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CUMULATIVE IMPACTS AND PROJECT ALTERNATIVES

20.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines (§15130, §15065) require that an environmental impact report (EIR) include a cumulative impact analysis. The cumulative impacts of the proposed Santa Clarita Valley Sanitation District (SCVSD) Chloride Compliance Project (proposed project) in conjunction with other spatially and temporally proximate projects are analyzed herein. The cumulative impact analysis is based on a list of projects that have the potential to contribute to cumulative impacts in the proposed project area.

The CEQA Guidelines (§15126.6) also require that an EIR describe and evaluate a reasonable range of feasible alternatives or alternative locations of a project that would avoid or substantially lessen significant project impacts and attain most of the project objectives. An extensive, multi-level screening of alternatives was performed and is described in Section 6 of this document. The final alternatives from this process are analyzed at an equal level of detail in this EIR. This section summarizes the results of the analysis in the EIR and compares the results for each alternative.

20.2 CUMULATIVE IMPACTS

A cumulative impact results from the combination of the proposed project evaluated in an EIR with other projects causing related impacts. The CEQA Guidelines require that an EIR discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. According to the CEQA Guidelines (§15130[a] and [b]), the purpose of the cumulative impacts section is to provide a discussion of significant cumulative impacts that reflect "the severity of the impacts and their likelihood of occurrence." The CEQA Guidelines indicate that the discussion of cumulative impacts should include all of the following:

- Either: (1) a list of past, present, and probable future projects producing related or cumulative impacts, or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document that described or evaluated conditions contributing to a cumulative impact.
- A discussion of the geographic scope of the area affected by the cumulative effect.
- A summary of expected environmental effects to be produced by these projects.

- Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The analysis of cumulative impacts focuses on the effects of concurrent construction of the proposed project with other spatially and temporally proximate projects. As such, this analysis relies on a list of projects that have the potential to contribute to cumulative impacts in the proposed project area. Related projects located in surrounding jurisdictions may be impacted by the proposed project. Jurisdictions contacted for related project information include the County of Ventura; the County of Los Angeles; and the Cities of Santa Clarita, Los Angeles, San Fernando, Burbank, and Glendale. Table 20-1 identifies projects located within the planning area of the proposed project based on consultation with respective agencies. These projects would be considered part of the cumulative analysis. Figures 20-1a through 20-1c identify the cumulative project locations with respect to the proposed project components. However, construction of proposed project components and the related projects identified in Table 20-1 may not occur at the same time. In addition, several projects are long-term and are planned to span a number of years (up to 20 years). This reduces the likelihood of these projects occurring at the same time as the proposed project.

Table 20-1. Cumulative Projects

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
County of Ventura					
1.	Camulos Ranch	5164 E Telegraph Road	Agriculture Facility: 19,300 square feet	0.01 mile to Phase II AWRM Facilities	4 – Phase I
2.	33 Hopper Canyon Rd	33 Hopper Canyon Road	Wireless Communication Facility	0.01 mile to Phase I AWRM Facilities	4 – Phase I
County of Los Angeles					
3.	Castaic Lake Water Agency Recycled Water Master Plan	Castaic Lake Water Agency Service Area	Recycled Water Infrastructure Upgrade	0-5 miles to VWRP	1, 2, 3, 4
4.	Newhall Ranch Specific Plan	Unincorporated Los Angeles County – Santa Clara River Valley	Planned Community: 12,000 acres	2 miles to VWRP	1, 2, 3, 4
5.	Sunshine Canyon Landfill	14747 San Fernando Road, Sylmar	Landfill Expansion	Adjacent to 37-mile Brine Pipeline Alignment	1, 3, 4

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
6.	Entrada VTTM 53295	West of I-5 and The Old Road, south of Six Flags Magic Mountain Theme Park, northerly of the existing community of Westridge, east of Newhall Ranch Specific Plan and pending Mission Village	Planned Community: 515 acres Residential Units: 1,640 units Commercial Use: 726,00 square feet Elementary school, private driveways, public facilities, a park, two private recreation centers, and natural and manufactured open spaces	Adjacent to 37-mile Brine Pipeline Alignment	1, 3, 4
7.	Warner Ranch/Lyons Canyon	Approximately 273 feet southwest of Sagecrest Circle, west of I-5 in the unincorporated community of Santa Clarita Valley	Residential Use: 234.8 acres, 93 single family homes, 93 senior condominium units Fire Station: 8,000 square feet	Adjacent to 37-mile Brine Pipeline Alignment	1, 3, 4
8.	Along The Old Road from Wildwood Canyon Subdivision	Along The Old Road from Wildwood Canyon on the west to the I-5/Highway 14 exchange on the east	Subdivision: 75 lots	Adjacent to 37-mile Brine Pipeline Alignment	1, 3, 4
9.	Gateway Ranch, LLC	Along the north side of The Old Road, from Edison Road to south of Railroad Mtwy	Subdivision: 128 lots	Adjacent to 37-mile Brine Pipeline Alignment	1, 3, 4
10.	Warner Ranch/Lyons Canyon Subdivision	Immediately northwest of Warner Ranch/Lyons Canyon	Subdivision: 8 single family homes	Approximately 0.5 mile to 37-mile Brine Pipeline Alignment	1, 3, 4
City of Santa Clarita					
11.	Valencia Industrial Street Improvement Projects	Vanderbilt Way from Avenue Stanford to Newhall Ranch Road Avenue Stanford from Vanderbilt Way to Avenue Scott Avenue Scott from Rye Canyon Road to Avenue Rockefeller	Bike Lanes and Medians	0.2-1.5 miles to the VWRP and 37-mile Brine Pipeline Alignment	1, 2, 3, 4

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
City of San Fernando					
12.	San Fernando Community Housing Project	131, 135 Park Ave; 130, 134, 140 Jessie Street	Residential Use: 62-unit multi-family	0.1 mile to the 37-mile Brine Pipeline Alignment	1
13.	Fermore/Harding Apartments	1501, 1529 First Street; 112, 116, 124 Harding Avenue	Residential Use: 113-unit affordable housing	0.1 mile to the 37-mile Brine Pipeline Alignment	1
14.	Mid Celis Apartments	1422 San Fernando Road	Residential Use: 20 units	0.05 mile to the 37-mile Brine Pipeline Alignment	1
15.	700 San Fernando Rd	700, 753 San Fernando Road; 726 Celis Street; 721 Pico Street	Commercial Use: 92,560 square foot (single-story) or a 105,623 square foot (partially two-story), 449 parking spaces	0.05 mile to the 37-mile Brine Pipeline Alignment	1
16.	774 North Maclay Ave	774 N Maclay Avenue	Commercial Use: 1,800 square feet	Adjacent to the 37-mile Brine Pipeline Alignment	1
17.	638 San Fernando Rd	638 San Fernando Road	Commercial Use: 1,066 square feet	0.1 mile to the 37-mile Brine Pipeline Alignment	1
18.	112 Alexander	112 Alexander Street	Residential Use: 15-unit affordable housing	0.1 mile to the 37-mile Brine Pipeline Alignment	1
19.	208 Jessie	208 Jessie Street	Residential Use: 20-unit senior housing development	0.17 mile to the 37-mile Brine Pipeline Alignment	1
20.	Lopez Adobe Housing Project	1100 Pico Street	Rehabilitation of the historic Casa de Lopez Adobe	0.16 mile to the 37-mile Brine Pipeline Alignment	1
21.	Water Well No. 4A – Nitrate Removal System	12900 Dronfield Avenue	Installation of a nitrate treatment system to reduce nitrate contamination	0.25 mile to the 37-mile Brine Pipeline Alignment	1
22.	Reservoir 4 Reconstruction	12900 Dronfield Avenue	Reconstruction of the reservoir	0.25 mile to the 37-mile Brine Pipeline Alignment	1
23.	Bicycle Master Plan Bike Lane Implementation	Citywide	Improvements along the city's bike routes throughout various streets	Adjacent to the 37-mile Brine Pipeline Alignment	1

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
City of Burbank					
24.	2324 N Catalina Street	2324 N Catalina Street	Residential Conversion: 7 condominiums	0.3 mile to the 37-mile Brine Pipeline Alignment	1
25.	3401 Empire Avenue	3401 Empire Avenue	Amendment to Planned Development 89-7, Media Studios North, and Proposed Bus Transit Center	1 mile to the 37-mile Brine Pipeline Alignment	1
26.	201 N First Street	201 N First Street	Commercial/Office Conversion	0.1 mile to the 37-mile Brine Pipeline Alignment	1
27.	2801 N Glenoaks Blvd	2801 N Glenoaks Boulevard	Commercial/Office Building: 2,662 square feet	0.5 mile to the 37-mile Brine Pipeline Alignment	1
28.	546 S San Fernando Boulevard	546 S San Fernando Boulevard	Commercial/ Restaurant Use: 3,697 square feet	Adjacent to the 37-mile Brine Pipeline Alignment	1
29.	65 E Santa Anita Avenue	65 E Santa Anita Avenue	Community Youth Center	0.14 mile to the 37-mile Brine Pipeline Alignment	1
30.	3207 N San Fernando Boulevard	3207 N San Fernando Boulevard	Warehouse Building: 2,000 square feet addition	0.01 mile to the 37-mile Brine Pipeline Alignment	1
31.	2909 Thornton Avenue	2909 Thornton Avenue	Manufacturing Building: 5,800 square foot, parking spaces	0.3 mile to the 37-mile Brine Pipeline Alignment	1
32.	264 W Spazier Avenue	264 W Spazier Avenue	Manufacturing Building: 4,893 square feet	0.2 mile to the 37-mile Brine Pipeline Alignment	1
33.	401 S San Fernando Boulevard	401 S San Fernando Boulevard	Commercial Use: 6-story hotel with 201 rooms, 210 parking spaces	Adjacent to the 37-mile Brine Pipeline Alignment	1
34.	Ikea	805 S San Fernando Boulevard	Commercial Use: 470,000 square foot	0.1 mile to the 37-mile Brine Pipeline Alignment	1

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
City of Glendale					
35.	Colorado Gardens	124 W Colorado Street and 203 W Elk Avenue	Multi-Family Residential Use: 50-unit	0.75 mile to the 37-mile Brine Pipeline Alignment	1
36.	Kenwood Terrace	118 S Kenwood Street	Multi-Family Residential Use: 35-unit	1.15 miles to the 37-mile Brine Pipeline Alignment	1
37.	The Lex on Orange Project	320-324 N Central Avenue; 208 W Lexington Drive and 317-345 North Orange Street	Mixed-Use Residential Development: 307-unit, 3 live-work units	1 mile to the 37-mile Brine Pipeline Alignment	1
38.	Cinema Lofts	111 E Wilson Avenue	Mixed-Use Residential, Office Use: 42 live-work units	1 mile to the 37-mile Brine Pipeline Alignment	1
39.	Dreamworks Expansion	1000 Flower Street	Improvement of public facilities and redevelopment of vacant space	0.3 mile to the 37-mile Brine Pipeline Alignment	1
40.	Triangle Project	3900 San Fernando Road	Mixed-use Development: 218 multi-family residential units; 54,000 square feet of commercial use	Adjacent to the 37-mile Brine Pipeline Alignment	1
41.	Mitaa Plaza	435 Los Feliz Road	Commercial Use: 163,000 multi-story commerce square feet, plus 597 parking spaces	0.12 mile to the 37-mile Brine Pipeline Alignment	1
42.	Regency Plaza	401 W Colorado Street	Commercial Use: 96,670 square feet, 440 subterranean parking spaces	0.5 mile to the 37-mile Brine Pipeline Alignment	1
City of Los Angeles					
43.	ENV-2012-457-MND	302-358 N. Avenue 21; 2103 and 2131 N. Humboldt St.; 306-328 N. Ave 23; Northeast Los Angeles	Warehouse Conversion: office and gathering space	0.17 mile to the 37-mile Brine Pipeline Alignment	1
44.	ENV-2012-136-MND	5265-5273 E. Alhambra Avenue	Commercial Use: 3,645 square foot addition	1.7 mile to the 37-mile Brine Pipeline Alignment	1

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
45.	ENV-2011-2713-MND	14117 Hubbard Street; Sylmar	Restaurant Use: 5,817 square foot	0.7 mile to the 37-mile Brine Pipeline Alignment	1
46.	ENV-2011-2366-MND	1828 East Cesar E Chavez Avenue; Boyle Heights.	Medical Office Building: 110,226 square feet	1.4 miles to the 37-mile Brine Pipeline Alignment	1
47.	Daly Street Improvement	Daly Street between Broadway and Pasadena Avenue	Intersection Improvement – New Traffic Signal	Within Public ROW	1
48.	Figueroa Street Bridge	Figueroa Street Bridge south of the I-5 Freeway and west of N Avenue 19	Replacement of the Figueroa Street Bridge	0.5 mile to the 37-mile Brine Pipeline Alignment	1
49.	Fletcher Drive Bridge	Fletcher Drive between I-5 Freeway and Casitas Avenue	Retrofit Project	0.5 mile to the 37-mile Brine Pipeline Alignment	1
50.	Riverside Dr/LA River-0160&1932	Riverside Bridge Structure over the Los Angeles River	Replacement of Riverside Bridge	0.25 mile to the 37-mile Brine Pipeline Alignment	1
51.	LADWP Headworks Reservoir – Silver Lake Reservoir Complex Storage Replacement	Bounded by the Los Angeles River and SR-134 to the north and Forest Lawn Drive to the south	Reservoir Infrastructure	1.5 miles to the 37-mile Brine Pipeline Alignment	1
52.	Silver Lake Reservoir Bypass Tunnel and Regulator Station	Bounded by Tesla Avenue to the north, Armstrong Avenue to the east, Silver Lake Boulevard to the east and south, and W Silver Lake Drive to the west.	Water Quality Improvement Project	1.5 miles to the 37-mile Brine Pipeline Alignment	1
53.	Silver Lake Reservoir Complex Storage Replacement Project	Silver Lake and Ivanhoe Reservoirs; Bounded by Tesla Avenue to the north, Armstrong Avenue to the east, Silver Lake Boulevard to the east and south, and W Silver Lake Drive to the west.	Water Quality Improvement and Infrastructure Replacement Project	1.5 miles to the 37-mile Brine Pipeline Alignment	1

Table 20-1 (cont.)

No.	Project Name	Project Location	Project Type	Proximity to Proposed Project Component	Proximity to Alternative
53.	Silver Lake Reservoir Complex Storage Replacement Project	Silver Lake and Ivanhoe Reservoirs; Bounded by Tesla Avenue to the north, Armstrong Avenue to the east, Silver Lake Boulevard to the east and south, and W Silver Lake Drive to the west.	Water Quality Improvement and Infrastructure Replacement Project	1.5 miles to the 37-mile Brine Pipeline Alignment	1
54.	Elysian Reservoir Water Quality Improvement Project	Bounded by Grand View Drive to the north and west, and SR-110 to the south	Water Quality Improvement Project	0.5 mile to the 37-mile Brine Pipeline Alignment	1
55.	Taylor Yard Bikeway/ Pedestrian Bridge over LA River	Taylor Yard at LA River and San Fernando Road	Bikeway/Pedestrian Bridge	0.25 mile to the 37-mile Brine Pipeline Alignment	1

Sources: County of Ventura, County of Los Angeles, City of Los Angeles, City of Santa Clarita, City of San Fernando, City of Burbank, City of Glendale, SCVSD, ESA 2013.

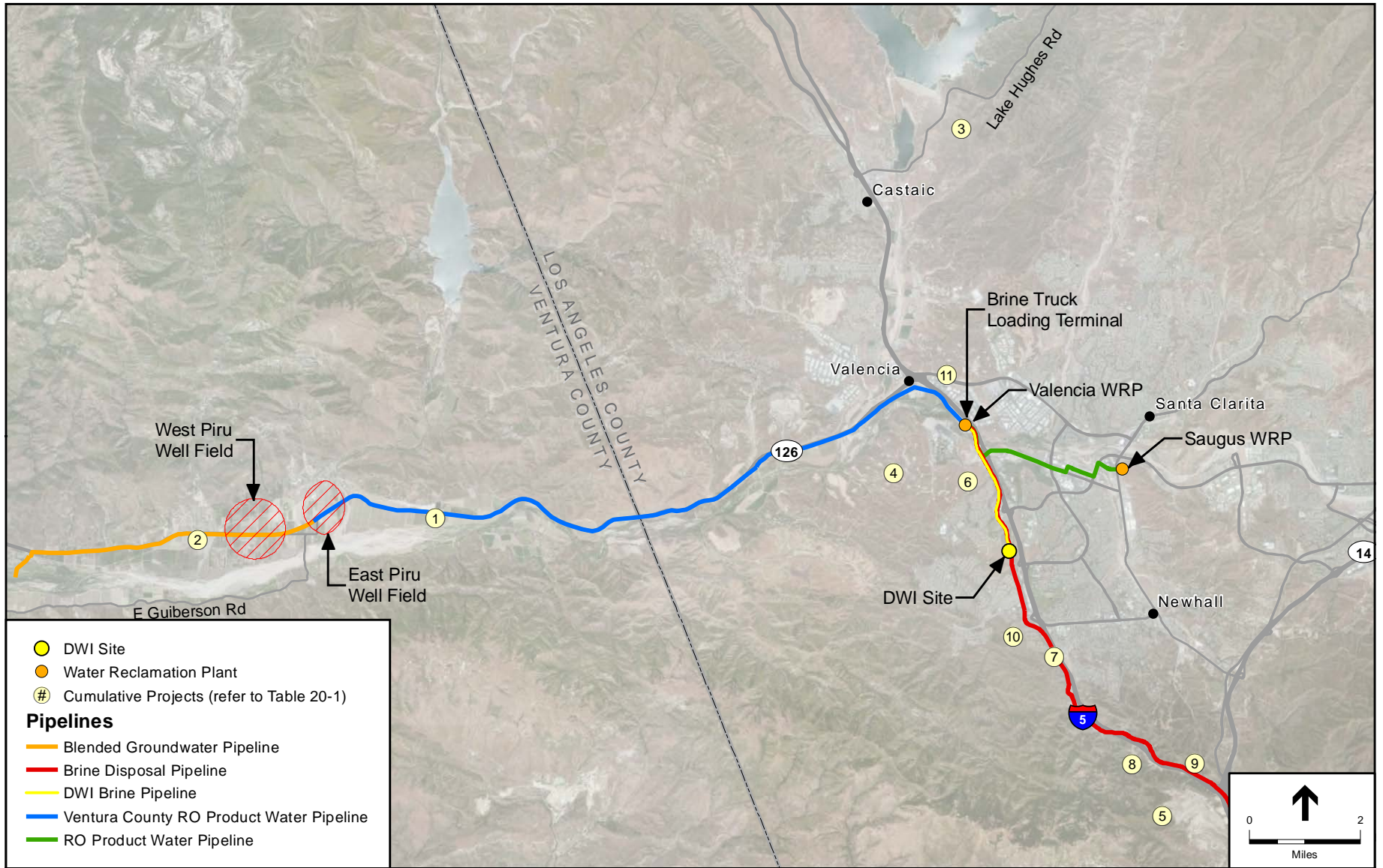
20.2.1 Related Projects

20.2.1.1 Geographic Scope

Cumulative impacts are assessed for related projects within a similar geographic area. This geographic area may vary, depending upon the issue area discussed and the geographic extent of the potential impact. For example, construction noise impacts would be limited to areas directly affected by construction, whereas the area affected by the proposed project's construction-related air emissions generally includes the entire air basin. Construction impacts associated with increased noise, dust, erosion, and access limitations tend to be localized and could be exacerbated if other development or improvement projects are occurring within the same or adjacent locations as the proposed project.

20.2.1.2 Type of Projects Considered

As described in Sections 9 through 19, the majority of impacts associated with implementation of the proposed project are short-term and related to construction, rather than long-term operational impacts. Therefore, the proposed project could contribute to cumulative effects when considered in combination with impacts of other construction projects in the proposed project area. For this analysis, other past, present, and reasonably-foreseeable future construction projects, particularly other infrastructure and industrial projects in the area, are identified. Long-term cumulative impacts of the proposed project in conjunction with the other projects in the area are assessed as well.



Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and EIR
Figure 20-1a
 Cumulative Project Locations



Figure 20-1b
Cumulative Project Locations



Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and EIR
Figure 20-1c
 Cumulative Project Locations

20.2.1.3 Description of Cumulative Projects

Table 20-1 lists anticipated future projects that could contribute to cumulative impacts within the proposed project area. In addition to the projects listed in Table 20-1, other development projects that have not been identified at this time could occur within the proposed project area. However, some projects, such as the Newhall Ranch Specific Plan and the Castaic Lake Water Agency Recycled Water Master Plan, will be implemented over decades, while others may be completed before or after the proposed project.

20.2.2 Cumulative Effects

Impact 20-1: The proposed project, together with related projects, could create cumulative short-term construction impacts or long-term operation impacts related to aesthetics, air quality, biological resources, cultural resources, energy resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use, noise, and transportation and traffic.

20.2.2.1 Aesthetics

As discussed in Section 9, construction of the alternatives would result in a less than significant impact to scenic vistas, scenic highways, and visual character. Short-term impacts to the surrounding area would occur; however, the impacted areas would be returned to pre-construction conditions. The proposed project site and components would be aesthetically consistent with the character and uses of the surrounding area.

Aesthetics impacts of each related project, if any, would be addressed on a project-by-project basis and reviewed by the appropriate planning jurisdiction. Impacts related to visual character would not be cumulatively considerable on an individual project basis. Each would be subject to planning and zoning requirements, as well as design review by the planning jurisdiction to ensure that each project design is consistent with established standards. Where potential impacts could occur, the planning jurisdiction would require appropriate environmental review and analysis, and, if required, mitigation as appropriate. None of the alternatives individually have significant aesthetic impacts, nor would any of the proposed project components combined with other projects result in significant aesthetic impacts.

The incremental effect on cumulative aesthetic impacts during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on aesthetics.

20.2.2.2 Air Quality

Construction

The geographic scope of cumulative air quality impacts is the South Coast Air Basin. Construction of the alternatives would generate significant and unavoidable short-term nitrogen oxide (NO_x) emissions. Concurrent construction of the proposed project with other projects in the air basin would generate short-term emissions of criteria pollutants and toxic air contaminants, including suspended and inhalable particulate matter and equipment exhaust emissions. Therefore, the related projects shown in Table 20-1 could contribute to cumulative air quality impacts. Implementation of Mitigation Measure AQ-1 and compliance with South Coast

Air Quality Management District (SCAQMD) Rule 403 would control fugitive dust at construction sites, limit construction dust, and minimize both vehicle and equipment emissions. However, as discussed in Section 10, the proposed project Alternatives 1, 2, and 3 would exceed regional and localized construction emission thresholds for NO_x, resulting in significant and unavoidable air quality impacts. Phase I of Alternative 4 is the only alternative that would not exceed NO_x emission thresholds and therefore would not result in significant and unavoidable air quality impacts. However, Phase II of Alternative 4 would exceed regional and localized construction emission thresholds for NO_x, and if implemented would result in a significant and unavoidable impact. Because SCAQMD significance thresholds for pollutants that are already in non-attainment of federal standards would be exceeded, the incremental effect on cumulative air quality for NO_x during construction of Alternatives 1, 2, 3, and Phase II of Alternative 4 would be cumulatively considerable and would result in a cumulative impact on air quality.

Operation

The SCAQMD's approach for assessing cumulative operational impacts is based on the Air Quality Management Plan forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. The SCAQMD has set forth regional significance thresholds designed to assist in the attainment of ambient air quality standards. Alternatives 1, 2, and Phase I of Alternative 4 would not result in a significant VOC, PM_{2.5}, PM₁₀, NO_x, or CO impact during operations and would not result in significant long-term operational cumulative impacts because emissions would be similar to the existing air quality emissions. Operation of Alternative 3 (trucking option) and Phase II of Alternative 4 would result in less than significant impacts to NO_x air emissions with implementation of Mitigation Measure AQ-4.

The incremental effect on cumulative air quality during operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on air quality.

20.2.2.3 Biological Resources

Reduced flows in the Upper Santa Clara River (SCR) would not adversely affect aquatic biological resources including the unarmored threespine stickleback as described in Section 11. Combined with other projects in the region, the minimum discharge of the Saugus Water Reclamation Plant (SWRP) and the Valencia Water Reclamation Plant (VWRP) would ensure that aquatic resources are not cumulatively impacted. Construction activities would be temporary and would not result in cumulatively significant impacts to biological resources. With implementation of mitigation measures requiring discharge rate restrictions, the discharge to the SCR associated with the operation of Phase I of Alternative 4 would not result in a significant direct impact to aquatic resources. Therefore, the incremental effect on cumulative biological resources during operation of Phase I of Alternative 4 would not be cumulatively considerable and would not result in a significant cumulative impact on biological resources.

20.2.2.4 Cultural Resources

Ground-disturbing activities associated with all four alternatives and related projects may uncover cultural resources in the proposed project area. Implementation of the mitigation measures developed in Section 12 would reduce the proposed project impacts to a less than significant level. It is also anticipated that the other related projects would implement such mitigation measures on a case-by-case basis as determined by project-specific environmental review.

The incremental effect on cumulative cultural resources during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on cultural resources.

20.2.2.5 Energy Resources

Electrical energy for all four alternatives would be provided by Southern California Edison (SCE). Most construction activities would be performed by power equipment that is powered by diesel engines and not by electricity. Construction impacts would be negligible and would not contribute significantly to cumulative impacts relating to energy resources.

As described in Section 13, all four alternatives would result in a slight increase in energy demand. Currently, the VWRP and SWRP use approximately 23.5 gigawatt-hours (GWh) per year combined. The increase would be minor relative to the energy demand of each SCVSD customer. Although there would be an increase in operational energy demand, the alternatives are not anticipated to require construction of new energy infrastructure.

Operational activities would comply with applicable energy efficiency policies and standards. SCVSD would install energy-efficient equipment (e.g., pumps and motors) to the maximum extent practicable to minimize the proposed project's energy consumption. Furthermore, because the proposed project is required to meet receiving water quality standards, the associated energy requirements would not be a wasteful use of energy or conflict with local or state energy efficiency plans or policies. None of the alternatives individually have significant energy resources impacts.

The incremental effect on cumulative energy resources during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on energy resources.

20.2.2.6 Geology, Soils, and Seismicity

As described in Section 14, construction of all four alternatives would include earthmoving and drilling activities that could result in soil erosion. Because each alternative would include a Storm Water Pollution Prevention Plan with erosion control design features and other best management practices, construction-related soil erosion impacts would be less than significant. Operation of Alternative 2 and Phase II of Alternative 4 could induce seismic events, although the probability of an injection-induced seismic event is believed to be very small. If DWI is implemented, the SCVSD would develop a seismic monitoring plan prior to commencing injection that would identify the monitoring frequency during well startup and operations as well as a flow ramp-up schedule during startup. As a result, impacts would be less than significant. Operation of Alternative 4 Phase I could result in subsidence, although with the implementation of mitigation measures, the impacts would be less than significant. Related projects in Table 20-1 may require some degree of ground-breaking and excavation activities that may contribute to a significant impact as a result of seismic impacts, mineral extraction, or subsidence. It is anticipated that the other related projects would implement mitigation measures on a case-by-case basis as determined by project-specific environmental review.

The incremental effect on cumulative geology, soils and seismicity during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on geology, soils, and seismicity.

20.2.2.7 Greenhouse Gas Emissions

The accumulation of greenhouse gas (GHG) emissions is an inherently cumulative impact. No project alone would contribute to a noticeable incremental global climate change from GHG emissions. However, legislative and executive action on climate change in California have established a statewide context for GHG emissions and an enforceable statewide cap on GHG emissions.

No GHG significance thresholds have been adopted for general CEQA use. As described in Section 15, the four alternatives' GHG emissions have been compared to the SCAQMD's significance threshold for proposed projects for which the SCAQMD is the lead agency. Although the total construction and operational GHG emissions resulting from the proposed project alternatives would result in increases in metric tons (MT) of CO₂ equivalents (CO₂e), the increases would be lower than the SCAQMD's significance threshold of 10,000MT/yr CO₂e. GHG emissions for the proposed project alternatives would be less than significant.

The incremental effect on cumulative GHGs during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on GHG emissions.

20.2.2.8 Hydrology and Water Quality

As identified in Section 16, all four alternatives would have a less than significant impact to hydrology and water quality. The adherence to state and federal water quality regulations would ensure that the proposed project would not result in cumulatively considerable hydrology and water quality impacts. Furthermore, implementation of the proposed project would improve SCR water quality by reducing chloride levels in discharged recycled water from the WRPs. Corresponding reduced flow in the SCR would contribute to groundwater level declines in the lower SCR and may reduce surface water diversions. However, the flow reduction is not significant because the volume of the flow reduction is small compared to groundwater in storage in the lower SCR and recovery of groundwater levels during wet years.

The incremental effect on cumulative hydrology and water quality during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on hydrology and water quality.

20.2.2.9 Land Use and Planning

As described in Section 17, although project components for each alternative may require conditional use permits (CUPs), none of the facilities would significantly impact land uses. The incremental effect on cumulative land use and planning during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on land use and planning.

20.2.2.10 Noise

As described in Section 18, construction noise associated with each alternative would contribute to ambient noise in the proposed project area. Operational noise associated with the unloading terminal trucking route for Alternative 3 and for Phase II of Alternative 4 would create a

significant nighttime noise impact. However, the implementation of mitigation measures would reduce the construction and operational impacts to a less than significant level.

The incremental effect on cumulative noise during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on noise.

20.2.2.11 Transportation and Traffic

Construction traffic would temporarily add vehicles to local streets. However, the implementation of mitigation as described in Section 19 would reduce the construction traffic impact to a less than significant level. Operational traffic associated with Alternative 3 and Phase II of Alternative 4 would add daily truck trips. However, implementation of mitigation measures would reduce impacts to affected intersections to a less than significant level.

The incremental effect on cumulative transportation and traffic during construction and operation of Alternatives 1 through 4 would be less than significant. Therefore, the contribution is not cumulatively considerable and would not result in a cumulative impact on transportation and traffic.

20.3 ALTERNATIVES

20.3.1 CEQA Requirements

Per the CEQA Guidelines, an EIR must present a reasonable range of project alternatives, or to the project location, which could feasibly attain most of the basic project objectives but avoid or substantially lessen any of its significant environmental effects. §15126.6(f) of the CEQA Guidelines provides direction on the required alternatives analysis:

The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

An EIR need not consider every conceivable project alternative. Rather, alternatives must be limited to those that meet project objectives, are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. §15126 of the CEQA Guidelines explains that the evaluation of project alternative feasibility may consider site suitability, economic viability, infrastructure availability, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

§15126.6(b) of the CEQA Guidelines states that an EIR:

...must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or could be more costly.

§15126.6 (d) of the CEQA Guidelines provides further guidance on the extent of alternatives analysis required:

The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

An EIR must briefly describe the rationale for selection and rejection of alternatives and the information on which the lead agency relied to make its selection. It also should identify any alternatives considered but rejected as infeasible by the lead agency during the scoping process, and briefly explain reasons for the exclusion. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most project objectives, are infeasible, or do not avoid any significant environmental effects. Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered (CEQA Guidelines, §15126.6[f][3]).

§15126.6(e)(1) of the CEQA Guidelines also requires that a no project alternative be addressed in this analysis. The purpose of evaluating a no project alternative is to allow decision-makers to compare the potential consequences of the project with the consequences that would occur without implementation of the project.

Finally, an EIR must identify the environmentally superior alternative. A no project alternative may be environmentally superior to the project based on the minimization or avoidance of physical environmental impacts. However, a no project alternative must also achieve the project objectives in order to be selected as the environmentally superior alternative. §15126.6(e)(2) of the CEQA Guidelines requires that if the environmentally superior alternative is the no project alternative, an EIR shall identify an environmentally superior alternative among the other alternatives.

20.3.1.1 Review of Proposed Project Objectives

As presented in Section 6.2, the goal of the proposed project is to meet the following objectives in a cost-effective and environmentally sound manner:

- Provide compliance with the Chloride Total Maximum Daily Load (TMDL) for SCVSD wastewater treatment and discharge facilities
- Provide the necessary wastewater treatment facilities and programs for chloride removal while conserving the area designated for future VWRP Stage VI expansion

- Provide a wastewater treatment and effluent management program that accommodates recycled water reuse opportunities in the community while protecting beneficial uses of the SCR

20.3.1.2 Alternatives Analysis Comparison Summary

As documented in Section 6, an extensive alternatives analysis using a variety of criteria was completed. Approaches that would partly or entirely achieve Chloride TMDL compliance were first evaluated for feasibility and then assembled into alternatives intended to provide compliance with the Chloride TMDL. These alternatives were then screened and the top-ranked final alternatives were carried forward for refinement, while the remaining alternatives were rejected with no further evaluation. The final alternatives determined through this process were evaluated at a project-level in this EIR and are described in the following section. Section 6 describes alternatives that were determined to be infeasible and provides reason(s) for not evaluating each alternative further.

20.4 ENVIRONMENTAL ANALYSIS OF ALTERNATIVES

20.4.1 No Project Alternative

Under the No Project Alternative, the MF/RO and UV disinfection facilities, RO product water conveyance system, and brine disposal systems would not be constructed. Without these facilities, the SCVSD would be unable to comply with the 100 milligrams per liter (mg/L) chloride limit required by the Chloride TMDL.

20.4.1.1 Aesthetics

Potential aesthetic changes would not occur under the No Project Alternative because no facilities would be constructed. Therefore, the No Project Alternative would have fewer aesthetic impacts.

20.4.1.2 Air Quality

The No Project Alternative would not involve any new construction or operational activities. Consequently, air quality impacts associated with construction and additional operational activities would not occur under this alternative. Therefore, the No Project Alternative would have fewer air quality impacts, including avoidance of a significant unavoidable impact.

20.4.1.3 Biological Resources

The No Project Alternative would not include any new construction or operational activities that could impact birds or other wildlife species. The chloride levels currently discharged to the river under the No Project Alternative are not expected to adversely affect biological resources. Therefore, the No Project Alternative would have fewer biological resources impacts.

20.4.1.4 Cultural Resources

The No Project Alternative would not involve any ground-disturbing activities such as excavation, grading, or drilling that might impact any known or unknown cultural or

paleontological resources. Therefore, the No Project Alternative would have fewer cultural resources impacts.

20.4.1.5 Energy Resources

The No Project Alternative would not involve any new construction or operational activities that would result in increased energy consumption. Therefore, the No Project Alternative would have fewer energy resources impacts.

20.4.1.6 Geology, Soils, and Seismicity

The No Project Alternative would not involve any construction of ground-disturbing activities such as excavation, grading, or drilling that would result in geological, soils, or seismicity impacts to the proposed project area. Therefore, the No Project Alternative would have fewer geology, soils and seismicity impacts.

20.4.1.7 Greenhouse Gas Emissions

The No Project Alternative would not involve any new construction or operational activities that would result in additional GHG emissions. Therefore, the No Project Alternative would have fewer GHG emissions impacts.

20.4.1.8 Hydrology and Water Quality

The No Project Alternative would not involve any construction or operational activities that would result in disturbing soils that could lead to erosion and stormwater pollution. However, by not implementing the project, chloride levels would exceed the Chloride TMDL Limit. Based on standards established by the Regional Water Quality Control Board (RWQCB), exceedance of these standards would negatively impact an existing beneficial use of SCR water – irrigation of salt-sensitive crops. By definition, exceedance of an environmental regulation would result in a significant impact. Therefore, the No Project Alternative would result in a greater water quality impact.

20.4.1.9 Land Use and Planning

Under the No Project Alternative, there would be no impacts to existing land use, land use plans, and land use policies. However, the land use impacts from the proposed project are so small that the No Project Alternative would result in similar land use impacts.

20.4.1.10 Noise

The No Project Alternative would not involve any construction or operational activities that would produce noise. Therefore, the No Project Alternative would result in fewer noise impacts.

20.4.1.11 Transportation and Traffic

The No Project Alternative would not involve any construction or operational activities that would result in temporary traffic trips and temporary lane closures. Therefore, the No Project Alternative would result in fewer transportation and traffic impacts.

Summary of No Project Alternative

The No Project Alternative would result in fewer impacts in all areas except hydrology and water quality. While the No Project Alternative would eliminate a significant unavoidable impact to air quality during construction, the No Project Alternative would result in a significant unavoidable impact to water quality because it would lead to a violation of an environmental regulation. Furthermore, the No Project Alternative does not meet two of the three project objectives and is thus infeasible.

20.5 SUMMARY OF ALTERNATIVES ANALYSIS

As required by CEQA, this alternatives analysis evaluates the effects of the No Project Alternative, Alternative 1, Alternative 2, Alternative 3, Phase I of Alternative 4, and Phases I and II of Alternative 4. Table 20-2 compares the ability for the No Project Alternative and four alternatives previously described to meet the proposed project objectives. Each alternative except the No Project Alternative would meet all of the proposed project objectives.

Table 20-2. Ability of Project Alternative to Meet Project Objectives

Project Objectives	No Project Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4 Phase I	Alternative 4 Phase I & II
Provide compliance with the Chloride TMDL for SCVSD wastewater treatment and discharge facilities	No	Yes	Yes	Yes	Yes	Yes
Provide the necessary wastewater treatment facilities and programs for chloride removal while conserving the area designated for future VWRP Stage VI expansion	Yes	Yes	Yes	Yes	Yes	Yes
Provide a wastewater treatment and effluent management program that accommodates recycled water reuse opportunities while protecting beneficial uses in the Santa Clara River	No	Yes	Yes	Yes	Yes	Yes

Source: ESA 2013.

Table 20-3 summarizes the impact analysis results for the No Project Alternative and Alternatives 1 through 4. The analysis is consistent with the results of the EIR, which provides a comprehensive environmental review of potential environmental effects associated with each alternative.

20.5.1 Environmentally Superior Alternative

CEQA requires that an EIR identify the environmentally superior alternative of a project other than the no project alternative (CEQA Guidelines §1526.6[e][2]). Table 20-3 compares the impacts of the No Project Alternative and the four final alternatives on a project-level analysis. The No Project Alternative would avoid all construction and operational impacts but would result

in non-compliance with the Chloride TMDL resulting in a significant and unavoidable impact to Hydrology and Water Quality. Furthermore, the No Project Alternative would not meet the primary project objective to comply with the Chloride TMDL.

As shown in Table 20-2, the four alternatives would all meet the proposed project objectives, but impacts would vary. Most of the adverse environmental effects of Alternative 1 are temporary and are associated with pipeline construction. Once the pipeline is installed, operation of this alternative would result in the fewest impacts, including the lowest long-term energy consumption and GHG emissions. Alternative 2 is similar to Alternative 1, except for slightly higher operational energy consumptions and GHG emissions. Alternative 3 (trucking) would result in a slightly higher impact to air quality than Alternatives 1 and 2, as mitigation measures would be required to reduce the impact to a level of less than significant. Alternative 4 Phase I would avoid construction air emissions associated with building microfiltration/reverse osmosis (MF/RO) and brine disposal facilities. In addition, the discharge of blended water into the lower SCR under Alternative 4 Phase I would need to be integrated into the Habitat Conservation Planning efforts underway for that segment of the river. Alternative 4 Phase II would result in the greatest impact from addition of the RO pipeline combined with MF/RO and brine disposal facilities, resulting in the highest overall energy use. As a result, Alternative 1 is considered the environmentally superior alternative.

Table 20-3. Comparison of Impact Analysis for Each Alternative

Resource Area	Impact Level					
	No Project Alternative	Alternative 1 – MF/RO With Brine Disposal via Pipeline	Alternative 2 – MF/RO With Brine Disposal via DWI	Alternative 3 – MF/RO With Brine Disposal via Trucking	Alternative 4 – Phased AWRM (Phase I)	Alternative 4 – Phased AWRM (Phases I & II)
Aesthetics	NI	LTS	LTS	LTS	LTS	LTS
Air Quality	NI	SU	SU	SU	LTSM	SU
Biological Resources	NI	LSTM	LSTM	LTSM	LTSM	LTSM
Cultural Resources	NI	LTSM	LTSM	LTSM	LTSM	LTSM
Energy Resources	NI	LTS	LTS	LTS	LTS	LTS
Geology, Soils, and Seismicity	NI	LTS	LTS	LTS	LTSM	LTSM
Greenhouse Gas Emissions	NI	LTS	LTS	LTS	LTS	LTS
Hydrology and Water Quality	SU	LTS	LTS	LTS	LTSM	LTSM
Land Use and Planning	NI	LTS	LTS	LTS	LTS	LTS
Noise	NI	LTSM	LTSM	LTSM	LTSM	LTSM
Transportation and Traffic	NI	LTSM	LTSM	LTSM	LTSM	LTSM

NI = No Impact

LTS = Less Than Significant

LTSM = Less Than Significant After Mitigation

SU = Significant and Unavoidable

Source: ESA 2013.