

2.11 Utilities and Service Systems

This subchapter of the EIR addresses water and wastewater services required for Project development, as well as service providers and facilities needed to meet this demand. Project Facility Availability Forms, as well as personal communications from service providers, are summarized below and included in Appendix O. The following water and wastewater services technical reports were prepared: Conceptual Water and Recycled Water Study (Atkins 2015b) included in Appendix P and Sewer Study (Atkins 2015a) included in Appendix Q.

Natural gas and electricity for the Proposed Project would be provided by SDG&E. A detailed analysis of the energy demands of the Project compared to existing energy production and consumption conditions is provided in Section 3.1.2, *Energy*, and is not discussed further in this section.

2.11.1 Existing Conditions

2.11.1.1 Water Supply

Water service would be provided to the Project site by Rincon MWD. Rincon MWD provides water and recycled services to areas within the cities of Escondido, San Marcos, and San Diego. Service is also provided to customers within various unincorporated areas of San Diego County. Rincon MWD delivers potable and recycled water to a population of 30,000 through nearly 8,000 connections representing residential, agricultural, landscape, and commercial/industrial water users. Rincon MWD was annexed into the SDCWA and Metropolitan Water District of Southern California in 1954 for the purpose of securing additional water supplies. Rincon MWD is a retail water supplier and does not routinely sell wholesale water supplies to any entity (Rincon MWD 2011). Additionally, it is a member agency of SDCWA, and serves approximately 30,000 people through nearly 8,000 connections (representing residential, agricultural, landscape, and commercial/industrial water users). Rincon's potable water distribution system includes 112 miles of water main (8-inches or larger in diameter), ten reservoirs with a total storage capacity of 25,742,229 million gallons, and four pump stations. Peak production is calculated at 10 mgd.

Rincon MWD prepared a UWMP in 2010 in compliance with the state law, to restructure its existing 2005 UWMP (amended and adopted on December 13, 2005) in order to comply with the California Department of Water Resources' review process. The 2010 UWMP contains a comparison of projected supply and demands within its existing boundaries through the year 2035. Projected potable water resources to meet planned demand would be primarily supplied with imported water purchased from SDCWA.

Rincon MWD recently prepared a Water Master Plan Update in 2014 to identify facilities, supplies, and capital funding Rincon MWD would need to continue providing reliable water and recycled water service to its customers through 2035. Supply and demand conditions have changed substantially since Rincon MWD last updated their Master Plan in 2005 and the 2014 Master Plan update addresses these changes (Rincon MWD 2014).

The Project site is located to the west of Rincon MWD's current service area and would be served by the 959 Pressure Zone in this area. Potable water service for the Plan area would be primarily provided by connections to existing 8-inch and 10-inch water mains in Eden Valley Lane, Mt. Whitney Road, and south of Hill Valley Drive.

2.11.1.2 Wastewater

In terms of wastewater service facilities, the Proposed Project site is not located in the San Diego County Sanitation District, but is proposed to be annexed into the District. The County provides sewer service for approximately 50,000 customers within the unincorporated communities of the County of San Diego. The County's Sanitation District was consolidated in 2011 and includes nine County sewer service areas. Collectively, the County's wastewater collection and conveyance system includes approximately 432 miles of pipeline, 8,200 manholes, and 12 lift stations. However, the Project site is also not located in any of these sanitation or maintenance districts. The Project site is located immediately north of the Harmony Grove Sewer Service Area. The option of utilizing the Harmony Grove Sewer Service Area for the Proposed Project's wastewater treatment needs is discussed in Subchapter 4.5, *Analysis of the Sewer Options Alternative*, which includes three potential off-site options for the provision of sewer service in lieu of the proposed on-site WTWRF and related facilities.

2.11.1.3 Regulatory Setting

Senate Bills 610 and 221

A Water Supply Assessment (WSA) is required, depending on the size of a proposed project, by Senate Bill 610 (specifically, Public Resources Code Section 21151.9 and California Water Code Sections 10631, 10656, 10657, 10910, 10911, 10912, and 10915). This document addresses the issue of water supply availability and is required through Senate Bill (SB) 610 to be prepared when projects subject to CEQA and larger than certain specified thresholds are under evaluation. The Proposed Project does not exceed the specified size threshold of 500 residential units or equivalent, and thus, preparation of a WSA is not required.

SB 221, a companion bill approved at the same time as Senate Bill 610, requires verification of water supplies as a condition of tentative map approval for residential subdivisions of 500 units or more. The Proposed Project water use is fewer than 500 residential units or equivalent; SB 221 is therefore not applicable to the Project.

Regional Water Supply Agency Plans

SDCWA's 2010 Urban Water Management Plan (UWMP) provides for a comprehensive planning analysis at a regional level and includes water use associated with accelerated forecasts of residential development as part of its municipal and industrial sector demand projections. SDCWA utilizes the SANDAG regional growth forecast to calculate future demands within their service area. This provides for consistency between San Diego County planning efforts and SDCWA demand projections, thereby ensuring that adequate supplies are being planned for existing and future water users. The demand associated with accelerated forecasted growth is

intended to account for SANDAG's land use development currently projected to occur between 2035 and 2050, but with the likely potential to occur on an accelerated schedule. SANDAG estimates that accelerated residential development could occur within the planning horizon of the 2010 UWMP update. These residential units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment can be used by member agencies (including Rincon MWD), which will provide water service for the Proposed Project to meet the demands of development projects not identified in the general land use plans, as part of general plan amendments, and/or new annexations.

As documented in the 2010 UWMP, the SDCWA is planning to meet future and existing demands, which include the demand increment associated with the accelerated forecasted growth. The SDCWA will also assist its member agencies) in tracking certified EIRs provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development.

State of California Executive Order-B-29-15

On April 1, 2015, Governor Brown signed an executive order mandating state water restrictions for a 25 percent mandatory potable water reduction through February 28, 2016. These restrictions will require California water suppliers to California cities and towns to reduce usage as compared to the amounts used in 2013.

San Diego County General Plan Policies

The San Diego County General Plan includes a Land Use Element that contains policies regarding water supply and wastewater. These policies are analyzed in the Section 3.1.4, *Land Use and Planning*.

2.11.2 Analysis of Project Effects and Determination as to Significance

2.11.2.1 Water Supply

Guideline for the Determination of Significance

A significant impact to utilities would occur if the Proposed Project would:

1. Create a demand for potable water that cannot be met with the current projected water supplies and/or that requires significant alterations to the existing water pipelines and infrastructure that is needed to convey potable water to the site.

Guideline Source

The identified guideline for significance is based on Appendix G of the CEQA Guidelines and is intended to ensure that adequate public utilities and services are available for local residents.

Analysis

Project Demand and Regional Water Supply

As noted above, water supply for the Proposed Project would be provided by Rincon MWD. Rincon MWD's water supply is dependent on the SDCWA as the wholesale water supplier. Therefore, the water supply reliability assessment relies on the Water Authority's 2010 UWMP. Water Code Section 10635 requires that every urban water supplier assess the reliability of its water services during normal, dry and multiple dry water years. The water supply and demand assessment compare the total projected water use with expected water supply over the next 20 years in 5-year increments. The assessment contained in the 2010 UWMP projects reliability through the next 25 years to correspond with population growth forecasted by SANDAG.

The estimated water demands (estimated from planned land uses, using unit use factors specific to each land use in the current Project plan) were included in the Project's specific plan. The total average water demand was estimated to be 160,870 gpd as detailed in Table 2.11-1, *Potable Water Demands*. The maximum anticipated single-day demand was estimated to be 416,849 gpd, with a peak hour demand of 437 gpm.

The near-term service for the proposed water demands of the Project can be accounted for in the SDCWA's 2010 UWMP accelerated forecasted growth demand increment, discussed above. This additional demand increment can be used by member agencies to meet the demands of development projects not identified in general land use plans, as part of general plan amendments, and/or new annexations. As documented in the 2010 UWMP, SDCWA is planning to meet future and existing demands—including the demand increment associated with accelerated forecasted growth. SDCWA also will assist its member agencies in tracking the certified EIRs provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development. In addition, the next update of the demand forecast for SDCWA's 2015 UWMP will be based on SANDAG's most recently updated forecast, which would include the Project.

As noted above, Rincon MWD used SDCWA's projections for normal, dry year and multiple dry years to determine future demands for the next 20 years. The forecasted normal year water demands compared with the projected supplies for Rincon MWD are shown in Table 2.11-2, *Supply and Demand Comparison – Normal Year*. Any shortfall from locally developed potable water would come from SDCWA (Rincon MWD 2011). With existing supplies and implementation of the projects discussed in the SDCWA and Rincon's planning documents, there would be adequate water supplies to serve the Project. Table 2.11-3, *Supply and Demand Comparison – Single Dry Year*, provides a comparison of a single dry year supply with projected water demands over the next 20 years. In a single dry year, Rincon MWD would actively promote a "voluntary 10% reduction in use" message. Past experience during a single dry year indicates that customers have responded and exceeded voluntary calls for conservation. No shortage in supplies would be anticipated during a single dry year.

Table 2.11-4, *Supply and Demand Comparison – Multiple Dry Years*, presents multiple dry year scenarios (one, two, and three year supplies). For multi-year analysis, the planning assumption is

the MWD will be allocating supplies to its member agencies according to its Water Supply Allocation Plan. Under parameters assumed in multi-dry year analysis, and by past experience, some level of shortage could potentially be experienced. SDCWA has invested in carryover storage supplies to assist in achieving reliability in dry years as discussed in its 2010 UWMP. Should shortages be experienced after the expenditure of SDCWA carryover supplies, Rincon MWD would respond to allocations in water demands mandated MWD and SDCWA. Additionally, Rincon MWD would implement its Drought Response Plan accordingly. As demonstrated by Tables 2.11-2 through 2.11-4, Rincon MWD can reliably meet demands during normal and single dry conditions. While multiple dry year scenario shortages are not likely due to the existence of carryover storage supplies, Rincon MWD has plans in place to deal with such an occurrence, including the aforementioned Drought Response Plan.

In summary, the Proposed Project has been found to create a demand for potable water that would be met by water supplies that are planned for and intended to be available over a 20-year planning horizon, under normal conditions and in both single and multiple dry years. Therefore, **impacts associated with the Project's water supply demand would be less than significant.**

Water Supply Facilities

Specifics regarding the water supply system for the Proposed Project are described in Section 1.2.1.3 of this EIR, and in the Specific Plan (April 2015). Figure 1-19 illustrates the proposed water system for the Project.

As noted above, the Project site is located entirely within the boundaries of Rincon MWD, which would provide water service for fire protection and residential use. Specifically, the Proposed Project would be served by the Improvement District 1 (ID 1) South water system. ID 1 South includes existing development generally south of SR-78 and west of I-15. The ID 1 South system includes four reservoirs with varying high water levels, the highest being R-1A and R-1B reservoirs at 959 feet. SDCWA is the sole supplier of water to the ID 1 service area via two connections to the First Aqueduct, near the Hubbard Hill area to the northeast of the Project.

Rincon MWD, in their Project Facility Availability Form (see Appendix O), discussed the fact that some of the proposed home elevations are above the service levels of the existing reservoirs. Per their recommendation, a conceptual water and recycled water study has been prepared to determine the potable facility requirements to serve the new development and integrate it with the existing system (Atkins 2015b).

The water study also addresses the recycled water system, which would be designed to serve on-site common landscape irrigation for parks, open space, and parkways. The primary source of recycled water for the Proposed Project would be the on-site WTWRP. The WTWRP is estimated to produce 70,100 gpd or 50 gpm average daily flow at buildout, which would equate to approximately 36 acres of land that could be permanently irrigated using recycled water (Atkins 2015b). This would reduce the on-site demand for potable water.

The water supply system facilities referenced above would be sized to provide the capacity required, and would not necessitate significant alterations to existing systems beyond those

assumed as part of Project design. As described above and discussed in more detail in Section 1.2.1.3, potable water service for the Project site would be primarily provided by a connection to an existing 14-inch water main along the southern site boundary and would connect with infrastructure that is currently being constructed by the Harmony Grove project. Secondary sources of water supply would be provided via a new 12-inch main in Eden Valley Drive, as well as the backbone 16-inch water main to the north at Hill Valley Drive. These would connect in the future to the Rincon MWD's planned reservoir (R7 Reservoir discussed below) and transmission projects identified in the Water Master Plan under the five year Capital Improvement Program) to serve future development and provide increased fire storage for existing and future customers (Rincon MWD 2014). Since existing potable water storage is located near the Proposed Project with the R-1B reservoir, it is assumed that the fire storage portion is available and can be used for the Proposed Project. The adjacent R-1A reservoir is proposed to be converted to recycled water as part of the Harmony Grove Village project and be used by Rincon for operational storage for an expanded recycled water system. Water storage required for the Proposed Project can be estimated based on the District's criteria of approximately 3.33 times the average annual demand (0.16 million gallons [MG] per day for the Project). Therefore, a total of approximately 0.53 MG is recommended to meet the in-District storage needs, exclusive of fire storage which is assumed available in existing storage reservoirs.

Existing water mains within the Project boundary are planned to be abandoned and replaced with Project improvements.

A small boosted pressure zone is anticipated to be needed to serve the western portion of the Proposed Project site where elevations are above 800 feet and would be beyond the service area of the 959 Pressure Zone. The Project would construct a new pump station within the Project boundaries and within the Project footprint to serve approximately 75 homes. The pump station would be owned and operated by Rincon MWD and would be sized for domestic and maximum daily plus fire flow demands. As shown in Figure 1-19, a new 1130 Pressure Zone would be supplied by the pump station. As a condition of Project approval, a future hydraulic study would be prepared by Rincon MWD during final Project design to verify the final sizing of the proposed water system.

Based on the estimated development growth in the District from 2015 to 2035, Rincon MWD would need approximately 3.0 MG of additional potable water storage to meet a regional increase in water demand. Table 2.11-5, *Summary of District Treated Water Storage Criteria*, presents this additional storage required by 2035. To meet these storage requirements, the 2014 Water Master Plan recommended a 3.0 MG Reservoir, referred to as the "R7 Reservoir." This additional District facility would be located in (but not part of) the northern portion of the Project site and would include a water tank, an access road within the existing easement, and a connecting pipeline within the access road from the water tank to existing pipeline. The R7 Reservoir is proposed as part of Rincon MWD's five-year capital improvement program, and is not included as part of the Proposed Project. However, because environmental review has not been performed on the Water Master Plan Update and given the timing of the Proposed Project, this EIR is providing a brief environmental analysis based on conceptual design contained in the 2014 Water Master Plan. Any mitigation deemed necessary would, however, be the responsibility of Rincon MWD.

The proposed water tank would be approximately 32 feet high and 138 feet in diameter and would be located on a 3.2-acre site located within existing grove area. In order to provide the base for the tank, the top of a knoll (at approximately 945 feet) would be lowered by approximately 5 feet, and flattened to 940 feet AMSL. A new pipeline would be required to deliver water to and from the tank. This proposed subsurface pipeline is presumed to be located under the proposed access road and would connect to existing pipeline to the north. Figure 2.11-1, *Rincon MWD Easement and Reservoir*, shows the approximate location of the proposed water tank in relation to the Proposed Project, as well as the location and path of the related access road. The access road is approximately 2000 feet long and 20 feet wide. The R7 Reservoir, planned to be built by Rincon MWD at some point within the next five years, would have associated potential environmental effects related to visual, biological, and cultural resources. Other issue areas would be limited to short-term construction impacts and are not covered in this discussion. The analysis below includes a conservative estimate of 3.0 MG of water storage capacity.

Relative to visual effects, potentially visible elements over the long term would relate to the tank itself, as well as a six-foot retaining wall that would support the tank at a bottom elevation of 940 feet AMSL. The tank would add a new – and notable – built feature to the north of the Project development footprint. The size of the water tank would be similar to a large two-story residence, and would be visible to off-site viewers. The knoll upon which the tank would be located, however, is lower than the topographic feature to the west of it. That knoll is never lower than approximately 1,000 feet AMSL, and goes up to approximately 1065 feet AMSL. As a result, the tank would be visually “backed” by topography a minimum of 28 feet higher than the top of the tank (at 940 feet AMSL, plus 32 feet of tank height), and would not be skylined. The six-foot retaining wall is expected to be obscured from off-site viewers by intervening grove trees. This feature would be visually consistent with other tanks located on higher hills in the vicinity (although somewhat atypical due to the lack of skylining), and also consistent with the grove uses within which it would be located.

As discussed in the Biological Resources Addendum contained in Appendix E, construction of the reservoir and access road would not impact sensitive vegetation communities, as only orchard, non-native vegetation, and developed land are present in these areas. Construction of the reservoir would also not impact jurisdictional wetlands or waters, as none are present within the 3.2-acre parcel; however, as shown in Figure 2.11-2, *Sensitive Biological Resources for the Rincon MWD Easement and Reservoir*, construction of the easement access road does have the potential to result in impacts to non-wetland WUS/streambed.

As discussed in the Cultural Resources Addendum contained in Appendix F, the 3.2-acre site and access road were surveyed for cultural resources on March 12, 2014 by Affinis archaeologists with Native American monitors from Saving Sacred Sites (Luiseño) and Red Tail Monitoring and Research (Kumeyaay). The parcel was walked in parallel transects spaced approximately 10 to 15 meters apart. The parcel was an avocado grove, which afforded poor ground visibility. No cultural resources were previously recorded within the reservoir site or the associated easement, based on records searches conducted at the South Coastal Information Center (SCIC) for the Project, including a records search obtained in March 2015 in conjunction with the Section 404 permit process. No cultural resources have been identified within or adjacent to the

reservoir site or the associated easement; therefore, there would be no impacts to cultural resources.

Although the Proposed Project would not directly result in impacts to utilities and service systems, the District's proposed R7 Reservoir has the potential to result in impacts related to visual and biological resources. Therefore, **impacts to water service facilities would be potentially significant. (Impact UT-1)**

2.11.2.2 Wastewater Management

Guideline for the Determination of Significance

A significant impact to utilities would occur if the Proposed Project would:

2. Generate wastewater that cannot be treated by an existing or proposed facility and/or requires significant alterations to existing sewage systems and infrastructure.
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Guideline Sources

The identified guidelines for significance are based on Appendix G of the CEQA Guidelines and are intended to ensure that adequate public utilities and services are available for local residents.

Analysis

A conceptual sewer study has been prepared for the Proposed Project to provide an overall sewer service plan and determine the requirements for an on-site collection system (Atkins 2015a). The proposed development would be served by a system of public sewer mains and an on-site WTRWF to be located at the southeasterly portion of the Project, which would be owned and operated by the San Diego County Sanitation District. More specifics regarding the sewer system are provided in Chapter 1 and in the Conceptual Sewer Study contained in Appendix Q and an analysis of the Sewer Options Alternative is provided in Subchapter 4.5.

Projected wastewater flows for the Proposed Project are based on the sewage generation factors contained in Appendix Q and summarized in Table 2.11-6, *Project Wastewater Generation*. The total average wastewater flow is projected to be 70,100 gpd. Peak wastewater flows from the Proposed Project are calculated based on the peaking factor of 2.11 and average flows of 70,100 gpd, for a peak wastewater flow of 280,360 gpd, or approximately 195 gpm under a peak hour wet weather condition.

The proposed WTRWF would have the appropriate capacity for the Proposed Project. Additionally, the sewer service area within the Project would be annexed into the San Diego County Sanitation District, subsequent to LAFCO approval of an amendment to the SOI for this district. Since the WTRWF would be owned and operated by the County, it would be designed

to County standards. Preliminary sizing of the primary lift station includes two 120-gpm pumps and approximately 20,000 gallons of emergency storage, assuming storage for six hours of average flow. Two smaller lift stations, each serving 10 to 15 homes, are assumed to be owned and maintained by an HOA, and also would be designed to County standards. The WTWRF would be an Aero-Mod system using an extended aeration wastewater treatment process, as described in detail in Section 1.2.1.1. The Aero-Mod-style process would include on-site digester basins to reduce settled solids produced by the treatment process. A preliminary design report outlining the specific design requirements of the WTWRF and associated infrastructure would be prepared and submitted to the County as a condition of Project approval. Based on these considerations, wastewater generated by the Project would be treated by the proposed on-site facility and would not require significant alterations to existing sewage systems and infrastructure or substantially reduce the capacity of existing facilities. Thus, **impacts related to wastewater management would be less than significant.**

2.11.3 Cumulative Impact Analysis

Several related cumulative development projects have been recently completed or are planned for development in the vicinity of the Proposed Project, as listed in Table 1-5. These future projects include residential developments totaling approximately 15,500 units (including the Proposed Project), as well as other types of development, such as a light recycling processing facility and offices. Cumulative impacts of these development projects are analyzed below within the context of comprehensive regional planning and forecasting of water supplies and facility needs. The significance guidelines that were used to evaluate Project-specific impacts also are used here to evaluate cumulative impacts.

2.11.3.1 Water Supply and Facilities

As discussed previously, the SDCWA's 2010 UWMP provides for a comprehensive planning analysis at a regional level and includes water use associated with accelerated forecasts of residential development as part of its municipal and industrial sector demand projections. The demand associated with accelerated forecasted growth is intended to account for SANDAG's land use development currently projected to occur between 2035 and 2050, but which has the likely potential to occur on an accelerated schedule. SANDAG estimates that this accelerated residential development could occur within the planning horizon of the 2010 UWMP update. These units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment can be used by member agencies to meet the demands of development projects not identified in the general land use plans or for new annexations.

As documented in the 2010 UWMP, the SDCWA is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. SDCWA will also assist its member agencies in tracking the certified EIRs provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development. Therefore, cumulative impacts on water supply and water facilities would be **less than significant.**

2.11.3.2 Wastewater Management

The Proposed Project would not rely upon an existing sanitation or maintenance district, but rather, would involve the construction of an on-site facility to treat the wastewater generated from the Proposed Project. Because the Proposed Project would not rely upon an existing facility for wastewater treatment, the Project's contribution to cumulative impacts on wastewater treatment services would be **less than significant**.

2.11.4 Significance of Impacts Prior to Mitigation

The Proposed Project would not result in impacts to utilities and service systems, however, potential impacts could occur as a result of the Rincon MWD planned R7 Reservoir. The R7 Reservoir is planned to be constructed by Rincon MWD within the Project site, although not as part of the Proposed Project. This new facility is the responsibility of the Rincon MWD and could result in the following impact related to utilities and service systems:

Impact UT-1 Construction of the R7 Reservoir could result in:

- Visual impacts to neighboring areas if the surrounding grove trees are not tall enough to provide sufficient screening of the water tank; and
- Biological resource impacts if construction of the easement access road cannot avoid the non-wetland WUS/streambed.

2.11.5 Mitigation

The mitigation measure would be implemented when the reservoir is being designed and approved. The agency responsible for approving the facility (Rincon MWD) would also be responsible for the mitigation to reduce utility-related impacts to less than significant.

M-UT-1 The Applicant will coordinate with Rincon MWD at the time the tank is designed and constructed to ensure that there is adequate mitigation for utility-related impacts. The mitigation is anticipated to include, but may not be limited to:

- In order to be fully consistent with seen elements of notable tanks east of Harmony Grove, tall trees shall be planted around the tank to provide more height screening than may be provided by grove trees. These plantings shall soften the line of the tank top, which otherwise would provide a rigid horizontal element to the view. Rincon MWD shall plant this facility similarly to their other nearby tanks for visual continuity.
- If impacts to the WUS/streambed crossings cannot be avoided by constructing structures spanning these areas rather than using fill, Rincon MWD shall obtain permits from the USACE, Regional Water Quality Control Board, and CDFW, and shall provide appropriate mitigation.

2.11.6 Conclusion

The implementation of the mitigation measure listed above would reduce utility-related impacts to less than significant.

Site	Units	Unit Demand (gpd/du)	Average Demand		Max Day Demand (2.6xAAD)		Peak Hour Demand (3.9xAAD)
			(gpd)	(gpm)	(gpd)	(gpm)	(gpm)
Condominium Residential (detached)	49	400	19,600	14	50,960	35	55
Single-family Residential	277	510	141,270	98	365,889	254	382
TOTAL	326	--	160,870	112	416,849	289	437

Source: Atkins 2014b

	2015	2020	2025	2030	2035
Supply Totals	9,400	9,600	9,800	10,000	10,100
Demand Totals	9,669	9,823	10,041	10,263	10,371
Difference	269	223	241	263	271
Difference as % of Supply	3%	3%	3%	3%	3%
Difference as % of Demand	97%	97%	97%	97%	97%

Source: Rincon MWD 2011

Units are in acre-feet per year

	2015	2020	2025	2030	2035
Supply Totals	9,400	9,600	9,800	10,000	10,100
Demand Totals	9,669	9,823	10,041	10,263	10,371
Difference	(269)	(223)	(241)	(263)	(271)
Difference as % of Supply	-3%	-3%	-3%	-3%	-3%
Difference as % of Demand	-97%	-97%	-97%	-97%	-97%

Source: Rincon MWD 2011

Units are in acre-feet per year

Table 2.11-4 SUPPLY AND DEMAND COMPARISON – MULTIPLE DRY YEAR						
		2015	2020	2025	2030	2035
Multiple Dry-Year	New Sources	2,000	2,500	3,000	3,500	4,000
	Supply Totals	9,400	9,600	9,800	10,000	10,100
	Demand Totals	9,669	9,823	10,041	10,263	10,371
First Year Supply	Difference	-269	-223	-241	-263	-271
	Difference as % of Supply	-3%	-3%	-3%	-3%	-3%
	Difference as % of Demand	-1%	-2%	-2%	-3%	-3%
Multiple Dry-Year	New Sources	2,000	2,500	3,000	3,500	4,000
	Supply Totals	9,400	9,600	9,800	10,000	10,100
	Demand Totals	10,055	10,216	10,443	10,674	10,790
Second Year Supply	Difference	-655	-616	-643	-674	-690
	Difference as % of Supply	-7%	-6%	-7%	-7%	-7%
	Difference as % of Demand	-7%	-6%	-6%	-6%	-6%
Multiple Dry-Year	New Sources	2,000	2,500	3,000	3,500	4,000
	Supply Totals	9,400	9,600	9,800	10,000	10,100
	Demand Totals	8,748	8,888	9,085	9,286	9,474
Third Year Supply	Difference	652	712	715	714	726
	Difference as % of Supply	7%	7%	7%	7%	7%
	Difference as % of Demand	8%	8%	8%	8%	8%

Source: Rincon MWD 2011

Units are in acre-feet per year

This data included indirect potable water from a project that is not yet implemented. Rincon will utilize local supplies as feasible. Shortfalls will be augmented with SDCW imported supplies.

**Table 2.11-5
SUMMARY OF DISTRICT TREATED WATER STORAGE CRITERIA**

Storage Type	Volume (as duration)	2013 Volume Required ⁽¹⁾ (MG)	2035 Volume Required ⁽²⁾ (MG)	Description / Notes
Emergency	3.0 average days	18.7	20.9	Emergency reserve for use during supply interruption
Fire Flow	2 at 2,500 gpm for 2 hours, for each of ID-1 & ID-A	2.4	2.4	District policy is to provide facilities to supply two concurrent fires
Operational	ID-1: 0.33 average days ID-A: 0.40 average days	2.1	2.4	Operational storage addresses time-of-day variation in demands
Total Storage Volume per Criteria		23.2	25.7	
Actual Existing (2013) ⁽³⁾ – Percent of Criteria Total		22.9 99%	22.9 89%	R-1A reservoir volume not included in total
Surplus (Deficit)⁽⁴⁾		(0.3)	(2.8)	2013 volume deficit is not significant. 2035 deficit will require new storage.

Source: Rincon del Diablo Municipal Water District Water Master Plan Update June 2014

MG = million gallons; MGD = million gallons per day

⁽¹⁾ 2013 Volume based on average potable demand of 7,000 AF/yr, or 6.25 MGD

⁽²⁾ 2035 Volume based on average potable demand of 7,900 AF/yr, or 7.05 MGD. Future potable demand could be less if the District elects to pursue an expansion of its recycled water distribution system as part of its New Local Supply initiative.

⁽³⁾ Potable storage volume does not include the R-1A reservoir (3.1 MG), which is planned to be converted to the recycled water system.

⁽⁴⁾ The totals and surplus/deficit data shown here is for the District system as a whole, and does not account for the distribution of storage among pressure zones.

**Table 2.11-6
PROJECT WASTEWATER GENERATION**

	Units	Unit Rate (gpd/du)	Average Flow (gpd)	Peaking Factor	PDWF	PWWF
Condominium Residential (detached)	49	215	10,540	2.11	25,495	42,140
Single-family Residential	277	215	59,560	2.11	144,123	238,220
TOTAL	326	--	70,100	--	169,618	280,360

Source: Atkins 2015a

gpd = gallons per day; du = dwelling unit; PDWF = Peak Dry Weather Flow; PWWF = Peak Wet Weather Flow

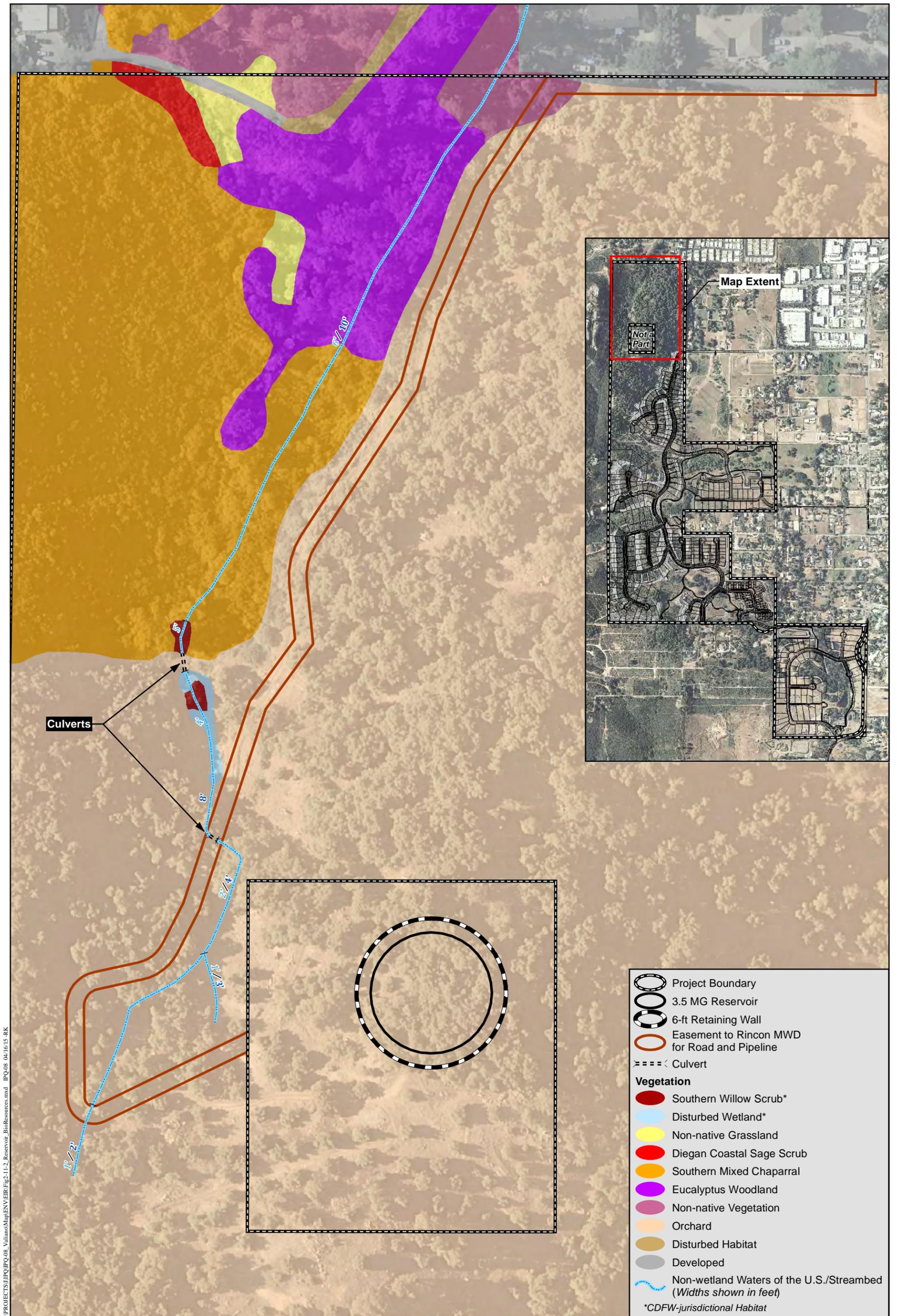
-  Project Boundary
-  3.5 MG Reservoir
-  6-ft Retaining Wall
-  Easement to Rincon MWD for Road and Pipeline



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Rincon MWD Easement and Reservoir

VALIANO



Sensitive Biological Resources for the Rincon MWD Easement and Reservoir