

5—CUMULATIVE IMPACTS ANALYSIS

5—CUMULATIVE IMPACTS

CEQA Guidelines Section 15130 requires that an Environmental Impact Report (EIR) discuss cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." The definition of cumulatively considerable is provided in Section 15065(a)(3):

"Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to Section 15130(b) of the CEQA Guidelines:

[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this Subsequent EIR (SEIR), the project would have a significant cumulative effect if:

- the cumulative effects of other past, current, and probable future projects without the project are not significant and the project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- the cumulative effects of other past, current, and probable future projects without the project are already significant and the project contributes measurably to the effect. The standards used herein to determine measurability are that either the impact must be noticeable or must exceed an established threshold of significance.

This SEIR identifies potentially significant environmental impacts associated with implementation of the proposed project, which are addressed by resource topic in Chapter 4. These issues, and others that could be cumulatively considerable significant effects, are discussed below in the context of cumulative development.

5.1 GEOGRAPHIC SCOPE AND TEMPORAL SCOPE

The geographic area that could be affected by the proposed project varies depending on the type of environmental resource being considered. When the effects of the project are considered in combination with those other past, present, and reasonably foreseeable future projects to identify cumulative impacts, the other projects that are considered may also vary depending on the type of environmental effects being assessed. The general geographic area associated with different environmental effects of the project defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. For example, the analysis of some air quality impacts is based on regional-scale growth; thus a regional perspective must be used to assess cumulative air quality impacts. In the case of aesthetic impacts, given the localized impact area of concern, a smaller more localized area surrounding the immediate project area, as well as a community scale that encompasses the larger community within which the proposed project is located, would be appropriate for consideration. Table 5-1, "Geographic

Scope of Cumulative Impacts,” presents the geographic scales associated with the different resources addressed in this SEIR analysis.

TABLE 5-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS

Resource Issue	Geographic Scale of Impacts
Aesthetics and Visual Resources	Local and community
Air Quality	Local (carbon monoxide, particulate matter, air toxics) Air basin/regional (ozone, particulate matter, and other criteria pollutants)
Biological Resources	Local and areas within the same watershed
Greenhouse Gases	Global (greenhouse gases)
Geology and Soils	Local
Hydrology and Water Quality	Local, upstream, and downstream areas within the same watershed and aquifer
Land Use and Planning	Local
Noise	Local and community

Source: Data compiled by Benchmark Resources in 2020

The proposed project may result in a long-range beneficial cumulative impact to fish passage by removing existing obstacles and detrimental conditions for listed fisheries, as well as by restoring native habitats with permanent conservation. The project is also limited in temporal scope because its effects would extend between the time the project is approved and initiated (reclamation under the revised plan is scheduled to take place as early as 2022) and 2056 (approximately 34 years), when reclamation activities would be completed. Thus, the proposed project would have few cumulative impacts with respect to other projects that would be completed before this project begins and after this project is completed. Cumulative impacts that would occur are related to air quality and are described in Section 5.3, below.

5.2 RELATED PROJECTS

5.2.1 Analysis Method

The CEQA Guidelines allow for the use of two methods to determine the scope of related projects for the cumulative impact analysis (CEQA Guidelines Section 15130):

List Method: A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency.

Regional Growth Projections Method: A summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions.

For the purpose of this SEIR, the list approach is used because of the localized nature and specific land use of the proposed project. This method allows for a project-based cumulative analysis within the defined geographic area of the proposed project.

5.2.2 List of Nearby Projects

A summary of the projects identified at or near the project site is provided in Table 5-2, “List of Nearby Projects,” and shown in Figure 5-1, “Approximate Location of Cumulative Projects.” This is not intended to be an all-inclusive list of projects in the region, but rather a list of projects nearby that have some relation to the setting conditions of the project and are: (1) completed, (2) currently under construction or

implementation or beginning construction or implementation, (3) proposed and under environmental review, or (4) reasonably foreseeable. The proposed project is located in an industrial area surrounded by residential neighborhoods, recreational uses, and vineyards; thus, projects related to mining, recreation, and water management or having the potential to interact with the operation of these uses were considered as part of this analysis and included on the project list. While the project site is located in an unincorporated area of Alameda County, it is also near the cities of Pleasanton and Livermore. For this reason, relevant projects in each of the aforementioned jurisdictions are also included in Table 5-2.

5.3 CUMULATIVE IMPACTS EVALUATION

Each resource section below provides a summary listing the impacts identified in each resource section (Sections 4.1 through 4.8) and is followed by a discussion of the potential for these project impacts to contribute to cumulative impacts.

5.3.1 Aesthetics

Project impacts pertaining to aesthetics, as described in Section 4.1, are as follows:

- Impact 4.1-1: Substantial Degradation of the Approved Visual Character or Quality of the Site and Its Surroundings (less than significant) and
- Impact 4.1-2: Creation of a New Source of Substantial Light and Glare that Would Adversely Affect Day or Nighttime Views in the Area (less than significant with mitigation incorporated)

Potential effects to aesthetic conditions are primarily local- and community-level issues. Consideration of cumulative effects would include whether the effects of the proposed project would be viewed in combination with other projects that could affect or change the visual environment. Therefore, cumulative projects listed in Table 5-2 and shown on Figure 5-1 that are located within a one-mile radius are identified as potential contributors to the aesthetics cumulative setting. These projects, as numbered in Table 5-2, are cumulative projects 4, 15, and 16.

The ongoing mining operations and existing recreation area are visible from Stanley Boulevard, north of the proposed project, and Isabel Avenue, which passes between Lakes A and B. As shown on Figure 5-1, the SR 84 widening project (16) is the only project directly adjacent to the site. However, widening of the road has already taken place on the segment that is directly adjacent to the proposed project. Future widening planned would only occur between I-680 and Pidgeon Pass, south of the project site. Furthermore, because cumulative project 16 is the widening of an existing road, activities related to this project would not result in changing the overall visual character of the project area and is not considered to be a significant impact.

Visual resources impacts that could be associated with other nearby projects, such as buildout of the EPSP (15) or the Arroyo Lago Residential Project (4), would be localized and would not contribute to visual impacts of the proposed project.

Reclamation activities related to Lake A would begin during 2022 and would contribute temporary views of construction workers and vehicles to the area. The proposed project would not include nighttime activities. Because construction activities would be temporary, and the results of the activities (e.g., landscaping featuring more native species and habitat, improved bike paths, a riparian channel, and lakes) would result in improved views, the proposed project would not cause a cumulatively considerable contribution to a significant visual effect.

TABLE 5-2
LIST OF NEARBY PROJECTS

Figure 5-1 Map Key	Project Name	Description of Project	Size or Extent	Jurisdiction/Landowner	Status
1	Monte Vista Memorial Gardens Project	Conditional Use Permit to allow construction of a funeral home and cemetery at 3656 Las Colinas Road in Livermore. The Project would include a funeral home with crematorium, burial lots, an entry plaza, internal roadways, parking, landscaping, new wetlands, lakes, and other associated infrastructure and improvements.	47-acre site in Southern portion of an approximately 104-acre Assessor's Parcel Number (APN) 099-0015-016-03.	Alameda County / Monte Vista Memorial Investment Group, LLC	Notice of Preparation of an EIR circulated June 29, 2020 and public scoping meeting held July 20, 2020.
2	Aramis Solar Energy Generation and Storage Project	Conditional Use Permit (CUP) to allow construction of a solar energy production (up to 100 megawatts, or MW) facility with associated battery storage using photovoltaic panels. A parcel map subdivision to separate a roughly 150-acre portion of one project parcel from the project development site is also proposed.	Mostly contiguous 533-acre site, featuring large portions of four privately-owned parcels.	Alameda County/IP Aramis, LLC	Draft and Final EIR certified, and project approved by East County Board of Zoning Adjustments in November 2020. Appealed to Board of Supervisors, pending hearing likely in February 2021.
3	Beyer Ranch Winery Development	Subdivide a roughly 244-acre project site into 12 lots, with a minimum area of 20 acres and a maximum area of 21.28 acres. The six lots on the north half of the site would permit commercial winery facilities, and four of these six lots would allow winery-related uses such as cultural and social events, banquets, receptions, concerts, food and wine festival events, and other wine marketing activities. Two of these four lots are proposed to accommodate up to four incubator wineries with tasting rooms while the other two would include one large winery	260-acre site	Alameda County / Wente Brothers	CUP approved; awaiting site review.

Figure 5-1 Map Key	Project Name	Description of Project	Size or Extent	Jurisdiction/Landowner	Status
		hospitality/events center and another with a moderately large tasting room. The other six lots, on the south half and east side of the site, would be developed with one single-family residence each.			
4	Arroyo Lago Residential Project	USL Pleasanton Lakes, L.P. (Pleasanton Lakes), has filed an application with Alameda County for the approval of Arroyo Lago, a residential development project that would be developed on approximately 26.6 acres of land located in unincorporated Alameda County adjacent to Pleasanton city limits.	26.6 acres	County of Alameda / USL Pleasanton Lakes, L.P.	Notice of Preparation of EIR issued on September 5, 2018
5	Valley Link Rail Project	Provide transit connectivity between the BART system in the Tri-Valley, the Altamont Commuter Express, and the San Joaquin Valley. The project also proposes several new stations and facilities, also spanning Alameda and San Joaquin Counties.	Within the I-580 freeway median through Dublin, Pleasanton, and Livermore; follow the Alameda County Transportation Corridor (formerly the Southern Pacific line) over the Altamont Hills; and then follow along existing rail lines through Tracy to Lathrop and Stockton	Tri-Valley – San Joaquin Valley Regional Rail Authority	Draft EIR released December 2, 2020.
6	Livermore Community Solar Farm	Develop a 58.7-acre solar photovoltaic (PV) facility with a capacity of 6 megawatt (MW) alternating current (AC).	58.7-acre site on a 71.64-acre parcel located at 4871 North Livermore Avenue in Alameda County.	Alameda County/	Draft and Final EIR certified, and project approved by East County Board of Zoning Adjustments in December 2020. Appealed to Board of Supervisors, pending hearing likely in March 2021.

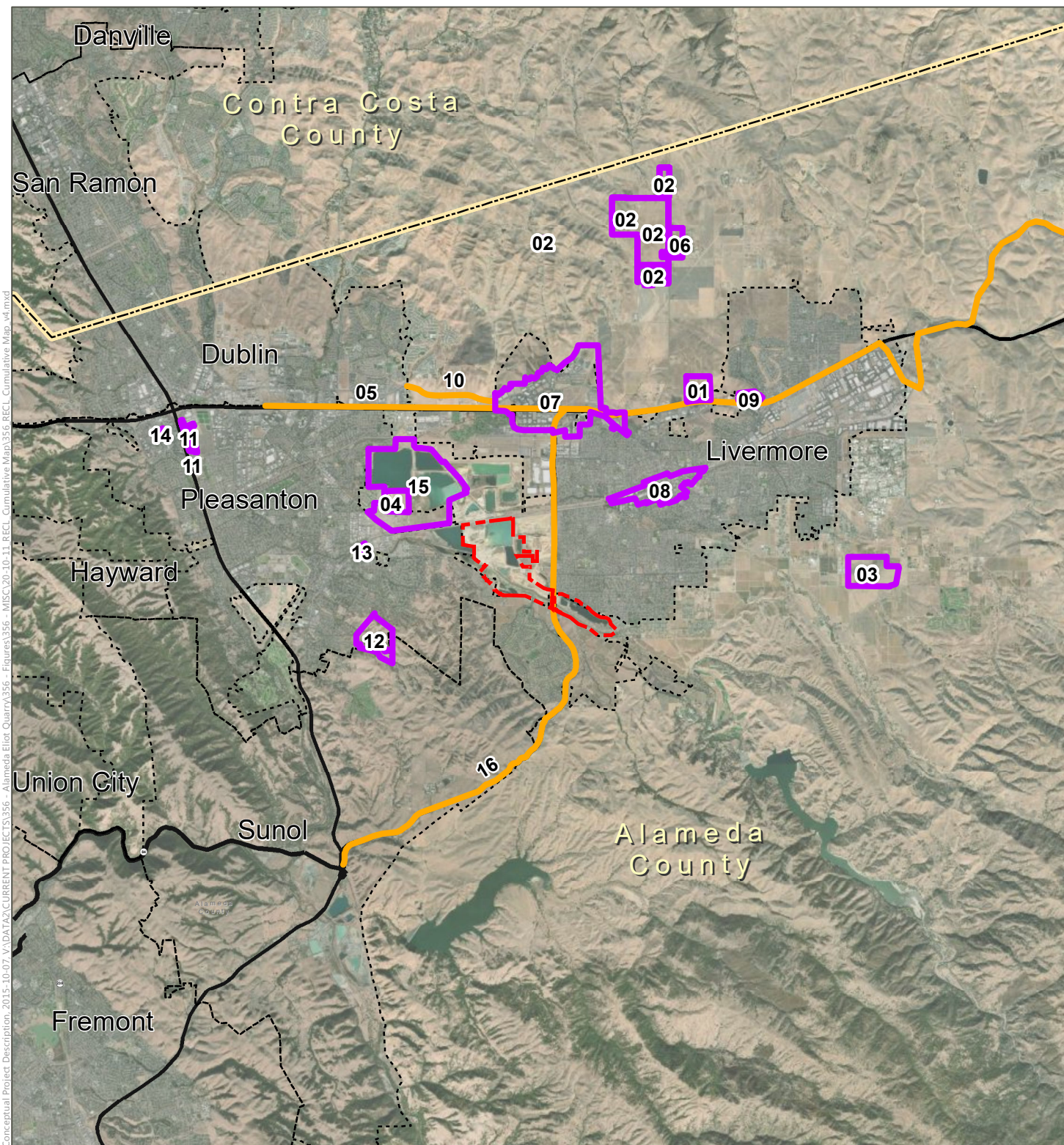
Figure 5-1 Map Key	Project Name	Description of Project	Size or Extent	Jurisdiction/Landowner	Status
7	Isabel Neighborhood Specific Plan (INSP)	Develop 4,095 new multi-family housing units and approximately 2.1 million square feet of net new office, business park, and commercial development (including a neighborhood commercial center). It also envisions three new neighborhood parks, pedestrian and bike facilities, and infrastructure improvements.	Approximately 1,138 acres in northwest Livermore about 2.5 miles from the Downtown.	City of Livermore	Public Draft Supplemental EIR released June 23, 2020. Review period ended August 7, 2020.
8	Livermore Downtown Specific Plan Amendments	Amend the existing Downtown Specific Plan to increase the size of a proposed performing arts theater, increase number of movie screens from 12 to 15, increase hotel rooms to 300 rooms, increase commercial development from 855,000 square feet to 1,000,000 square feet, and increase office development from 217,000 to 356,000 square feet, include a new parking structure.	272 acres near the geographic center of Livermore	City of Livermore	Subsequent EIR certified March 2009. Addendum to Subsequent EIR for subdivision of 9 parcels adopted by City Council on October 26, 2020.
9	Lassen Road Townhomes	Develop 186 town home units, including new streets, lighting, landscaping, and preservation of 23 acres of open space	35 acres	City of Livermore / WestGate Ventures, Adam Tennant	Initial Study / Mitigated Negative Declaration (IS / MND) Adopted by Livermore City Council on November 23, 2020.
10	Dublin Boulevard Extension	1.5 mile extension of Dublin Boulevard from Fallon Road to North Canyons Parkway in Livermore. The extension is planned to have four to six travel lanes, bike lanes, sidewalks, curb and gutter, traffic signals, street lighting, landscaped raised median islands, bus stops, and all city street utilities.	1.5-miles and 29 acres	City of Dublin	Final EIR certified in summer of 2019. Draft Environmental Assessment circulated, with comment period ending on March 24, 2020. Final Environmental Assessment (EA) still in progress.
11	Johnson Drive Economic Development Zone (EDZ)	Rezone vacant land to spur investment and create a new commercial corridor along Johnson Drive near I-680 and Stroneridge Drive in Pleasanton.	40 acres	City of Pleasanton	Supplemental EIR certified in February 2020. Second lawsuit challenging EIR. Certification filed March 2020

Figure 5-1 Map Key	Project Name	Description of Project	Size or Extent	Jurisdiction/Landowner	Status
12	Lund Ranch II	PUD rezoning and development plan approvals to construct 43 single-family two-story homes and related site improvements on the approximately 195-acre Lund Ranch II property located at 1500 Lund Ranch Rd. Project includes approximately 160-acres of dedicated open space.	195 acres	City of Pleasanton/ GHC Lund Ranch, LLC	Approved by City Council on Jan. 5, 2016. Vesting Tentative Map approved by Planning Commission on Feb. 22, 2017. Final Map and Improvement Plans approved by City Council on June 18, 2019. Anticipated construction start date is Spring 2021.
13	3988 First St. and 3878 and 3780 Stanley Blvd.	Application for PUD development plan to construct 87 single-family homes.	15 acres	City of Pleasanton/Meritage Homes	Approved by City Council on Feb. 21, 2017. Construction underway.
14	1008 and 1700 Stoneridge Mall Road	Construct 486 apartment units and parking structure on a site designated for housing at Stoneridge Mall. The project will be integrated into a redesigned version of the previously approved commercial project (P18-0340) that included the demolition and replacement of the existing Sears Department store with a 255,420-square-foot development including new retail, grocery, cinema, and specialty lifestyle health club uses (net increase of 79,269 square feet). The project is located the northwest corner of Stoneridge Mall Road and Stoneridge Mall Road.	255,420-square feet	City of Pleasanton/Simon Properties	Application submitted August 2019 and is under review. The Planning Commission held a workshop on March 11, 2020. The applicant is currently working on revising the proposed project for resubmittal.
15	East Pleasanton Specific Plan (EPSP)	Comprehensive long-range land use plan for an approximately 1,100-acre area on the east side of the city, extending into unincorporated Alameda County.	1,100 acres	City of Pleasanton	City staff is coordinating the formation of a project team for the EPSP that will provide professional services to assist with the effort, and to develop a more detailed scope of work for City Council consideration.

Figure 5-1 Map Key	Project Name	Description of Project	Size or Extent	Jurisdiction/Landowner	Status
16	State Route (SR) 84	Construction of the segment of SR 84 from Pigeon Pass to I-680 will be the final segment in a series of improvements to widen SR 84 to expressway standards from I-580 in Livermore to I-680 in Sunol.	The entire length of SR 84 from the I-580/Isabel Avenue interchange to the western extent of Pigeon Pass. Includes widening through Lakes A and B.	Caltrans	Environmental review completed in 2018. Design process and right-of-way acquisition in process. Construction estimated to begin March/April 2021.

Source: Jensen, pers. comm. 2020, City of Livermore 2020, City of Pleasanton 2020, Alameda County Transportation Commission 2020.

Notes: I-580 = Interstate 580; SR = state route;



SOURCES: ESRI World Shaded Relief accessed Oct. 2020, ESRI Aerial Image (Maxar), flown 8-19-2017; ESRI World Streetmap, 2009; adapted by Benchmark Resources in 2020

NOTES: This figure was prepared for land use planning and informational purposes only. The information shown and its accuracy are reflective of the date the data was accessed or produced.

- Site Boundary
- Cumulative Projects Site Boundary
- Cumulative Projects Linear Boundary
- County Boundary
- City Boundary
- Major Highway

Approximate Location of Cumulative Projects
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Figure 5-1

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5.3.2 Air Quality

Project impacts pertaining to air quality, as described in Section 4.2, are as follows:

- Impact 4.2-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan (Significant and Unavoidable).
- Impact 4.2-2a: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard: NO_x (Significant and Unavoidable).
- Impact 4.2-2b: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard: ROG, CO, SO_x, PM₁₀, and PM_{2.5} (less than significant).
- Impact 4.2-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations (less than significant).
- Impact 4.2-4: Result in Other Emissions Adversely Affecting a Substantial Number of People (less than significant).

Air quality analysis is inherently cumulative because it relies on local and regional data. The Bay Area Air Quality Management District's (BAAQMD's) CEQA Guidelines indicate that their thresholds of significance represent both project-level and cumulative thresholds, such that if a project exceeds a BAAQMD threshold, it is deemed both a project-level impact and a cumulatively considerable significant impact. Because the amended reclamation plan activities would not exceed the BAAQMD thresholds with Mitigation Measures 4.1-1, "Hourly Limitation of Construction Activities," and 4.2-1, "Off-road Equipment Plan," the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant, except for NO_x.

The project is in the vicinity of other surface mines that operate heavy equipment for mining and reclamation purposes. The project's reclamation activities would add to the air quality impacts of these other mining projects in the vicinity. Air quality emissions in the area may also increase considerably with construction and buildout of other nearby projects (see Table 5-2 above). Project implementation would contribute to the generation of ozone precursors and particulate matter, increasing the cumulative emissions of air quality pollutants into the atmosphere.

Mitigation measures have been included in an attempt to lessen these impacts. For example, the project applicant would utilize cleaner emitting heavy equipment at the project site to help reduce the project impacts, particularly for ozone precursors such as NO_x. This should reduce the cumulative impacts, but would not eliminate them entirely. Even with mitigation, NO_x emissions were found to be significant and unavoidable. Furthermore, project emissions would hinder the BAAQMD's goals for reducing significant air pollutants in the air basin in the short-term. Therefore, the cumulative impacts associated with NO_x emissions and consistency with the Clean Air Plan are considered cumulatively significant and unavoidable.

In addition to criteria pollutants, BAAQMD has thresholds of significance for local community and risk hazard impacts associated with exposure to toxic air contaminants (TACs), including diesel particulates. Current cumulative conditions at the site include on-going mining operations, an approved reclamation plan (SMP-23), and associated TAC and PM_{2.5} emissions. Mining activities, and emissions associated with mining, would generally cease in each area when the majority of reclamation activities begin. As a result, the cumulative TAC and PM_{2.5} emissions in the project area would be significantly reduced when mining

ends and reclamation begins in each area. In addition, State and local law mandate the reclamation of surface mining operations, so reclamation must occur under the approved reclamation plan if the reclamation plan amendments are not approved. Therefore, reclamation emissions from the proposed Project are not considered new. The proposed project would not have a cumulatively considerable contribution to TAC and PM_{2.5} emissions, as the Project involves amendments to an existing reclamation plan, and these proposed amendments do not implicate an increase in TACs or PM_{2.5} above baseline conditions. Thus, the cumulative impacts related to TAC and PM_{2.5} emissions are less-than-significant.

Finally, the BAAQMD CEQA Guidelines provide screening distance criteria for a variety of land uses that have the potential to generate odors, such as landfills, composting facilities, rendering plants, and asphalt batch plants. The project reclamation activity and the cumulative projects listed in Table 5-2 do not involve installation or operation of any of the land use categories that might be expected to generate odors. The cumulative potential odor impacts are less-than-significant based on the nature of reclamation and urban construction activities, BAAQMD's odor screening criteria, and BAAQMD's record of complaints for the existing asphalt concrete plant on the project site.

5.3.3 Biological Resources

Project impacts pertaining to biological resources, as described in Section 4.3, are as follows:

- Impact 4.3-1: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species (less than significant with mitigation);
- Impact 4.3-2: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community (less than significant with mitigation);
- Impact 4.3-3: The Project Could Have a Substantial Adverse Effect on State or Federally Protected Wetlands (less than significant with mitigation);
- Impact 4.3-4: The Project Could Interfere Substantially with The Movement of Any Native Resident or Migratory Fish or Wildlife Species or With Established Native Resident or Migratory Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites (less than significant with mitigation); and
- Impact 4.3-5: The Project Could Conflict with Local Policies or Ordinances Protecting Biological Resources

The potential for cumulative biological resources impacts of the proposed project exists as a result of the project-specific biological resources impacts listed above when considered in conjunction with biological resources impacts from other past, present (ongoing), and reasonably foreseeable future development and other activities. Historic and ongoing land uses such as residential and commercial development, grazing and other agricultural activities, and other land disturbing activities, including mining, have reduced the quantity and quality of wildlife habitats and movement corridors provided by undeveloped grassland and overall riparian and wetland habitats in the project area.

The project-specific impacts identified in Section 4.3 and listed above have each been considered in terms of their potential to contribute to cumulative biological resources impacts. Realignment of the Arroyo del Valle (ADV) and construction of the diversion structure at Lake A would result in species displacement, vegetation removal, grading, impacts to habitat, and impacts to wetlands. These habitat impacts could contribute to the regional cumulative impacts to wildlife habitat, including foraging and nesting habitat for the identified special status species. The displacement of species along the ADV realignment footprint and impacts to habitat is considered potentially significant both on a project level and cumulative basis.

As discussed in Section 4.3, the project would result in potentially significant impacts associated biological resources. For these impacts, the following mitigation measures are proposed:

1. Mitigation Measure 4.3-1a: Obtain Regulatory Entitlements and Authorizations
2. Mitigation Measure 4.3-1b: Special Status Amphibian and Reptile Species
3. Mitigation Measure 4.3-1c: Nesting Raptors
4. Mitigation Measure 4.3-1d: Nesting Birds
5. Mitigation Measure 4.3-1e: Loggerhead Shrike
6. Mitigation Measure 4.3-1f: Tricolored Blackbird
7. Mitigation Measure 4.3-1g: Burrowing Owl
8. Mitigation Measure 4.3-1h: Special Status Bats
9. Mitigation Measure 4.3-2a: Special Status Plants
10. Mitigation Measure 4.3-2b: Riparian Habitat
11. Mitigation Measure 4.3-3: 1:1 Wetland Compensation Ratio

Mitigation measures identified for the project provide for the replacement of wetlands and habitats pursuant to regulatory agency requirements and provide species-specific protection measures. Biological resources mitigation measures would serve to minimize the project's impacts as well as its contribution to cumulative impacts. In addition, the reclamation plan amendments associated with the project will result in more natural conditions with improved biological conditions compared to the existing approved reclamation plan. Furthermore, due to state and federal regulatory requirements and Alameda County policies geared toward biological resources protection, it is also reasonable to anticipate that similar mitigation would be required of other projects to minimize their impacts to biological resources. As a result of biological resources impact avoidance and mitigation measures associated with the project, re-establishment of a more natural ADV and native vegetation, and regulatory requirements and policies applied to other projects in the area, the project would not cause a cumulatively considerable contribution to significant biological resource effects following mitigation.

5.3.4 Geology and Soils

Project impacts pertaining to geology and soils, as described in Section 4.5, are as follows:

- Impact 4.4-1: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death as a Result of Rupture of a Known Fault (less than significant);
- Impact 4.4-2: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death as a Result of Strong Seismic Ground Shaking (less than significant);
- Impact 4.4-3: Exposure of People or Structures to Seismic-Related Ground Failure, Including Liquefaction, or Landslides (less than significant)
- Impact 4.4-4: Result in Substantial Soil Erosion or the Loss of Topsoil (less than significant with mitigation);
- Impact 4.4-5: Be Located on a Geologic Unit or Soil That Is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse (less than significant);

- Impact 4.4-6: Be Located on Expansive Soil, as Defined in Table 18-1-B of the Uniform Building Code (1994), Creating Substantial Risks to Life or Property (less than significant); and
- Impact 4.4-7: Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geological Feature (less than significant).

Potential effects to geologic and soil conditions are typically considered site specific. Therefore, the cumulative impact setting for geology and soils consists of the project area and immediately adjacent properties. The scope of potential cumulative impacts is limited to the area that is physically affected by the project. Because of the limited extent of the cumulative setting for this resource topic, none of the projects listed in Table 5-2 would be relevant to this analysis, as none of the listed projects are on or immediately adjacent to the proposed project site. Thus, the project would not result in a cumulatively considerable contribution to a significant geology and soils effect.

5.3.5 Greenhouse Gases

Project impacts pertaining to greenhouse gases (GHG), as described in Section 4.5, are as follows:

- Impact 4.5-1: Gas emissions generated by reclamation activities could have a significant impact on global climate change (less than significant with mitigation).
- Impact 4.5-2: Consistency with applicable GHG plans, policies, or regulations (less than significant).

Greenhouse gas analysis is inherently cumulative because it relies on regional, state-wide, and national data. As discussed in Impact 4.5-1, the project would result in a potentially significant impact associated with GHG emissions. For this impact, the following mitigation measures are proposed:

1. Mitigation Measure 4.5-1a: Idling Times.
2. Mitigation Measure 4.5-1b: Idling Times for Diesel-powered Equipment.
3. Mitigation Measure 4.5-1c: Equipment Maintenance.
4. Mitigation Measure 4.5-1d: Alternative Fuel Plan.
5. Mitigation Measure 4.5-1e: Local Building Materials.
6. Mitigation Measure 4.5-1f: Recycle or Reuse Construction and Demolition Materials.
7. Mitigation Measure 4.5-1g: On-site material hauling.
8. Mitigation Measure 4.5-1h: Generator Alternative Fuel.

Effective implementation of Mitigation Measures 4.5-1a through -1h would reduce the proposed project's GHG emissions and impact on global climate change to less than significant. Furthermore, GHG emissions associated with the project would cease when reclamation activities are complete. Because the proposed project would not result in a significant impact on global climate change with Mitigation Measures 4.5-1a through -1h, and because the reclamation activities are temporary in nature, the proposed project would not result in a cumulatively considerable impact on global climate change.

5.3.6 Hydrology and Water Quality

Project impacts pertaining to hydrology and water quality, as described in Section 4.6, are as follows:

- Impact 4.6-1a: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality at Lake A and Northern Reclamation Area (less than significant)
- Impact 4.6-1b: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding the ADV Realignment (less than significant)
- Impact 4.6-2: Substantial Depletion of Groundwater Supplies or Interference with Groundwater Recharge (less than significant);
- Impact 4.6-3a: Drainage Pattern Alternations Causing Erosion or Siltation (less than significant with mitigation);
- Impact 4.6-3b: Drainage Pattern Alternations Causing Flooding (less than significant);
- Impact 4.6-3c: Drainage Pattern Alterations Causing Exceeded Capacity of Stormwater Drainage Systems or Substantial Additional Sources of Polluted Runoff (less than significant);
- Impact 4.6-3d: Drainage Pattern Alterations That Would Impede or Redirect Flood Flows (less than significant);
- Impact 4.6-4: Release of Pollutants in Flood Hazard, Tsunami, or Seiche Zones Due to Project Inundation (less than significant); and
- Impact 4.6-5: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan (less than significant).

Cumulative water resources impacts are assessed both at a local level and a broader watershed/aquifer level. The local-scale cumulative setting is important for assessing some impacts, but because of the nature of water resources, most environmental impacts extend beyond a local level and have the potential to affect a more extensive area. The potentially affected area can include the portion of a drainage area that is downslope from the project site; for example, a project may generate additional runoff that may contribute to downstream flooding when considered in combination with other projects within the same watershed. Drainage pattern alterations also have upstream effects (e.g., potential to increase flooding and erosion). All projects listed in Table 5-2 are relevant to this impact.

As described in Section 4.6.3, “Regulatory Setting,” of 4.6, “Hydrology and Water Quality,” projects in the area, depending on their specific activities, must comply with the Federal Water Pollution Control Act, Federal Safe Drinking Water Act of 1974, Porter-Cologne Water Quality Control Act, San Francisco Bay Regional Water Quality Control Board, California Surface Mining and Reclamation Act, *East County Area Plan, Zone 7, Alameda County Specific Plan for the Livermore-Amador Valley Quarry Area Reclamation (LAVQAR)*, and Alameda County Surface Mining Ordinance, which help to reduce the potential for impacts related to hydrology and water quality impacts.

The State Route 84 Expressway Widening Project may result in scour along the piers and abutments of the Isabel Avenue bridge during a 100-year flood (WRECO 2009, as cited in EMKO 2020a); however, neither the proposed project’s realignment of the stream channel farther downstream nor the spillway not being installed in Lake A and Lake B, as approved under existing conditions, would result in a considerable contribution to scour (Brown and Caldwell 2020).

LAVQAR is intended to provide reclamation for past, present, and future mining. According to LAVQAR, without reclamation, mining in the area has the potential to block the flow of groundwater from southeast to northwest, to interfere with storage and recharge of groundwater, and to create

unusable and/or unsafe pits and land areas. LAVQAR was intended to address these problems (Alameda County 1981). The LAVQAR EIR (Alameda County 1980) addresses the potential for water quality and hydrology impacts related to implementing LAVQAR and provides mitigation to reduce those impacts.

Extensive new information of substantial importance is available that was not known and could not have been known with the exercise of reasonable diligence at the time the *Livermore-Amador Valley Quarry Area Reclamation Environmental Impact Report* (LAVQAR EIR) was adopted. In addition to existing publicly-available data and reports, aerial photos, and field observations discussed above, there are several applicant-prepared studies that have been peer reviewed and incorporated into this SEIR (see Sections 4.4, “Geology and Soils,” and 4.6, “Hydrology and Water Quality” for summaries and analysis) as the following appendices:

- *Hydraulic Design Study* (Brown and Caldwell 2020) (Appendix F-1, “Hydraulic Design Study,” of this SEIR),
- *Groundwater Hydrology and Water Quality Analysis Report for the Eliot Quarry SMP-23 Reclamation Plan Amendment Project, Alameda County, California* (EMKO 2020a) (Appendix F-2, “Groundwater Hydrology and Water Quality Report,” of this SEIR),
- *Focused Water Quality Assessment Lake B Component Eliot Quarry Reclamation Plan Amendment Project Alameda, California*. (Kleinfelder 2020) (Appendix F-3, “Focused Water Quality Assessment for Lake B,” of this SEIR),
- *3D Clay Bed Geologic Model and Lack of Evidence for the Presence of Aquitards* (Jeff Light Geological Consulting 2019) (Appendix F-4, “3D Clay Bed Geologic Model and Lack of Evidence for the Presence of Aquitards,” of this EIR),
- *2013 Becker Hammer and 2018 Sonic Drill Logs* (Brown and Caldwell 2019) (Appendix F-5, “2013 Becker Hammer and 2018 Sonic Drill Logs,” of this SEIR),
- *Adaptive Management Program for Water Quality Regarding Iron* (EMKO 2020b) (Appendix F-6, “Adaptive Management Program for Water Quality Regarding Iron,” of this SEIR), and
- *Water Supply Assessment* (EMKO 2019) (Appendix F-7, “Water Supply Assessment”).

As stated in Section 4.6, the proposed project would not result in significant on-site impacts to hydrology and water quality with mitigation incorporated. The proposed project is an element of the Alameda County-approved Chain of Lakes, and therefore must also comply with Zone 7’s Alternative Plan through the adherence to plans, permits, and regulations governing water quality. The Zone 7 Alternative Plan in turn must comply with the Sustainable Groundwater Management Plan. With mitigation measures 4.6-1, “Development of SWPPP,” 4.6-2, “Implementation of Adaptive Management Program for Iron,” and 4.4-1, “Erosion Control Plan,” the proposed project would be consistent with both of these plans. Therefore, the proposed project’s contribution to cumulative impacts related to hydrology and water quality impacts would not be cumulatively considerable.

5.3.7 Land Use and Planning

Project impacts pertaining to land use and planning, as described in Section 4.7, are as follows:

- Impact 4.7-1: Physical Division of an Established Community (less than significant); and
- Impact 4.7-2: Conflict with Land Use Plans, Policies, and Regulations (less than significant).

These two impacts consider the specific attributes of the proposed project in relation to the County General Plan and zoning. The analysis of Impact 4.7-1 determined that the proposed project would not

result in the physical division of an established community. The project site is already an established operating quarry. Reclamation of this quarry would not contribute to a cumulative division of this community, but instead would help to soften the division.

The analysis of Impact 4.7-2 determined that the proposed project would not conflict with any goals or policies of the *East Area County Plan*. To ensure that cumulative quarry operations throughout the County do not divide communities or result in cumulatively adverse land use conflicts, *East County Area Plan* Policy 155 provides that, except to the extent required by State law, no new quarry or other open-pit mine may be approved by the County outside the Urban Growth Boundary, unless approved by the voters of Alameda County. Excavation not adjacent to an existing quarry site and on the same or an adjoining parcel shall be regarded as a new quarry.

The proposed changes to the existing SMP-23 reclamation plan are located within the boundaries of the existing permitted quarry, and the long-term plant site is also located within the boundaries of the existing permitted quarry. Reclamation of the quarry operation sites is consistent with County policy regarding cumulative quarry expansions. *East County Area Plan* Policy 155 would similarly apply to all other quarry operations in the County, thus limiting the potential for the expansion of quarries to result in cumulatively adverse land use conflicts. In addition, the proposed project applies modern performance standards for reclamation, which would be an improvement to the reclamation practices considered acceptable at the time of the LAVQAR EIR.

These impacts are specific to the proposed project and would not contribute to cumulative land use plan conflicts or land use planning impacts. Thus, the project would not result in a cumulatively considerable contribution to a significant land use and planning effect.

5.3.8 Noise

Project impacts pertaining to noise, as described in Section 4.8, “Noise,” are as follows:

- Impact 4.8-1: Construction Noise Impacts Relative to Locally Adopted Noise Standards (less than significant);
- Impact 4.8-2: Construction Noise Impacts Relative to Existing Ambient Conditions (less than significant with mitigation); and
- Impact 4.8-3: Construction Vibration Impacts Relative to Existing Ambient Conditions (less than significant).

Impacts 4.8-1, 4.8-2, and 4.8-3 consider the potential for the proposed project’s noise to conflict with locally adopted noise standards or to affect adjacent noise sensitive receptors adjacent to the project site. The criteria and thresholds used for determining the significance of these impacts consider existing ambient noise levels and, in the case of construction noise, consider noise levels under future conditions. The noise impact analysis presented in Section 4.8 and the impact significance determinations are considered applicable to both project-specific and cumulative conditions.

As noted in Section 4.8, the proposed reclamation activities related to water diversion, improvements in Lake A, and the realignment of the ADV are considered construction-related activities as they are not related to the long-term excavation or processing operations at the project site. Construction-related activities are exempt from the local noise standards in the City of Livermore and Alameda County provided the construction activities occur during certain hours and days of the week which are considered to be less noise-sensitive. Impact 4.8-1 would result in a potentially significant impact and

would be mitigated to less than significant with the implementation of Mitigation Measure 4.1-1, “Hourly Limitation of Construction Activities” (see Section 4.1, Aesthetics and Visual Resources). Impact 4.8-2 would also result in a potentially significant impact and would be mitigated to less than significant with the implementation of Mitigation Measures 4.1-1, “Hourly Limitation of Construction Activities” (see Section 4.1, “Aesthetics and Visual Resources”), 4.8-1a, “Notice of Activities,” and 4.8-1b, “Mufflers” (see Section 4.8, “Noise”). Due to the temporary nature of construction activities associated with reclamation, application of Mitigation Measures 4.1-1, 4.8-1a, and 4.8-1b would also reduce the proposed project’s cumulative noise to a less than cumulatively considerable contribution to noise levels.

The SR 84 Widening Project (Number 16 on Table 5-2), which is located adjacent to proposed reclamation activity, has contributed to noise impacts in the area. However, the Isabel Avenue portion of this project, the only section adjacent to the proposed project, has already been completed. Because the proposed project’s noise generating activity has yet to occur, resulting in no simultaneous noise generation with the Isabel Avenue project, cumulative impacts to noise and vibration in relation to the Isabel Avenue Widening Project would not occur.

As noted in Section 4.8, the threshold for annoyance resulting from vibration associated with project construction is 0.1 inches/second and the threshold for damage to structures is 0.3 inches/second (for older residences). The analysis of Impact 4.8-3 determined that the proposed project vibration levels are expected to be below 0.03 inches/second at distances of 100 feet or more, resulting in a less than significant impact at the project level. Because the closest projects are either already complete (Caltrans Isabel Widening Project) or more than 4,500 feet away (Lund Ranch II or Number 15 on Table 5-2) from earthmoving equipment under the proposed project, other projects would not result in a cumulative impact to vibration. In addition, construction activities associated with reclamation are temporary in nature and would cease when reclamation is complete. Thus, the project would not result in a cumulatively considerable impact relating to construction vibration.

5.3.9 Summary of Significant and Unavoidable Cumulative Impacts

As discussed in the preceding sections, the project would result in the following significant and unavoidable cumulative impacts:

- Cumulative Impact 5-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan; and
- Cumulative Impact 5-2: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard: NO_x.