the use of water during any emergency caused by drought, or other threatened or existing water shortage, and may prohibit the wastage of water or the use of water during such periods for any purpose other than household uses or such other restricted uses as the RCSD determines to be necessary. The RCSD may also prohibit use of water during such periods for specific uses which it finds to be nonessential. Pursuant to California Water Code section 71641, the RCSD may prescribe and define by ordinance the restrictions, prohibitions, and exclusions referred to in section 71640; and

WHEREAS, pursuant to California Water Code section 375, the Board is authorized to adopt and enforce a water conservation program to reduce the quantity of water used by persons within its jurisdiction for the purpose of conserving the water supplies of the RCSD; and

WHEREAS, a notice of a public hearing regarding the proposed adoption of this Ordinance was published in the Press-Enterprise, a newspaper of general circulation at least seven (7) days prior to the hearing; and

WHEREAS, a public hearing regarding the proposed adoption of this Ordinance was conducted on October 15, 2009 at 7:30 p.m., or as soon thereafter as practicable, as part of the regular meeting of the Board; and

WHEREAS, the Board of Directors has a long-standing policy of engaging in and encouraging efficient water management measures and practices and desires to adopt this Ordinance in order to provide supportive measures to facilitate the enforcement of landscape conservation ordinances by the County of Riverside and County of San Bernardino; and

BE IT ORDAINED by the Board of Directors of the Rubidoux Community Services District as follows:

Section 1. SHORT TITLE.

This Ordinance shall be known as the "Landscape Water Use Efficiency Program".

Section 2. INTENT.

It is the intent of the Board of Directors in adopting this Ordinance to:

A. Establish provisions for water management practices and water waste prevention;
B. Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects;
C. To reduce the water demands from landscapes without a decline in landscape quality or quantity;
D. To retain flexibility and encourage creativity through appropriate design;
E. To assure the attainment of water-efficient landscape goals by requiring that landscapes not exceed a maximum water demand of seventy percent (70%) of its reference evapotranspiration (ET_o) or any lower percentage as may be required by water purveyor policy or state legislation, whichever is stricter;
F. To eliminate water waste from overspray and/or runoff;
G. To achieve water conservation by raising the public awareness of the need to conserve water through education and motivation to embrace an effective water demand management program; and
H. To implement the requirements to meet the state of California Water Conservation in Landscaping Act 2006 and the California Code of Regulations Title 23, Division 2, Chapter 2.7.

Section 3. DEFINITIONS.

The terms used in this ordinance have the meaning set forth below:

A. *Backfilling* - to refill an excavation, usually with excavated material
B. *Backflow prevention device* - a safety device used to prevent pollution or contamination of the water supply

due to the reverse flow of water from the irrigation system.

C. *Check valve* or *anti-drain valve* - a valve located under a sprinkler head or other location in the irrigation system to hold water in the system to prevent drainage from the sprinkler heads when the system is off.

D. *Established landscape* - the point at which plants in the landscape have developed significant root growth into the site. Typically, most plants are established after one or two years of growth

E. *Estimated Annual Water Use* or *EAWU* - estimated total water use per year as calculated using the formula contained in Section 6.B.3.

F. *Evapotranspiration* - the loss of water to the atmosphere by the combined processes of evaporation from soil and plant surfaces, and transpiration from plant tissues. It is an indication of how much water a plant needs to sustain healthy growth. It is expressed as inches of water per time period.

G. *Hydrozone* - a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

H. *Invasive species* - non-indigenous species (both plants and animals) that adversely affect the habitats they invade economically, environmentally, or ecologically. Lists of invasive species are included within the Western Riverside County Multi-Species Habitat Conservation Plan and the Coachella Valley Multi-Species Habitat Conservation Plan (incorporated by reference). In addition, for the purposes of this Program, invasive species include other locally invasive species as further defined by a local lead agency.

I. *Landscape architect* - a person who holds a license to practice landscape architecture in the state of California (Government Code Section 5615).

J. *Landscaped area* or *LA* - all of the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance (MAWA) calculation. The landscaped area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or impervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

K. *Local water purveyor* - any entity, including a public agency, city, county or private water company that provides retail water service to customers in Riverside and San Bernardino Counties.

L. *Low volume irrigation* - the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

M. *Maximum Applied Water Allowance* or *MAWA* - the upper limit of annual applied water allowed for the established landscaped area as calculated using the formula contained in Section 6.B.2

N. *Overhead sprinkler irrigation systems* - systems that deliver water through the air (e.g., pop-ups, impact sprinklers, spray heads and rotors, etc.).

O. *Reference evapotranspiration* or *ET_o* - ET_o is evapotranspiration from a standardized vegetation surface, such as well irrigated cool-season grass, in a particular location. It is given in inches per day, month or year. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated. Reference evapotranspiration numbers shall be taken from the most current Evapotranspiration Zones Map by the California Department of Water Resources. For geographic areas not covered by the Evapotranspiration Zones Map, data from nearby areas shall be used.

P. *Rehabilitated landscapes* - any re-landscaping project that requires a permit, plan check, or design review, and/or would meet the requirements of Section 4.

Q. *Special landscape area* - an area of the landscape dedicated to edible plants, areas irrigated with recycled water or non-potable water, and publicly accessible areas dedicated to active play such as parks, sports fields, golf courses, where turf provides a playing field or where turf is needed for high traffic activities.

R. *Temporarily irrigated* - irrigation for the purposes of establishing plants, or irrigation which will not continue after plant establishment. Temporary irrigation is for a period of six months or less.

S. *Water intensive landscaping* - a landscape with a WUCOLS plant factor of 0.7 or greater.

T. *WUCOLS* - the publication entitled "Water Use Classification of Landscape Species" by the University of California Cooperative Extension (1999 or most current version).

Section 4. APPLICABILITY.

The water-efficient landscape requirements contained in this Program apply to all existing properties with landscape areas one acre or greater in size and all properties served by a dedicated landscape irrigation meter.

Section 5. LANDSCAPE DOCUMENTATION PACKAGE REQUIREMENTS.

An applicant proposing any new landscape that is subject to this Program as defined in Section 4 above, and designated for recycled or non-potable water use, is advised that recycled or non-potable water irrigation systems will entail additional coordination with the RCSD, the land use agency and the maintenance entity's standards, approvals, and implementation requirements. Therefore, applicants shall consult with the RCSD early in the development review process to ensure that future recycled or non-potable water facilities meet the projected demand and that subsequent landscape plans comply with the applicable standards, approvals, and implementation requirements of the RCSD, the land use agency, and maintenance entity.

Water systems for common open space areas shall use non-potable water if approved facilities are made available by the RCSD. Provisions for a non-potable water system shall be provided within the landscape plan. Water systems designed to utilize non-potable water shall be designed to meet all applicable standards of the California Regional Water Quality Control Board and the Riverside County Health Department.

Section 6. LANDSCAPE WATER USE EFFICIENCY ENFORCEMENT.

A. RESTRICTIONS. The following water conservation requirements are intended to avoid water waste and are effective at all times. These requirements shall be subject to change, from time to time, by the Board. For example, and not by way of limitation, the Board may revise or amend the RCSD's Water Conservation and Supply Shortage Program from time to time.

1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water, excluding agricultural crops grown for commercial sale, is prohibited between the hours of 8:00 a.m. and 8:00 p.m. on any day; except:
   a. by use of a hand-held bucket or similar container,

b. a hand-held hose equipped with a positive self-closing water shut-off nozzle or device,
c. through permanently-installed low-volume point-to-point drip irrigation that is completely covered by an organic or inorganic mulch layer,
d. for very short periods of time for the express purpose of adjusting or repairing an irrigation system, or
e. for very short period of time during the first three weeks of a new landscaper's establishment period. Overhead irrigation shall be limited to the hours of 8:00 p.m. to 9:00 a.m.

2. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
3. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.
4. Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven (7) calendar days, is prohibited.

B. LANDSCAPE METER REQUIREMENTS.

1. A separate dedicated meter is required for landscape areas greater than or equal to 2,500 square-feet
2. The efficient use of water should be considered in the design of any new landscape area. The MAWA will be calculated for customers that request a new account using the following formula:

MAWA (in gallons) = $(ET_o)(0.62)[(0.7 \times LA) + (0.3 \times SLA)]$

Where:

ET_o is historic local reference evapotranspiration;
LA is total landscape area (including the SLA) in square-feet;
SLA is the amount of special landscape area in square-feet

i. For the purposes of determining the MAWA, average irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71.

3. Prior to the issuance of a meter, the new customer shall calculate the Estimated Annual Water Use (EAWU) for each landscape area using the following formula

EAWU (in gallons) = (ET_o)(0.62)[(PF x HA)/IE) + SLA]

Where:
ET_o is reference evapotranspiration
PF is plant factor
HA is hydrozone area in square-feet
IE is irrigation efficiency (minimum 0.71)
SLA is the amount of special landscape area in square-feet

i. Landscaping plans shall provide the EAWU (in the same units as the MAWA) for each landscaped area or hydrozone. The sum of all EAWU totals shall not exceed the MAWA for the project.
ii. The plant factor used shall be from the WUCOLS. The plant factor for low water-use plants range from 0 to 0.3; for moderate water-use plants range from 0.4 to 0.6; and for high water-use plants range from 0.7 to 1.0.
iii. The plant factor calculation is based on the proportions of the respective plant water uses and their plant factor, or the plant factor of the higher water-using plant is used.
iv. The surface area of a water feature shall be included in the high water-use hydrozone area of the water budget calculation, and temporarily irrigated areas in the low water-use hydrozone.

4. For the new meter to be issued, the sum of the EAWU's for all landscaped areas of the project cannot exceed the MAWA for the project as calculated in Section 6.B.2 of the Program. Calculations shall be submitted to the RCSD for review.

5. New accounts that have to comply with equivalent or more stringent water use efficiency measures imposed by another jurisdiction do not need to comply with the requirements of this section of the Program, but do need to provide information about the landscape area to the RCSD.

C. ENFORCEMENT. The RCSD may provide water efficiency audits, and surveys for all direct retail water customers to ensure water is being used efficiently. RCSD's authority may include the implementation of a water budget-based rate structure for all customers based on metrics described in the State Landscape Model Ordinance, the County Task Force Local Water Efficient Ordinance and the Maximum Allowable Water Allowance formula detailed above for landscapes existing prior to January 1, 2010 and qualifying Special Landscape Areas will be given landscape factors of 0.80 and 1.0 respectively, as outlined in the State Model Ordinance.

Section 7. CEQA COMPIANCE.

The Board hereby finds that this Ordinance is not subject to the California Environmental Quality Act (Public Resources Code Section 2100 et seq.) ("CEQA") pursuant to Section 15307 (the activity assures the maintenance, restoration, enhancement, or protection of a natural resource) and Section 15378(b)(2) (the activity is not a project as it involves general policy and procedure making) of the State CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, since it makes and implements policies and procedures for ensuring that water resources are conserved by reducing the water demands of landscaping.

Section 8. CONFLICTING PROVISIONS.

If provisions of this Ordinance are in conflict with each, other rules and regulations of the RCSD, any other resolution or ordinance of the RCSD, or any State law or regulation, the more restrictive provisions shall apply.

Section 9. SEVERABILITY.

If any provision, section, subsection, sentence, clause or phrase or sections of this Ordinance, or the application of same to any person or set of circumstances, is for any reason held to be unconstitutional, void or invalid, the invalidity of the remaining portions or sections of this

Ordinance shall not be affected, it being the intent of the Board in adopting this Ordinance that no portions, provisions, or regulations contained herein shall become inoperative, or fail by reason of the unconstitutionality of any other provision hereof, and all provisions of this ordinance are declared to be severable for that purpose.

Section 10. EFFECTIVE DATE AND PUBLICATION.

This Ordinance shall be effective upon adoption. Within ten (10) days after its adoption, the Secretary shall cause this Ordinance to be published once pursuant to California Government Code section 6061 in full in a newspaper of general circulation which is printed, published, and circulated within the RCSD. If there is no such newspaper, the Ordinance shall be posted within the RCSD after its adoption in three public places.

ADOPTED, by the Rubidoux Community Services District Board of Directors this 15th day of October, 2009.

JOHN SKERBELIS
President

October 15, 2009

ATTEST

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of Ordinance 111 adopted by the Board of Directors of the Rubidoux Community Services District at its regularly scheduled Board Meeting held October 15, 2009.

DAVID D. LOPEZ
Sectrary-Manager

APPROVED AS TO FORM AND CONTENT:

JOHN R. HARPER
General Counsel

RESOLUTION NO. 2019 – 858

A RESOLUTION OF THE RUBIDOUX COMMUNITY SERVICES DISTRICT ESTABLISHING A POLICY REGARDING CONSTRUCTION WATER

WHEREAS, the Rubidoux Community Services District ("District") was organized on November 24, 1952 in accordance with the State of California Community Services District Law pursuant to Government Code Section 60,000 et seq., for the purpose of providing certain public services, including, but not limited to, the purveying of water supplies to customers within its service area; and

WHEREAS, the District's source of water supply is groundwater from the Riverside South Basin which has been and continues to be a reliable source of supply for water demands of customers within the District; and

WHEREAS, through cooperative effort with Jurupa Community Services District the District has built an interagency connection that allows potable water to flow to either agency for emergency situations, and when mutually agreed upon, to sell available surplus potable water; and

WHEREAS, on May 16, 1996 the District Board of Directors adopted Resolution No. 657 establishing a policy for the utilization of District wells producing non-potable water for construction water purposes; and

WHEREAS, on June 18, 2015 the District adopted Resolution No. 2015-820 declaring a modified stage 2 drought contingency pursuant to the District's Water Shortage Contingency Plan for compliance with State Water Resource Control Board requirements. The various water conservation measures outlined are predicated on an acknowledgement within Resolution No. 2015-820 that the District is not directly vulnerable to imported and surface water shortages due to an adequate and stable supply of groundwater. This resolution also re-emphasizes use of non-potable water for construction water purposes as stated in Resolution No. 657; and

WHEREAS, strict application of Resolution No. 657 necessitates Customers requiring construction water to truck haul water from non-potable wells the District has dedicated for construction water purposes; and

WHEREAS, some development projects are not near District owned non-potable wells and to use non-potable water for construction water the water has to be truck hauled. Truck hauling of construction water is not practicable for some projects due to the number of trucks trips necessary to move the quantity of water required. The truck traffic creates negative impacts on area traffic, adds diesel emissions, and may in some cases stop development of a project due to the added cost of truck hauling water; and

WHEREAS, the District since adoption of Resolution No. 657 has made significant improvements to the potable water system including the addition of the ability to obtain water supply from Jurupa Community Services District;

WHEREAS, on April 4, 2017 the State Water Resources Control Board adopted Resolution No. 2017-0024 repealing portions of the California Code of Regulations, Title 23, Sections 864.5, 865, and 866 that established various emergency regulations and requirements of Water Suppliers during drought conditions. This resolution further encourages Water Suppliers to promote water conservation by their Customers regardless of supply conditions; and

WHEREAS, based on improvements to the District's water supplies and repeal by the State Water Resources Control Board of various water conservation regulations and requirements that were put into effect due to statewide drought conditions, the District has determined two options construction water can now be offered to Customers. The options include – 1) use of potable water through hydrant meters at costs reflective of a temporary use of the District's potable water system, or 2) use of non-potable water from District non-potable wells at lower rates reflective of no treatment or distribution expense; and

WHEREAS, the District Board of Directors desire to establish terms and conditions for each option for construction water to be used by Customers within the District's service area.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED BY THE BOARD OF DIRECTORS OF THE RUBIDOUX COMMUNITY SERVICES DISTRICT that, Resolution No. 657 is rescinded in its entirety; and

BE IT FURTHER RESOLVED AND ORDERED BY THE BOARD OF DIRECTORS OF THE RUBIDOUX COMMUNITY SERVICES DISTRICT that, Resolution No. 2015-820 is rescinded in its entirety; and

BE IT FURTHER RESOLVED, that the Rubidoux Community Services District Board of Directors does hereby create the following options for Customers within the District service area to obtain construction water under certain terms and conditions as follows:

A. <u>Recitals</u>

The foregoing Recitals are true and correct.

B. <u>Non-potable Water Option</u>

1. Customer shall fill out a construction water application for review and approval by District staff.

2. Any and all non-potable construction water shall be metered through a District issued Temporary Construction Meter.

3. Customer shall provide District a deposit 150% of the cost of replacing a Temporary Construction Meter (currently $2,825). District will refund the deposit within six (6) weeks of return of the undamaged Temporary Hydrant Meter.

4. Non-potable construction water shall be obtained through a Temporary Construction Meter attached to a District owned non-potable well as shown on Exhibit A with prior coordination with District staff.

5. Customer is responsible to bring the Temporary Construction Meter to the District Office for recording and billing purposes by the 25th of each month. The District may waive this requirement and elect to send District staff to the approved location of the Temporary Hydrant Meter to record usage.

6. Billing rate:

    a. Fixed Monthly: $ 30.00 / month, or partial month the hydrant meter is in possession of the Customer
    b. Variable Commodity Rate: $0.75 / HCF
    c. Both fixed and variable rates are to be reviewed periodically and subject to change based on approval by District Board of Directors.

7. Any late payment of billings by Customer shall be paid in accordance with District policies.

C. <u>Potable Water Option</u>

1. Customer shall fill out a construction water application for review and approval by District staff.

2. Any and all potable construction water shall be metered through a District issued Temporary Construction Meter.

3. Customer shall provide District a deposit 150% of the cost of replacing a Temporary Construction Meter (currently $2,825). District will refund the deposit within six (6) weeks of return of the undamaged Temporary Hydrant Meter.

4. Potable construction water shall be obtained from District through a Temporary Construction Meter attached to a District owned fire hydrant(s) as approved by the District. District reserves the right, in its sole discretion, on approval of fire hydrant(s) to be utilized. Customer is to meet with District staff prior to attaching the Temporary Hydrant Meter to a District owned fire hydrant for proper operation of fire hydrant valves.

8. Customer is responsible to bring the Temporary Construction Meter to the District Office for recording and billing purposes by the 25th of each month. The District may waive this requirement and elect to send District staff to the approved location of the Temporary Hydrant Meter to record usage.

5. Billing rate:

    a. Fixed Monthly: $ 238.00 / month, or partial month the Temporary Hydrant Meter is in possession of the Customer
    b. Variable Commodity Rate: $3.60 / HCF
    c. Both fixed and variable rates are to be reviewed periodically and subject to change based on approval by District Board of Directors.

6. Any late payment of billings by Customer shall be paid in accordance with District policies.

D. <u>District Authority</u>

The District retains the right, in its sole judgment, to reduce or stop use of construction water by Customers in the event operational issues on its water supply problems to meet District water demand of its potable water customers. Further, the District can suspend, stop, and / or reduce the supply of construction water, in its sole judgment, to comply with any local, state or federal rules or regulations that limit the use of water supply for construction related purposes.

E. <u>Default</u>

In the event of:

a. <u>Monetary default by Customer</u> – District shall provide written notice of any monetary default by Customer, such as lack of bill payment. The Customer shall cure the default or make arrangement satisfactory to the District, on or before thirty (30) days of written notice default. If not cured within the prescribed time, Customer acknowledges District can use any deposit held by the District to cure

the monetary default, and the District will take possession of the Temporary Hydrant Meter and discontinue construction water service to the Customer.

b. Operational default by Customer - An operational default could include use of unmetered water or use of a Temporary Hydrant Meter in a location not designated in the application. Any operational default will result in the District's termination of the Developers use of potable water for construction water.

F. District Water Conservation Measures

To promote ongoing water conservation practices by District Customers the District Board of Directors encourages Customers avoid use of water supply in the following manner except where necessary to address an immediate health and safety need or comply with a term or condition of a permit issued by state or federal agency:

1. Outdoor watering of ornamental landscapes or turf between the hours of 10:00 AM and 6:00PM
2. Outdoor watering of ornamental landscapes or turf of more than two (2) days per week
3. Outdoor watering of ornamental landscapes or turf of more than thirty (30) minutes per station for drip irrigation systems, and twenty (20) minutes per station for stream irrigation systems
4. Outdoor watering of ornamental landscapes or turf during or within forty-eight (48) hours after measurable rainfall
5. Watering of outdoor landscapes that cause runoff such that water flows onto adjacent property, non-irrigated areas, private or public walkways, roadways, parking lots, or structures
6. Using hoses that dispense potable water, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use
7. Using potable water in a fountain or decorative water feature, unless the water is recirculated
8. Draining or refilling swimming pools (maintaining water level is acceptable) without the written approval of the District's General Manager
9. Not covering a swimming pool when not in use
10. Swimming pool construction without the written approval of the District's General Manager
11. Serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drinks are served and/or purchased

12. Washing of driveways & sidewalks.

BE IF FURTHER RESOLVED, that this Resolution shall be effective immediately.

PASSED AND ADOPTED by the Rubidoux Community Services District Board of Directors at a regular meeting held this 7th day of November, 2019, by the following vote:

AYES: Hank Trueba, Armando Muniz, Bernard Murphy, F. Forest Trobridge
NOES John Skerbelis

ABSENT: None

ABSENTATIONS: None

ATTEST:

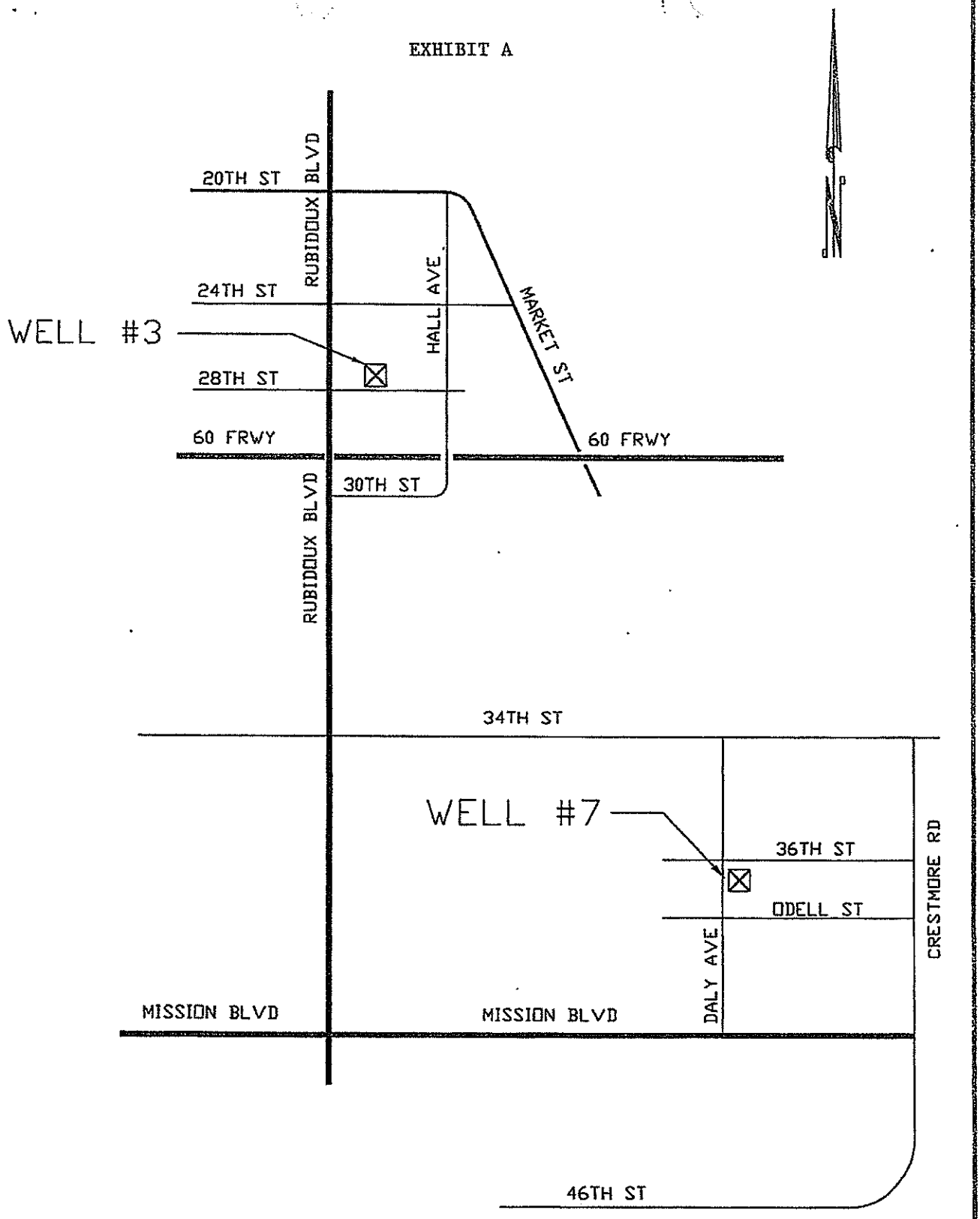
Hank Trueba, Jr., President
Rubidoux Community Services District

Steven W. Appel, General Manager
And Secretary to the Board

APPROVED AS TO FORM AND CONTENT

John R. Harper, General Counsel

EXHIBIT A



RUBIDOUX COMMUNITY SERVICES DISTRICT
NON-POTABLE WELL LOCATIONS
FOR CONSTRUCTION WATER

SCALE: NTS

APPENDIX N

2018

LOCAL HAZARD MITIGATION PLAN

Prepared by: Terri Rollings, Emergency Services Manager/PIO
Jurupa Valley, California

1/1/2018

CONTACT INFORMATION

City of Jurupa Valley

Name: Terri Rollings
Title: Emergency Services Manager/PIO
Address: 8930 Limonite Ave.
City, State, Zip: Jurupa Valley, CA 92509

Direct Contact: (951) 332-6464 ext, 249
Fax: (951) 332-6995
Email: trollings@jurupavalley.org

PLAN ADOPTION/RESOLUTION

The City of Jurupa Valley will submit plans to Riverside County Emergency Management Department (EMD) who will forward to California Governor's Office of Emergency Services (Cal OES) for review prior to being submitted to the Federal Emergency Management Agency (FEMA). In addition, we will wait to receive an "Approval Pending Adoption" letter from FEMA before taking the plan to our local governing bodies for adoption. Upon approval, the City of Jurupa Valley will insert the signed resolution.

EXECUTIVE SUMMARY

The purpose of this local hazard mitigation plan is to identify the City's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.

The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to achieve eligibility and potentially secure mitigation funding through Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs.

City's continual efforts to maintain a disaster-mitigation strategy is on-going. Our goal is to develop and maintain an all-inclusive plan to include all jurisdictions, special districts, businesses and community organizations to promote consistency, continuity and unification.

The City's planning process followed a methodology presented by FEMA and Cal OES which included conducting meetings with the Operational Area Planning Committee (OAPC) coordinated by Riverside County Emergency Management Department (EMD) comprised of participating Federal, State and local jurisdictions agencies, special districts, school districts, non-profit communities, universities, businesses, tribes and general public.

The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, provides future mitigation planning and maintenance of existing plan.

The plan will be implemented upon FEMA approval.

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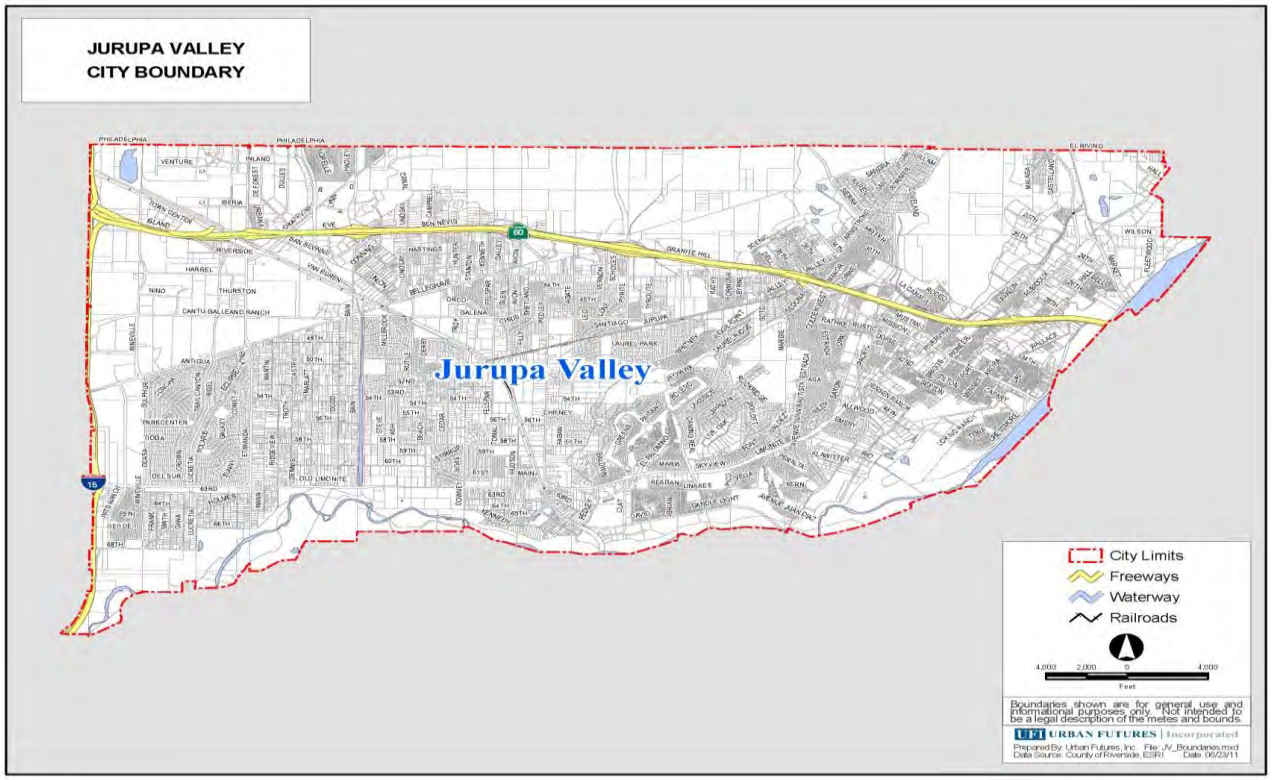
SECTION 1.0 - COMMUNITY PROFILE

1.1 CITY MAP



1.2 GEOGRAPHY AND CLIMATE DESCRIPTION

The City of Jurupa Valley covers a 44 square mile area and is approximately 5 miles west of the County seat, the City of Riverside. Jurupa Valley is approximately 60 miles east of the City of Los Angeles and approximately 90 miles north of San Diego. The City borders San Bernardino County to the north, Riverside and Norco to the east and south and the City of Eastvale to the West. Portions of the Santa Ana River traverse the southern portion of the city. Two primary transportation corridors traverse the City, Interstate 15 which runs north and south, and State Highway 60, which runs east and west.

The City of Jurupa Valley has a moderate climate with annual rainfall at approximately 2 – 3.5 inches per year. Vegetation is green and bountiful in the winter but can become dry and dense during the summer months. Summers are warm and can reach temperatures above 109 degrees during the peak of the day and remain in the high 80's during the evenings. Winter weather is mild averaging 65 – 76 degrees during the day and dropping down into the mid 30's or 40's in the evenings. Throughout most of the year, you can usually count on warm sunny days, with occasional mild to gusty winds throughout the late summer, fall, and early winter seasons.

1.3 BRIEF HISTORY

The City of Jurupa Valley was incorporated on July 1, 2011 by a group of passionate community volunteers. It is proud to be the 482nd City in California and the 28th City in Riverside County. The City of Jurupa Valley has a long history stretching back to the earliest days of California. Originally part of the vast Mexican land grant known as "Rancho Jurupa", the area evolved from the days of the caballeros to a place today with a population of over 101,000 people. Its history includes ranching, farming, dairy, mining, and urban growth while maintaining a rural atmosphere. Most of the agricultural areas have been subdivided and formed into many smaller communities such as Glen Avon, Pedley, Mira Loma, BellTown, Rubidoux, Sunnyslope, West Riverside, Granite Hill, Sky Country, and Indian Hills, to name a few.

The City of Jurupa Valley today reflects an equestrian lifestyle that is a mix of high and low density residential development, rural farming and other agricultural activities, and a mix of commercial retail and industrial activity. Many areas have large lots that allow the keeping of horses and other farm animals. Residents here enjoy the close proximity of the Santa Ana River bottom for trail riding and hiking as well as the numerous trails, golf courses, parks, and open areas located throughout the city.

The City of Jurupa Valley has significant capacity for expansion of both residential and commercial development activity. It has been in recent years that residential development and economic activity has increased in particular in the areas adjacent to the I-15 and Hwy 60. The City is a general-law form of government with Council-Manager administration and the City Manager appointed by the five council-members elected at-large.

1.4 ECONOMY DESCRIPTION

Although primarily a bedroom community which limits the sales and property tax base, the City of Jurupa Valley has a diverse business and job base that includes the non-manufacturing sector of agriculture, retail, trucking/warehouse distribution centers, and other support services. The largest employers in the area are the local school district, community service agencies, retail and grocery stores, and smaller manufacturing companies. The area's labor force includes professional, skilled, and semi-skilled workers.

Expanding commercial and residential opportunities in Jurupa Valley will be a major City focus over the next several years. The majority of residents currently travel to other areas to shop, decreasing the taxable income of the city. As a brand new city, Jurupa Valley will be able to offer excellent retail sites, fast track development processing, and future housing growth opportunities. With a continually growing population base, this makes the City very attractive to retailers and other commercial users.

Figure 1.4A City of Jurupa Economic and Labor Characteristics

JURUPA VALLEY

ECONOMIC AND LABOR FORCE CHARACTERISTICS

Labor Force Participation (*1)

Year	Labor Force	Employed	Unemployed	Unemployment Rate
2007	-	-	-	-
2008	-	-	-	-
2009	-	-	-	-
2010	-	-	-	-
2011	-	-	-	-
2012	-	-	-	-
2013*	-	-	-	-

* Preliminary August 2013

Employment/Jobs Projections (*3)

2020	34,397
2035	53,466

* Jobs within city boundary

2011 Employment/Jobs by Industry Sector* (*2)

Agriculture, Forestry, Fishing and Hunting	99
Mining, Quarrying, and Oil and Gas Extraction	9
Utilities	55
Construction	2,302
Manufacturing	2,575
Wholesale Trade	1,616
Retail Trade	2,596
Transportation and Warehousing	5,098
Information	264
Finance and Insurance	173
Real Estate and Rental and Leasing	229
Professional, Scientific, and Technical Services	515
Management of Companies and Enterprises	269
Administration & Support, Waste Mngt and Remediation	840
Educational Services	2,341
Health Care and Social Assistance	1,117
Arts, Entertainment, and Recreation	316
Accommodation and Food Services	1,261
Other Services (excluding Public Administration)	1,409
Public Administration	216
Total All Jobs	**23,300**

*Jobs within city boundary

Median Household Income

2000	- (*4)
2011	$ 58,560 (*5)

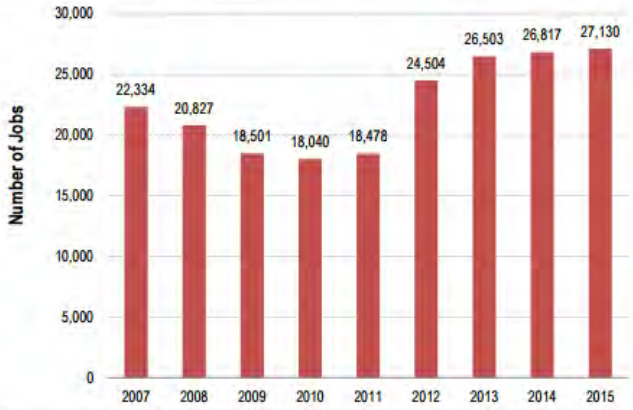
Taxable Sales in 1,000s of Dollars (*6)

Year	Total	% of County
2003	-	-
2004	-	-
2005	-	-
2006	-	-
2007	-	-
2008	-	-
2009	-	-
2010	-	-
2011	$184,926	0.7%

Sources: (*1) CA Employment Development Department (City residents working anywhere. Data are not seasonally adjusted)
(*2) U.S. Census Bureau Local Employment Dynamics
(*3) Riverside County Projections (RCP10)
(*4) Decennial Census, US Census Bureau (in 1999 inflation-adjusted dollars).
(*5) 2007-2011 American Community Survey 5-Year Estimates (in 2011 inflation-adjusted dollars).
(*6) State Board of Equalization
Note: Totals might not add up due to rounding.
Comparing data between years may be problematic because of incorporations & annexations.
Projections are based on April 1, 2010 boundary; therefore, current or future employment in the annexed area may not be reflected in these projections.

Total Jobs

Total Jobs: 2007 - 2015



Sources: California Employment Development Department, 2007 - 2015; InfoGroup; and SCAG

- Total jobs include wage and salary jobs and jobs held by business owners and self-employed persons. The total job count does not include unpaid volunteers or family workers, and private household workers.
- In 2015, total jobs in the City of Jurupa Valley numbered 27,131, an increase of 21.5 percent from 2007.

1.5 POPULATION AND HOUSING

According to the most current State Department of Finance Report released in May 2017, the City of Jurupa Valley has a current population base of 101,315.

Figure 1.5A City of Jurupa Valley Population Characteristics

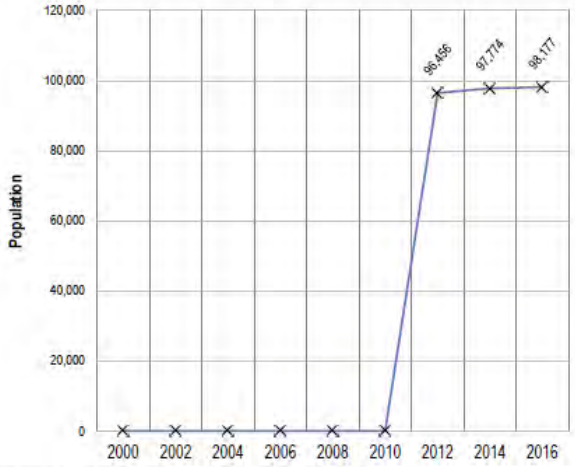
2017 Local Profile

City of Jurupa Valley

II. Population

Population Growth

Population: 2011 - 2016 2016



Source: California Department of Finance, E-5, 2016

- In 2016, the total population of the City of Jurupa Valley was 98,177.
- 4.2% of the total population of Riverside County is in the City of Jurupa Valley.
- The City of Jurupa Valley was incorporated in 2011, therefore data for previous years is not available.

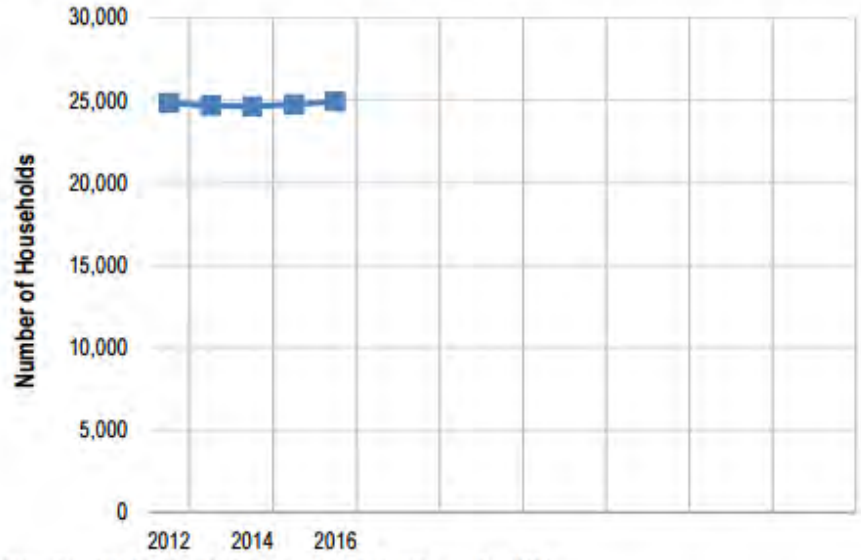
Figure 1.5B City of Jurupa Housing and Household Characteristics

2017 Local Profile City of Jurupa Valley

III. Households

Number of Households (Occupied Housing Units)

Number of Households: 2012 - 2016



Source: California Department of Finance, E-5, 2016

- In 2016, the total number of households in the City of Jurupa Valley was 24,936 units.
- 3.5 percent of Riverside County's total number of households are in the City of Jurupa Valley.
- In 2016, the city's average household size was 3.9, higher than the county average of 3.2.

1.6 DEVELOPMENT TRENDS AND LAND USE

With a population of approximately 101,315 the Jurupa Valley has tremendous potential for commercial development to serve the local communities as well as freeway related commercial development.

The Riverside County Economic Development Strategic Plan identified that the area suffers from significant retail leakage to outside communities. A large amount of prime vacant land is available for such commercial development locations in Mira Loma, Glen Avon and Pedley.

Some of these potential development locations are near Pedley Road at the 60 Freeway, Limonite at Interstate 15, Limonite Avenue at Van Buren Boulevard, Mission Boulevard at Pedley Road and Limonite Avenue at Clay Street. In addition, the Mission Boulevard Revitalization Program in Rubidoux will stimulate the rebuilding of the central business core.

Through redevelopment, a project area will receive focused attention and financial investment to reverse deteriorating trends and structures, create jobs, revitalize the business climate, rehabilitate and add to the affordable housing stock, and gain active participation and investment by citizens which may not otherwise occur in areas where the private sector are less inclined to invest without governmental assistance.

SECTION 2.0 - PLANNING PROCESS

2.1 LOCAL PLANNING PROCESS

Representatives from multiple City departments met on a regular basis to identify and prioritize hazards and appropriate mitigation strategies. All Stakeholders were invited to participate through phone calls, emails, and meetings.

City Departments represented at these meetings included:

- City Manager
- Emergency Services Manager/PIO
- Jurupa Valley Sheriff's Department Deputy and Lieutenant
- Riverside County Fire Department, Battalion Chief
- City Engineer/Public Works Director
- Chief Building Office

2.2 PARTICIPATION IN REGIONAL (OA) PLANNING PROCESS

The City of Jurupa Valley is California's newest incorporated city as of July 1, 2011. We did not come into the LHMP planning process until the end of October of 2011. The hiring of consultants to staff the numerous city positions did not occur right away however, staff and council realized the importance of participation within the LHMP, and the identification and development of the city's LHMP plan became a priority.

Planning:

- May 11, 2017 - One on one meeting with EMD LHMP Team
- OAPC – Meets quarterly
- Riverside County Emergency Management Department LHMP Workshop – June 6th 2016, EMD Riverwalk building, Riverside CA. 9 a.m. to 10 a.m.

2.3 DATES AVAILABLE FOR PUBLIC COMMENT

This document will be published on the City's social media account and website at www.jurupavalley.org. Screenshot of this is included under Appendix A. The document will also be available at City Hall with a comment box nearby. Photos of this display are included under Appendix A. Further, the City of Jurupa Valley intends to allow an organized forum for public comment when such activities can be scheduled during the 2018 calendar year.

2.4 PLANS ADOPTED BY RESOLUTION

Upon approval by FEMA, the LHMP will be presented to the Jurupa Valley City Council in a public meeting for adoption via an official Resolution.

SECTION 3.0 – MITIGATION ACTIONS/UPDATES

3.1 UPDATES FROM 2012 PLAN

There are no significant changes in priorities. All items listed in the mitigation strategies have been addressed and are complete or updated.

3.2 LIST OF COUNTY AND CITY HAZARDS

Riverside County Hazards	Final Ranking	Jurupa Valley Hazards	Final Ranking
Earthquake	1	Earthquake	1
Pandemic Flu	2	Pandemic Flu	2
Wildland Fire	3	Wildland Fire	3
Electrical Failure	4	Electrical Failure	4
Emergent Disease/Contamination	5	Emergent Disease/Contamination	5
Cyber Attack	6	Flood	6
Terrorist Event	7	Terrorist Event	7
Communications Failure	8	Communications Failure	8
Flood	9	Civil Disorder	9
Civil Disorder	10	Drought	10
Drought	11	Nuclear/Radiological Incident	11
Nuclear/Radiological Incident	12	Extreme Weather	12
Extreme Weather	13	Transportation Failure	13
Transportation Failure	14	Water Supply Disruption/Contamination	14
Dam Failure	15	Landslide	15
Aqueduct	16	Insect Infestation	16
Tornado	17	HazMat Incident	17
Insect Infestation	18	Pipeline Dispuption	18
Jail/Prison Event	19	Dam Failure	19
Pipeline Disruption	20	Acqueduct	20
Landslide	21	Tornado	21
HazMat Incident	22	Cyber Attack	22
Water Supply Disruption/Contamination	23	Jail/Prison Event	23

3.3 BRIEF STATEMENT OF UNIQUE HAZARDS

The hazards in the City of Jurupa Valley are very similar to Riverside County, including earthquake, flooding, and fire threats. Additionally, the City of Jurupa Valley has potential transportation related hazards since State HWY 60, a major east-west transportation corridor and I-15 both run through the borders of the city. There are major rail line corridors within the city, a Metrolink commuter rail service and station, and numerous freight branch lines. Jurupa Valley is also one of the largest trucking hubs in the State of California with over 44 carriers residing in the city and numerous warehouse distribution centers. Another concern for the city would be the risk of wildfires occurring within the large expanse of the Santa Ana Riverbed that runs through the southern portion of the city.

The most prominent hazards faced by residents of City of Jurupa Valley are a major earthquake, flooding potential from 100 year storm events in winter months along the Santa Ana River bank, and windstorms causing power outages. A long term power outage in summer months could produce life threatening extreme heat conditions for residents without access to air conditioning.

The City could also be impacted by terrorism or bio-terrorism that initially targets the Chino, Flabob and Ontario Airports and then spreads the impact to surrounding communities.

Riverside County has experienced severe flooding many times throughout its history, resulting in the loss of lives and millions of dollars in property damage. Floods are caused by rivers and creeks overrunning their banks, and most property damage has occurred where development has been allowed without regard for flood hazard.

Earthquake risk is very high in western Riverside County (which includes Jurupa Valley), due to the presence of two of California's most active faults: the San Andreas and San Jacinto.

Figure 3.3A City of Jurupa Flood Hazard Map

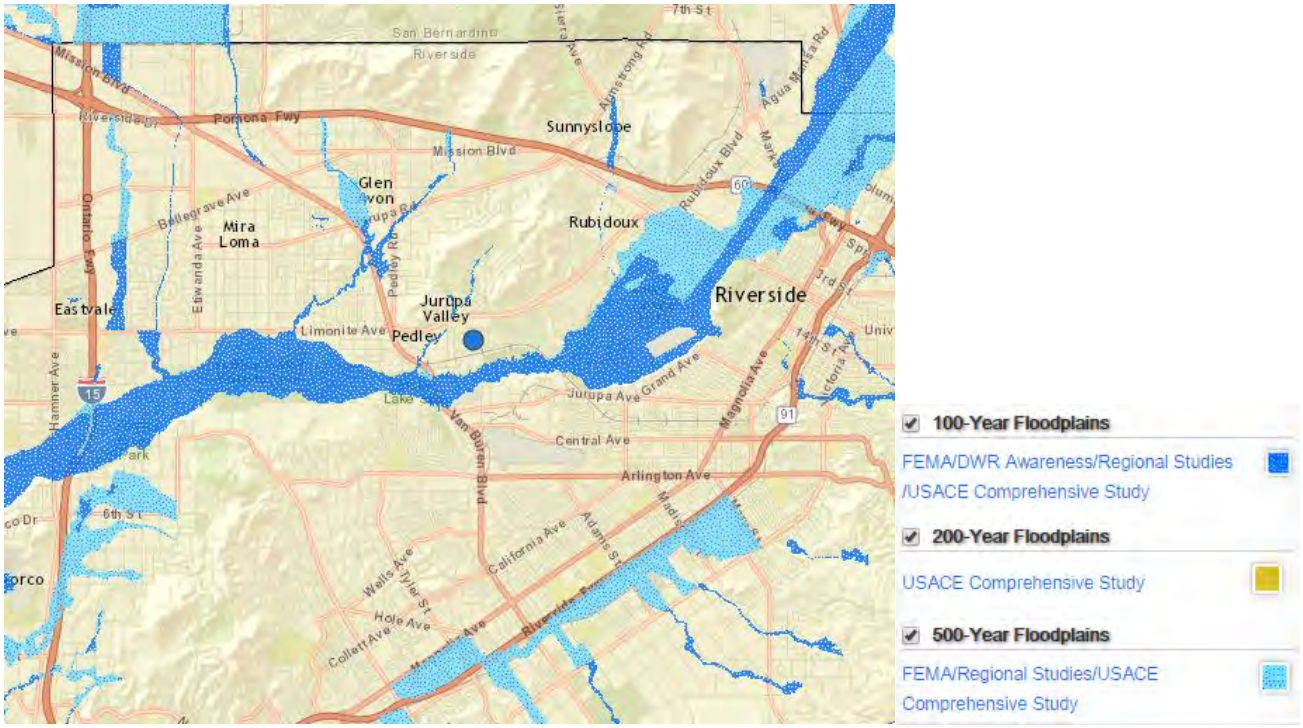


Figure 3.3B City of Jurupa Valley Fire Hazard Map

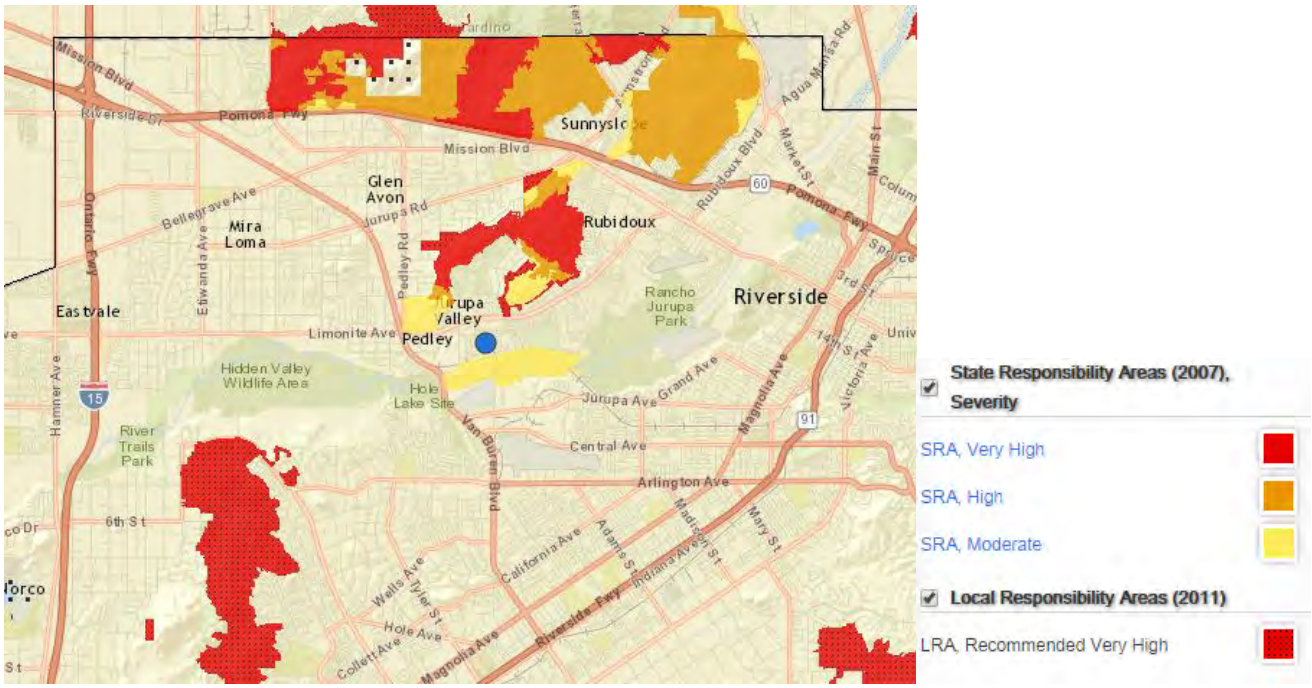


Figure 3.3C City of Jurupa Valley Earthquake Fault Zones

3.4 MITIGATION PROJECT UPDATES

Item	Project Name	Fund (Budget)	Schedule	Comments
RCFCD	Day Creek Channel, Stage 6, F	Construction:- Under Const	1. Lucretia closed btwn 65th & 66th until mid-Nov 2012	
JV/ RCFCD 9	Pyrite St Pavement Rehab {See RCFCD Pyrite Ck SD Bypass)	Gas Tax{$470k)	PS&E: 11/15/12 Bid/Award: Jan- Feb/Mar 2013 Construction: May- Jul 2013	1. Included street work in coord w/ RCFCD Pyrite Channel Bypass project, allocate $310,000 to coop agmt, canst admin by RCFCD 2. Consider reallocation$160,000 to Local Streets pavement rehab
RCFCD	Day Creek Channel, Line J, Stage 2	Construction: Under construction Feb 2013		Complete.
RCFCD	Mira Lama-Beach St Storm Drain	PS&E: Approved Bid/Award: Ongoing- Nov 6 BOS Award Construction: Dec 15,2012-Dec 2013	1. Plans approved by City;Coop Agreement apvd by City 2. Utility relocations Nov 2012	Complete.
JCSD	Pyrite Creek Trunk Sewer & Force Main	PS&E: 95% Bid/Award: Dec 11,2012 - Jan 29, 2013 Construction: Mar 11-Jun 21, 2013		Complete.
JCSD Upstream	Jurupa Rd Trunk Sewer-	PS&E: 100% Bid/Award: Dec 2012-Jan 2013		Complete.
JCSD	Area B Trunk Sewer			Complete.
JCSD	Sky Country Trunk Sewer, Wineville (681h-641h), 64'h (Wineville-Smith), Smith (64th 63'd), Easement (63rd_ Limonite) & Limonite (E'ly to Sky 3 Lift Sta)	PS&E: Approved Bid/Award: Jan-Feb 2013 Construction: March 2013	1. Monitor JCSD schedule; coord construction of Limonite Ave. project, relocate water line to clear deep SS	In-Progress.

SECTION 4.0 - HAZARD IDENTIFICATION AND RISK ASSESSMENT

4.1 CRITICAL FACILITIES AND INFRASTRUCTURES

Critical Facilities Type	Number
Regional Treatment Plant	1
Water Well /Tank Sites	11
Water Distribution Plant	3
Sewer Lift Stations	1

GAS – Blue Rhino	1
Aviation – Flabob Airport	1
Mass Transit RTA bus stops	throughout the city
Cellular Towers	27
City Hall	2
Fire Stations	4
Health Care Facilities	2
Police Station / EOC	1
Maintenance Yards	1
Railroads – Metrolink Station	1
Railroads- intersect throughout City – Union Pacific, Burlington Northern Santa Fe	3
Bridges –Van Buren/Limonite	2
Radio-Motorola	2
Residential Elderly Facilities	3
Schools	26
Community Center	1

4.2 ESTIMATING POTENTIAL LOSS

Map show parcels exposed to flood plain hazards in terms of value of structures. Riverside County's assessor's data can be used to calculate the improved value of parcels. (Please refer to Riverside County Operational Area Estimated Property Loss Values by City Table in Section 4.5.

4.3 TABLE REPLACEMENT VALUES

City of Jurupa Valley owns one 26-acre park along the Santa Ana River and four acres along 68th Street. We currently rent office space and as a full "contract city," both Sheriff and Fire services are contractually procured; the two Community Service Districts and the Jurupa Area Recreation and Parks District are governed by their own board of directors.

NAME OF ASSET		REPLACEMENT VALUE	OCCUPANCY	HAZARD
CITY HALL				
1.	Jurupa Valley City Hall	Lease - Unknown	On-File	High Ground Shaking High Hazard of Flooding Moderate Fire Hazard Severity Zone
High Schools				
1.	Rubidoux High	Unknown		High Ground Shaking High Hazard of Flooding
2.	Nueva Vista Continuation High	Unknown		High Ground Shaking Low Hazard of Flooding High Fire Hazard Severity Zone
3.	Patriot High	Unknown		High Ground Shaking Low Hazard of Flooding
4.	Jurupa Valley High	Unknown		High Ground Shaking High Hazard of Flooding
5.	Rio Vista Continuation High	Unknown		High Ground Shaking High Hazard of Flooding
Middle Schools				
6.	Mission Middle	Unknown		High Ground Shaking Low Hazard of Flooding
7.	Jurupa Middle	Unknown		High Ground Shaking Low Hazard of Flooding
8.	Mira Loma Middle	Unknown		High Ground Shaking Low Hazard of Flooding
Elementary Schools				
9.	Camino Real Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
10.	Glen Avon Elementary	Unknown		High Ground Shaking High Hazard of Flooding
11.	Granite Hill Elementary	Unknown		High Ground Shaking High Hazard of Flooding Very High Fire Hazard Severity Zone
12.	Ina Arbuckle Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
13.	Indian Hills Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
14.	Mission Bell Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
15.	Pacific Avenue Elementary	Unknown		High Ground Shaking High Hazard of Flooding
16.	Pedley Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
17.	Peralta Elementary	Unknown		High Ground Shaking High Hazard of Flooding
18.	Rustic Lane Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
19.	Sky Country Elementary	Unknown		High Ground Shaking High Hazard of Flooding
20.	Stone Avenue Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
21.	Sunnyslope Elementary	Unknown		High Ground Shaking Low Hazard of Flooding High Fire Hazard Severity Zone

22.	Troth Street Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
23.	Van Buren Elementary	Unknown		High Ground Shaking High Hazard of Flooding
24.	VanderMolen Elementary	Unknown		High Ground Shaking High Hazard of Flooding
25.	West Riverside Elementary	Unknown		High Ground Shaking Low Hazard of Flooding
Transportation				
26	Blue Rhino	Unknown		High Ground Shaking Low Hazard of Flooding
27	Flabob Airport	Unknown		High Ground Shaking Low Hazard of Flooding
28	Pedley Metrolink Station	Unknown		High Ground Shaking Low Hazard of Flooding Moderate Fire Hazard Severity Zone
Fire Protection				
1	Riverside County Fire Department CAL-FIRE Station 16	Unknown		High Ground Shaking Low Hazard of Flooding
2	Riverside County Fire Department CAL-FIRE Station 17	Unknown		High Ground Shaking High Hazard of Flooding
3	Riverside County Fire Department CAL-FIRE Station 18	Unknown		High Ground Shaking Low Hazard of Flooding Very High Fire Hazard Severity Zone
4	Riverside County Fire Department CAL-FIRE Station 38	Unknown		High Ground Shaking Low Hazard of Flooding Very High Fire Hazard Severity Zone
Water				
1	Jurupa Community Services District 11201 Harrel Street, Jurupa Valley, CA 91752	Unknown		High Ground Shaking High Hazard of Flooding
2	Jurupa Community Services District 4150 Etiwanda Ave., Jurupa Valley, CA 91752	Unknown		High Ground Shaking Low Hazard of Flooding
3	Rubidoux Community Services District 3590 Rubidoux Blvd. Jurupa Valley, CA 92509	Unknown		High Ground Shaking Low Hazard of Flooding
Other Government Facilities				
1	Eddie D Smith Senior Center 5888 Mission Blvd, Jurupa Valley, CA 92509	Unknown		High Ground Shaking Low Hazard of Flooding
2	Western Riverside and City Animal Shelter 6851 Van Buren Blvd Jurupa Valley, CA 92509	Unknown		High Ground Shaking High Hazard of Flooding Moderate Fire Hazard Severity Zone
3	Robidoux Library 5840 Mission Blvd. Jurupa Valley, CA 92509	Unknown		High Ground Shaking Low Hazard of Flooding
4	California Family Life Center 5656 Mission Blvd Jurupa Valley, CA 92509	Unknown		High Ground Shaking Low Hazard of Flooding
5	Jurupa Family Health Center 9415 Mission Blvd Jurupa Valley, CA 92509	Unknown		High Ground Shaking High Hazard of Flooding
6	Jurupa Unified School District Administrative Building 4850 Pedley Road	Unknown		High Ground Shaking

	Jurupa Valley, CA 92509			
7	Jurupa Area Recreation & Park District Community Center & Admin Building 4810 Pedley Rd. Jurupa Valley, CA 92509	Uknown		High Ground Shaking
8	JARPD Veteran's Memorial Park 4390 Riverview Dr. Jurupa Valley, CA 92509			High Ground Shaking

4.4 IDENTIFICATION OF RISKS AND VULNERABILITIES

The jurisdictions were asked to rate the potential and severity using a scale of between 0 and 4 (4 being the most severe). The jurisdictions were also asked to rank the listed hazards as they relate to their jurisdiction (1 being the highest overall threat to their jurisdiction). Please see Riverside County MJHMP Section 5 for past occurrences of hazards affecting Jurupa Valley.

1. Flood – Severity –3, Probability –3, Ranking-1

The Santa Ana River is normally a small meandering slow moving water system which becomes a raging river whenever there is substantial rainfall. The City is working in conjunction with Riverside County Flood Control & Water Conservation District to identify and mitigate areas that may cause or have the potential to cause damage or destruction of property.

Heavy rain events can also lead to problems with storm drainage systems and create localized flood problems. According to the City of Jurupa Valley Storm Drain Master Plan, there are several flooding problem areas in the City. These areas are primarily a result of undersized pipes where the runoff exceeds the pipe capacity even for minor storms. Compounding the storm water run-off, the geological features of Jurupa Valley is that everything slopes in a southwesterly direction. Storm water from the City of Riverside and surrounding areas northeast of Jurupa Valley are draining westward into Jurupa Valley storm water facilities. (Please see Riverside County MJHMP Section 5.3.9)

2. Earthquake - Severity –4, Probability –3, Ranking-2

City of Jurupa Valley is located in a Seismic Hazard Zone. The nearest active earthquake fault is the San Andreas Fault located on the northern part of the city.

In the past, Jurupa Valley has experienced tremendous and damaging earthquakes in December 1899 and in April 1918. The quakes each had magnitudes of approximately 6.6 on the Richter scale and caused substantial damage to existing buildings, including several deaths related to the events. There have been several noticeable ground movements in recent years, most notably the Landers and Big Bear earthquakes in 1992,

and the Northridge earthquake in 1994, but no local damage was sustained during these more recent events. (Please see Riverside County MJHMP Section 5.3.1).

3. Wild Fire - Severity –3, Probability –4, Ranking-3

A Wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. Wildfires can occur in undeveloped areas and spread to urban areas. The City of Jurupa Valley is in a High Fire Hazard Zone and has potential impact due to the vegetation in the Santa Ana River bottom. The Community Services District is responsible for the maintenance to remove the vegetation. (PIease see Riverside County MJHMP Section 5.3.3).

5. Severe Weather- Heat/Wind/Cold - Severity –2, Probability –4, Ranking-4

The City of Jurupa Valley utilizes the local Jurupa Area Recreation and Parks District community centers as cooling stations working closely with Riverside County Office of Emergency Services during severe heat events.

Severe Weather: The city has not recently experienced a severe heat related weather event. (Please see Riverside County MJHMP Section 5.3.13).

6. Technical Hazards - Severity –4, Probability –2, Ranking-5

Along with the potential for death and injuries from large-scale motor vehicle accidents, there is the potential for hazardous material spills or fires as numerous commercial transportation vehicles travel intra-city roadways with various types and quantities of hazardous materials, fuels, and chemicals. (Please see Riverside County MJHMP Section 5.3.14).

6. Drought - Severity –3, Probability –2, Ranking-6

Although the City of Jurupa Valley has never experienced a severe drought event, the city has established an ordinance to manage general public water usage, to include irrigation restrictions during severe weather related events. (Please see Riverside County MJHMP Section 5.3.11).

7. Agricultural Hazards - Severity –4, Probability –2, Ranking-7

A small area of Jurupa Valley is dedicated to agricultural businesses. Production of fruits, vegetables, flowers/trees, sod, and other produce items are grown within the city. Crop losses in the surrounding area due to hazards have economic impacts in Riverside County. Some of the businesses in jurisdiction are agricultural based including other dairy/poultry industry related businesses which have a substantial impact on the city's

economy; to include Riverside County in general. Our agriculturally based economy is vulnerable to freezes, heat waves, flooding, and insect infestations.

Any time a hazard-related event results in reduced crop or product production, the City of Jurupa Valley is negatively impacted by loss of revenue to major businesses, to include labor force reductions. The associated unemployment affects the crime rate, housing market, local businesses, and the City's sales tax revenues. (Please see Riverside County MJHMP Section 5.3.13.5)

SECTION 5.0 – COMMUNITY RATING SYSTEM

5.1 REPETITIVE LOSS PROPERTIES

There are zero repetitive loss properties in the City of Jurupa Valley reported to date.

5.2 NATIONAL FLOOD INSURANCE PROPERTIES

a. ***Describe participation in NFIP, including any changes since previously approved plan.***

The City is compliant with the NFIP Program. We will provide NFIP Brochures to residents within the High Flood Zones and also during outreach events.

b. ***Date first joined NFIP****. 9/23/13*

CID	COMMUNITY NAME	INIT FHBM	INIT FIRM IDENTIFIED	CURR EFF MAP DATE	REG-EMER DATE	IDENTIFIED TRIBAL
060286#	JURUPA VALLEY	-	08/18/14	08/18/14	09/23/13	No

c. ***Identify actions related to continued compliance with NFIP****.*

Initiated CLOMRS for developing properties.

d. ***CRS member?*** *No.*

e. ***CRS class?*** *N/A*

f. ***Describe any data used to regulate flood hazard area other than FEMA maps***.

Engineering studies and consultation with Riverside County Flood Control and Water Conservation District (RCFCWCD).

g. ***Have there been issues with community participation in the program*?**

No, we need revised and updated maps.

h. ***What are the general hurdles for effective implementation of the NFIP?***

We currently are waiting for a BAO letter from FEMA for hydrology and hydraulic studies performed for the Santa Ana River by the RCFCWCD.

i. Summarize actions related to continued compliance with NFIP

Distribute map information, participate in development reviews, consult with RCFCWCD.

ii. ***Repetitive Loss Properties***

None. Residents who have property within mapped areas are eligible to purchase flood insurance.

SECTION 6.0 - CAPABILITIES ASSESSMENT

6.1 REGULATORY MITIGATION CAPABILITIES

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections –

- Regulatory Mitigation Capabilities
- Administrative And Technical Mitigation Capabilities
- Fiscal Mitigation Capabilities
- Mitigation Outreach And Partnerships
- Funding Sources

The City of Jurupa Valley is a recently incorporated City and currently working on the development of our own regulatory plans, including:

Regulatory Tool	Yes/No	Comments
General Plan	Yes	Adopted in September 2017, this plan outlines the future changes in the City such as new infrastructure

		that will be built, policies on public safety and land use. This plan will help with the implementation of mitigation actions that are listed in the LHMP.
Zoning ordinance	Yes	Incorporated into Municipal Code
Subdivision ordinance	No	County of Riverside
Site plan review requirements	Yes	General Plan
Growth management ordinance	No	County of Riverside
Floodplain ordinance	No	F.E.M.A.
Other special purpose ordinance (stormwater, water conservation, wildfire)		Efficient Landscape Irrigation Ordinance required by MS4
Building Code	Yes	State code adopted with amendments
Fire Department ISO rating	Yes	BCEGS submitted, pending reply
Erosion or sediment control program	Yes	Informally address sediment issues
Stormwater Management Program		Stormwater Ordinance required by MS4 City Manual
Capital Improvements Plan	Yes	Annual
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Other special plans		Local Implementation Plan Facilities Management Plan Water Quality Management Plan
Flood Insurance Study or other engineering study for streams		

6.2 ADMINISTRATIVE/TECHNICAL MITIGATION CAPABILITIES

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Planning Director/City Engineer
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	City Engineer and Building Official
Planner/engineer/scientist with an understanding of natural hazards	Yes	City Engineer via Contract
Personnel skilled in GIS	Yes	Planning Department
Full time building official	Yes	Building Official
Floodplain manager	No	

Emergency manager	Yes	City Manager and EMS Manager/PIO
Grant writer	Yes	Contract with outside consultant
Other personnel	No	
GIS Data—Land use	Yes	GIS Graphics Technician
GIS Data—Links to Assessor's data	Yes	GIS Graphics Technician
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	Disaster Net Radio

6.3 FISCAL MITIGATION CAPABILITIES

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	With voter approval
Fees for water, sewer, gas, or electric services	Yes	Water
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	With voter approval
Incur debt through special tax bonds	Yes	With voter approval
Incur debt through private activities	No	
Withhold spending in hazard prone areas	n/a	
Other	n/a	

6.4 MITIGATION OUTREACH AND PARTNERSHIPS

The City of Jurupa Valley serves as a host for CERT training with the help of the Riverside County Emergency Management Department. In addition, the City has many volunteers and active Rotary and council outreach meetings. The City of Jurupa Valley is also works with the following agencies: Riverside County Flood Control District (RCFD), Riverside County EDA (RCEDA), Jurupa Community Services District (JCSD), Rubidoux Community Services District (RCSD), Jurupa Area Recreation and Parks District (JARPD), and Santa Ana River Water Co.

The City of Jurupa Valley has a Public Works Department that is in charge of owned infrastructure, like streets, bike lanes, sidewalls, storm drains, and traffic signals. Any mitigation actions that involve retrofitting infrastructure to prevent hazards such as earthquake or fire would fall under this department's responsibility.

6.5 FUNDING OPPORTUNITIES

The City of Jurupa Valley has the same funding opportunities as Riverside County Operational Area. Please refer to Section 7.4 of the Riverside County Multi-Jurisdictional Hazard Mitigation Plan for list of funding sources available.

SECTION 7.0 - MITIGATION STRATEGIES

7.1 GOALS AND OBJECTIVES

The City of Jurupa Valley has created list of Mitigation Strategies and Goals for the primary hazards previously identified.

Goal 1: Implement mitigation policies and strategies contained in the City of Jurupa Valley

Objective 1.1: Implement new development ordinances.

Goal 2: Continue to educate the general public in mitigation, preparedness, response and recovery activities.

Objective 2.1: Continue training city staff on emergency preparedness to include: Emergency Operation Center activities, Emergency Operations Plan through the Standardized Emergency Management System (S.E.M.S.) and the National Incident Management System (N.I.M.S.).

Objective 2.2: Continue to provide general public training on emergency awareness and preparedness through CERT programs.

Objective 2.3: Continue emergency preparedness training activities in coordination with surrounding agencies, special districts, community groups, and school districts.

7.2 MITIGATION ACTIONS

The City has implemented and provided mitigation efforts below in sections 7.2, 7.3, and 7.4 based only on hazards that are considered high priority such as, flood, earthquake, and fire. These efforts include the following:

- The separate water service agencies have installed auxiliary power sources on various municipal water wells and sewer lift stations.

  Priority: High

  Responsible Dept: **JCSD/RCSD**

Timeframe: **completed**

Funding/cost: **unknown – funded by other agencies**

Hazard: Structural (earthquake)

- The City's Code Enforcement Office proactively responds and enforces city ordinances related to weed abatement violations to reduce fire threat.

  Priority: High

  Responsible Dept: **Building & Safety Department**

  Timeframe: **Ongoing**

  Funding/cost: **unknown**

  Hazard: Structural (earthquake), flood, and fire.

- The City has remodeled its police station to include a functional Emergency Operation Center (EOC) with alternative power source, internet connections, and media screens to enhance operations.

  Priority: High

  Responsible Dept: **Sheriff's Department**

  Timeframe: complete

  Funding/cost: unknown – funded by other agencies

  Hazard: **General**

- The Police Department / Riverside County Sheriff's Department have mutual aid agreements in place to include valuable resources such as hazardous materials unit, air support, and search and rescue units among others.

  Priority: High

  Responsible Dept: **Sheriff's Department**

  Timeframe: **ongoing**

  Funding/cost: **covered in general funding of contract police services**

  Hazard: **General**

New Mitigation Actions:

Type of Hazard	Mitigation Action	Lead Department/Jurisdiction	Status Update	Potential Funding
Flood	**Day Creek Channel, Stage 6 Phase 2 Project No. 221-1-8-00250-06-12** The project is located in the city of Jurupa Valley, Riverside County and begins within Goose Creek Golf Club, approximately 1,150 lineal feet downstream of Lucretia Avenue. The improvements extend upstream and tie into the existing concrete lined channel locate dapproximately 600 lineal feet downstream of Limonite Avenue. Improvements where made below the existing bridges at Holmes Avenue and 64th Street to provide 100-year storm conveyance capacity.	Riverside County Flood Control	Completed 4/23/13	NA
Flood	**Mira Loma - Beach Street Storm Drain, Stage 2 Project No. 221-1-8-00137-01-12** The project consisted of approximately 6,800 f eet of an underground storm drain, inlets and outlet works. Located along Beach Street between 59th Street and 53rd Street, along Rutile Street, 54th Street and ends at Cedar Street in the incorporated residential area of Mira Loma in the city of Jurupa Valley of Northwestern Riverside County.	Riverside County Flood Control	Completed 9/1/15	NA
Flood	**Pyrite Channel Bypass, Pyrite Street Storm Drain, Stage 1 Project No. 221-1-8-00109-01-12** This project consists of 1, 700 feet of underground storm drain within Pyrite Street in the city of Jurupa Valley. The drain connects Pyrite Street Storm Drain upstream of Pyrite Street to Jurupa Channel	Riverside County Flood Control	Completed 1/16/15	NA
Flood	**Jurupa - Pyrite MDP Line A-2 Project No. 1-8-00234 Stage 1** Master planned lateral storm drain to Jurupa Channel. Project is east-west drain crossing Agate Street about 1,000 feet south of Jurupa Road. Outlet point at Jurupa Channel is unimproved and likely to remain so	Riverside County Flood Control	30% Plans & R/W Acquisition as of February 2018	Property taxes/Capital Improvement Program

7.3 ON-GOING MITIGATION STRATEGY PROGRAMS

Rubidoux Community Services District is currently designing a new $2.8 million dollar 6MG water storage tank, a $10 million dollar sewage conveyance facilities damaged during the 2005 flood, and a $150,000 water service replacement project.

Priority: High

Responsible Dept: **Rubdioux Community Services District (separate agency)**

Timeframe: ongoing

Funding/cost: RCSD water restricted capital fund (outside agency)

Hazard: Structural (earthquake), fire

Project #1-Reduce the level of risk to loss of life, personal injury, public and private property damage, economic and social dislocation, and disruption of vital community services that would result from earthquake.

Goal 1: Adopt all of Riverside County Ordinances and Resolution including Land Ordinances. The City has completed this part of the process by adopting and implementing Ordinance No. 2011-01. Additional ordinances are adopted as needed on an ongoing basis to address issues that arise.

Objective: Amend the Building and Zoning Codes to incorporate specific standards for siting, seismic design, and review of Critical Facilities.

Action: Require all new developments, existing critical facilities and structures to comply with the most recent California Building Code seismic design standards.

Priority: High

Responsible Dept: Planning and Building Departments

Timeframe: Ongoing for the life of the plan 2018-2022. This action will be reevaluated during the updating stage of the plan

Funding/cost: Current funding; cost unknown

Hazard: Earthquake

Project #2- Improve the Community Emergency Response Team (CERT) Program in Jurupa Valley to educate people about disaster preparedness for hazards that may impact their area and train them in basic disaster response skills to respond in our community.

Objective: Partner with Riverside County Fire – Office of Emergency Services and neighboring communities to host CERT Trainings.

Action: Build a team of volunteers who are personally prepared for a disaster and provide CERT training for them to respond in our communities.

Priority: High

Responsible Dept: City of Jurupa Valley and Riverside County Fire- Office of Emergency Services

Timeframe: Ongoing for the life of the plan 2018-2022. This action will be reevaluated during the updating stage of the plan

Funding/cost: Homeland Security/Pre-mitigation funding

Hazard: All Hazards

7.4 FUTURE MITIGATION STRATEGIES

Project #1 - Enhanced proactivity in enforcement of vacant land weed abatement

Goal: Reduce risk of wildland fires.

Objective: Focused enforcement of non-compliance.

Action: Direct chief Building Official to increase enforcement priority on vacant land.

Priority: High

Responsible Dept: Code Enforcement

Timeframe: Ongoing for the life of the plan 2018-2022. This action will be reevaluated during the updating stage of the plan

Funding/cost: Current funding; cost unknown

Hazard: Wildland Fires

Project #2 – Local Drainage Flood Control Capital Projects

Goal: Reduce local flooding and road closure incidents.

Objective: Continue focus on improving local drainage issues to mitigate flooding and road closures to protect property and infrastructure.

Action: Prioritize future capital projects focused on mitigating flood risk of flood-prone areas.

Priority: High

Responsible Dept: Engineer/Public Works

Timeframe: Ongoing for the life of the plan 2018-2022. This action will be reevaluated during the updating stage of the plan.

Funding/cost: Current funding; cost unknown

Hazard: Flooding

SECTION 8.0 - PLAN IMPLEMENTATION AND MAINTENANCE PROCESS

Upon adoption and approval by City Council, the Local Hazard Mitigation Plan (LHMP) will be reviewed, evaluated and monitored by LHMP committee members a minimum of once per year. The LHMP committee made up of City staff members and general public representatives will propose revisions to the LHMP. After every review, the committee will provide for a public hearing and submittal to City Council for approval and adoption of such recommendations to the LHMP. If we discover changes have occurred during the evaluation, the City will submit the most current copy to Riverside County Emergency Management Department to submit to Cal OES and FEMA. A comprehensive review, evaluation and update of the LHMP will occur every five years.

The methodology to update the plan will be the following:

- The goals and objectives and address current and expected conditions.
- If the nature, magnitude, and/or type of risks have changed, we will update plan as necessary.
- Current resources for implementing the plan and explore new resources implementation problems, such as technical, political, legal, or coordination issues with other agencies.
- The outcomes to ensure they are in line with the expected outcome, if not we will modify plan.
- Changes in Federal, State and local ordinances, if laws and regulations have changed, we will make changes to reflect current regulations.
- Involve public by posting notices on websites and announcements during public meetings intent to review and update Local Hazard Mitigation Plan allowing for public comment and input.

SECTION 9.0 - INCORPORATION INTO EXISTING PLANNING MECHANISMS

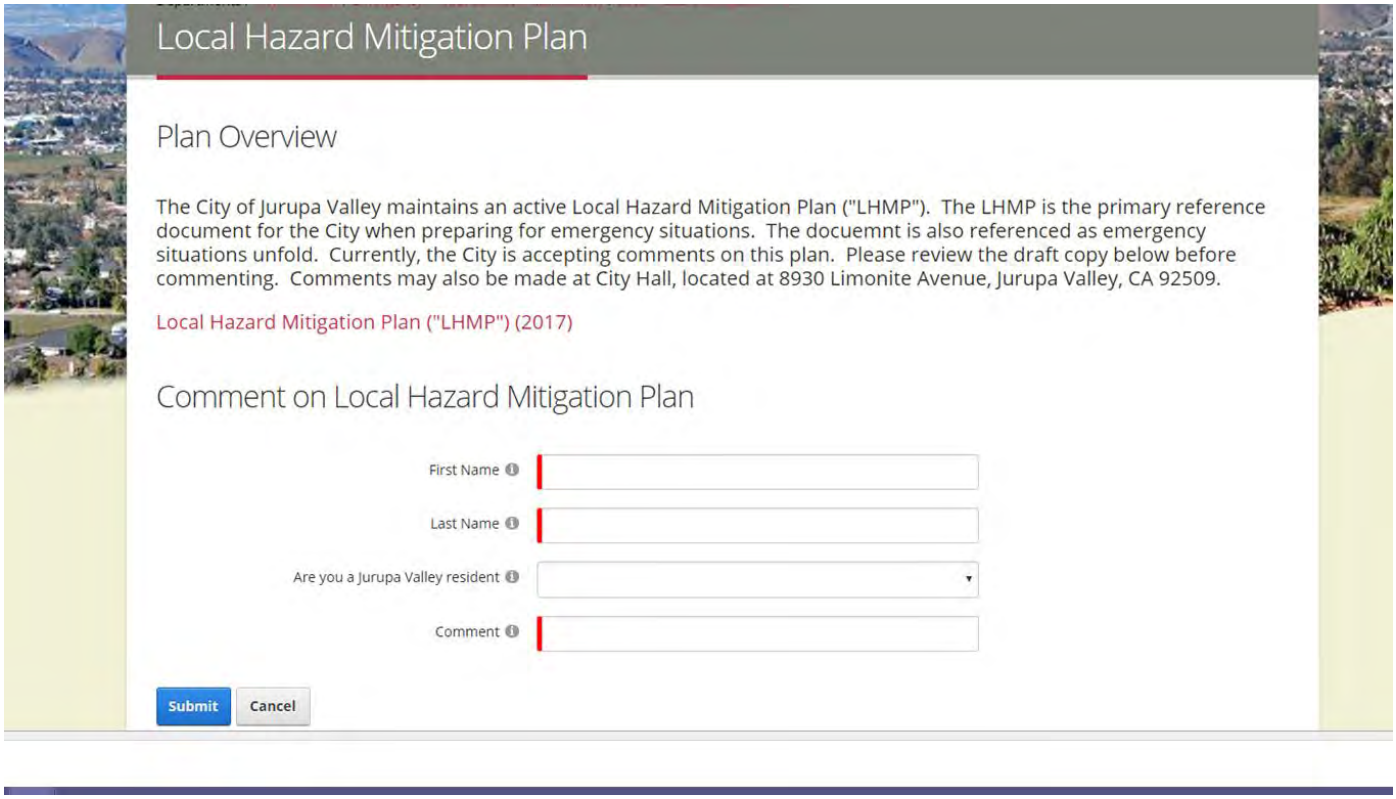
The City of Jurupa Valley will be incorporating mitigation strategies and considerations into the development of their future plans such as a General Plan and Emergency Operations Plan. It is already implemented into the following planning mechanisms:

- Building and Construction Codes
- Fire Codes
- Capital Improvement Plan
- Storm Drain Master Plan
- Stormwater Ordinance required by MS4
- Efficient Landscape Irrigation Ordinance required by MS4
- City Stormwater Procedural Manual
- Local Implementation Plan
- Facilities Management Plan
- Water Quality Management Plan

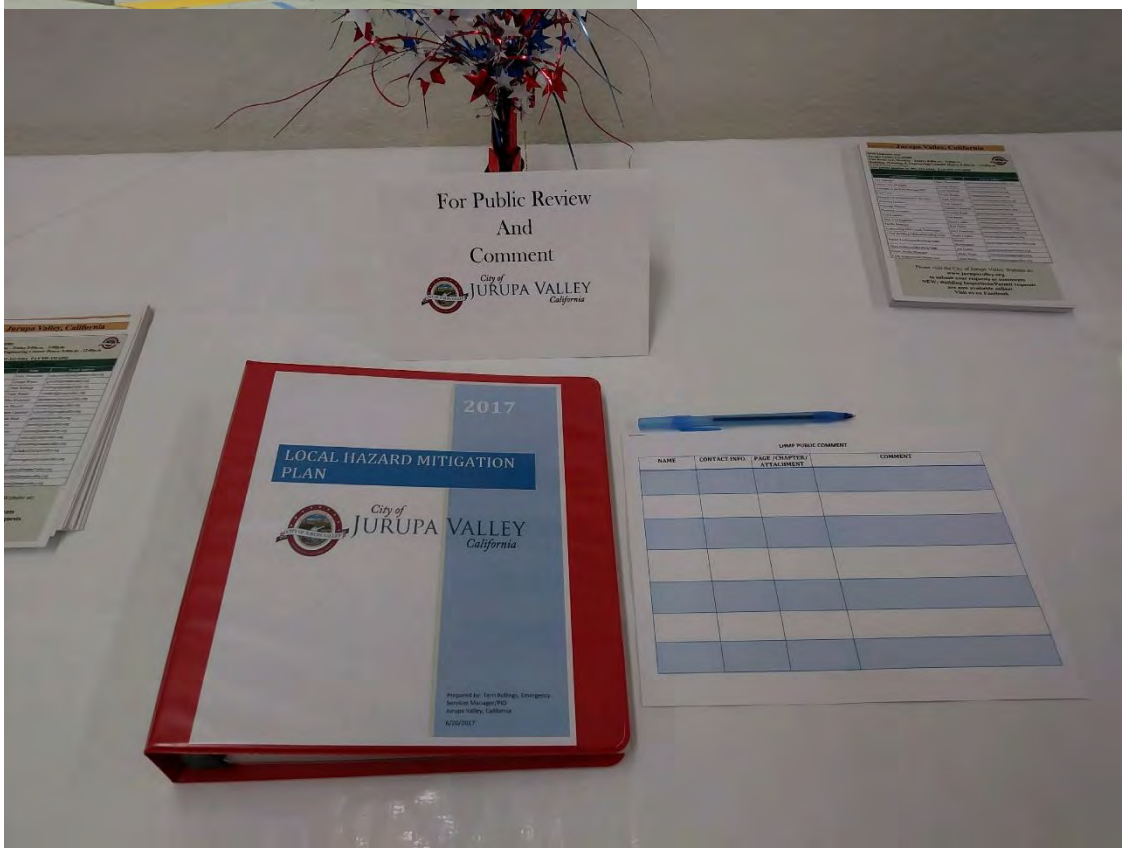
SECTION 10.0 - CONTINUED PUBLIC INVOLVEMENT

The general public will have access to the Local Hazard Mitigation Plan (LHMP) online via City website with the ability to send comments, or ability to review hard copies available at public areas within City Hall and other city facilities. Approximately every 10-12 months after initial adoption by City Council, the LHMP will be reviewed and evaluated by staff members and general public members represented on the LHMP committee, to review, evaluate and monitor the LHMP, and to evaluate and incorporate all public comments on the Plan.

APPENDIX A – PUBLIC OUTREACH OPPORTUNITIES & JURUPA VALLEY BOUNDARY PLAN MAP




CITY OF
JURUPA
VALLEY
CITY HALL


For Public Review
And
Comment
City of
JURUPA VALLEY
California
2017
LOCAL HAZARD MITIGATION
PLAN
City of
JURUPA VALLEY
California

APPENDIX O

ORDINANCE NO. 2020-126

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE RUBIDOUX COMMUNITY SERVICES DISTRICT AMENDING AND SETTING CERTAIN USER CHARGES FOR THE DELIVERY OF POTABLE WATER TO RESIDENTIAL, COMMERCIAL AND INDUSTRIAL CUSTOMERS

WHEREAS, the Rubidoux Community Services District (District) is empowered to provide a reliable potable source of water for the health, welfare and safety of the community and its residents; and,

WHEREAS, on-going treatment requirements, energy costs, water quality monitoring, infrastructure maintenance and replacement, disinfection requirements, exterior and interior reservoir coatings, and personnel costs have increased and consequently added to the production cost of providing potable water to District residents and customers; and,

WHEREAS, recently enacted State Water Resources Control Board water quality requirements will result in significant additional capital improvement, infrastructure, and treatment operating costs by the District; and,

WHEREAS, to ensure the District has a safe and significant ground water source of potable water for present and future customers and residents, the Board of Directors reviewed anticipated expenses against projected revenues and determined insufficient funds will be generated in Fiscal Year 2020/2021, thereby resulting in a precarious level in operating revenues for the reliable and predictable operation of the Water Fund; and,

WHEREAS, Government Code Section 61000 et seq., a community services district must charge a fee for the actual cost of providing certain services or improvements, including among other things potable water, pumping facilities, reservoir structures, pipeline conveyance, energy charges, personnel costs, treatment facilities, debt and other operational and maintenance costs associated with the extraction, storage, delivery, transmission and treatment of potable water; and,

WHEREAS, on May 16, 2019, regular Board meeting of the Rubidoux Community Services District Board of Directors duly noticed and conducted the Public Hearing and Protest Election pursuant to Prop. 218 requirements and compliant to AB 3030 and determined the 6.0% "Pass Through" charge are necessary costs in the treatment and delivery of potable water; and,

WHEREAS, the Board of Directors have duly noticed and conducted a Public Hearing for the adoption of Ordinance No. 2020-126 at the June 18, 2020, regular Board Meeting of the Rubidoux Community Services District; and,

NOW THEREFORE BE IT ORDAINED AS FOLLOWS:

1. That the Foregoing recitals are true and correct.

2. This afternoon's Notice of Public Hearing for Adoption of Ordinance 2020-126 was duly notice and posted compliant to the requirements of Prop. 218 and pursuant to AB 3030.

3. The Potable Water charges for residential, commercial and industrial users are more specifically outlined in Exhibit "A" and made a part of this ordinance.

4. Ordinance 2020-126 shall supersede Ordinance No. 2018-123 in its entirety and shall have an effective date of January 1, 2021.

INTRODUCED, ADOPTED AND APPROVED on the 18th day of June, 2020, upon the following roll call vote:

AYES: Armando Muniz; Bernard Murphy; F. Forest Trowbridge; Hank Trueba Jr.; John Skerbelis

NOES: None

ABSENT: None

ABSTENTIONS: None

Armando Muniz, President

(SEAL)

ATTEST:

Jeffrey D. Sims, General Manager

APPROVED TO FORM AND CONTENT:

John R. Harper, District General Counsel

RUBIDOUX COMMUNITY SERVICES DISTRICT MONTHLY WATER RATES
EFFECTIVE January 1, 2021
ORDINANCE NO. 2020-126

EXHIBIT "A"

*Residential	
Tier Per Unit**	Adopted Rate
0 - 5	$ 1.18
6 - 12	$ 1.69
13 - 20	$ 2.06
21 - 29	$ 2.43
30 - 9999	$ 3.03

*Commercial	
Tier Per Unit**	Adopted Rate
0 - 5	$ 1.20
6 - 12	$ 1.70
13 - 20	$ 2.07
21 - 29	$ 2.45
30 - 9999	$ 3.04

*Residential	
Standby	Adopted Rate
5/8" Meter	$ 26.24
3/4" Meter	$ 33.85
1" Meter	$ 47.67
1 1/2" Meter	$ 71.86
2" Meter	$ 106.40

*Commercial	
Standby	Adopted Rate
5/8" Meter	$ 29.73
3/4" Meter	$ 39.36
1" Meter	$ 58.24
1 1/2" Meter	$ 86.82
2" Meter	$ 130.24
3" Meter	$ 190.01
4" Meter	$ 270.44
6" Meter	$ 578.50

** Meters serving multi-units shall be assessed by either meter size or units served, which ever is greater.*
*** A "Unit" is equal to 100 cubic feet, or 748 gallons of water.*

APPENDIX P