SMP 38/SMP 39/SMP 40 Project

SCH# 2023010091

Draft Environmental Impact Report

Prepared for the
City of Livermore

LIVERMORE
CALIFORNIA

August 2023

Prepared by

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Draft Environmental Impact Report

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1. Introduction

1. INTRODUCTION

1.1 TYPE AND PURPOSE OF THE EIR

The SMP 38/SMP 39/SMP 40 Project Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970, Public Resources Code (PRC) Sections 21000-21178, as amended, and the Guidelines for Implementation of the California Environmental Quality Act, California Code of Regulations (CCR) Title 14, Sections 15000-15387 (CEQA Guidelines). The City of Livermore is the lead agency for the environmental review of the SMP 38/SMP 39/SMP 40 Project (proposed project) evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of the project, (b) identify possible ways to minimize the significant adverse environmental effects, and (c) describe reasonable and feasible project alternatives which reduce environmental effects. The public agency shall consider the information in the EIR along with other information that may be presented to the agency.

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term project refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City has determined that the proposed development is a *project* within the definition of CEQA, which has the potential for resulting in significant environmental effects.

The lead agency is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

The CEQA Guidelines identify several types of EIRs and associated titles. As explained in *Citizens for a Sustainable Treasure Island v. City and County of San Francisco* (2014) 227 Cal.App.4th 1036, 1047-1048 (*Treasure Island*), courts strive to avoid attaching too much significance to titles in ascertaining whether a legally adequate EIR has been prepared for a particular project. The level of specificity of an EIR is determined by the nature of the project and the "rule of reason," rather than any semantic label accorded to the EIR. This EIR includes both programmatic and project-level analyses, as appropriate for the level of information available for each entitlement request. For example, because the proposed project would not include any development of SMP 38 or the Additional Annexation Only Parcels at this time, this EIR includes a *program-level* analysis of the environmental impacts associated with the proposed Sphere of Influence (SOI) Amendment for SMP 38 and annexation of the Additional Annexation Only Parcels, pursuant to CEQA Guidelines Section 15168. With respect to the development of SMP 39, SMP 40, and the off-site trail connection, the project applicant has submitted project-specific

information, allowing for a more detailed analysis of the potential environmental impacts that would result from such development.

1.2 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

"Responsible agency" means a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term responsible agency includes all California public agencies other than the lead agency that have discretionary approval power over the project or an aspect of the project. These agencies could include, but may not be limited to, the following:

- Alameda County Local Agency Formation Commission (LAFCo);
- Alameda County Airport Land Use Commission (ALUC);
- Alameda County;
- City of Pleasanton;
- Pacific Gas and Electric Company (PG&E);
- Bay Area Air Quality Management District (BAAQMD);
- San Francisco Regional Water Quality Control Board (RWQCB);
- Zone 7 Water Agency; and
- Caltrans

"Trustee agency" means a State agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. The only known possible trustee agency for the project is the California Department of Fish and Wildlife (CDFW).

Although not subject to California law, and, thus, outside the definitions of responsible agency or trustee agency, the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Federal Aviation Administration (FAA), and Federal Emergency Management Agency (FEMA) would also be called upon to grant approvals — under federal law — necessary for the development of the project site. The above agencies do not have duties under CEQA, but, rather, are governed by a variety of federal statutes, such as the Clean Water Act, which governs the dredging and filling of waters of the U.S. (e.g., wetlands), and the Endangered Species Act, which requires USACE to consult with the USFWS as part of the review process for any wetland or fill permits that may be required.

1.3 PROJECT SUMMARY

A summary of the project location, description, and approvals is provided below. Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project and entitlements, as well as a full list of the project objectives.

Project Location

The approximately 217.04-acre project site consists of nine separate parcels identified by Assessor's Parcel Numbers (APNs) 904-1-7-21; 904-1-2-12; 904-1-7-32; 904-3-1-4; 904-10-2-2, -3, -5, -7, and -8 located in unincorporated Alameda County. The project site is located adjacent to the existing Oaks Business Park, which consists of eight light industrial warehouse buildings, in the northwestern corner of the City of Livermore. The project site is generally located west of Isabel Avenue/State Route (SR) 84, north of Stanley Boulevard, south of West Jack London Boulevard, and east of El Charro Road. APNs 904-1-7-32, 904-1-2-12, and 904-1-7-21 are also known as SMP 38; APN 904-3-1-4 is also known as SMP 39; and 904-10-2-2 is also known as

SMP 40. The aforementioned SMP numbers are due to the Surface Mining Permit (SMP) numbers applicable to each site. The Surface Mining Permits for each of the sites were approved by Alameda County in 2004 to allow for the extraction of sand and gravel (i.e., aggregate) within the sites; however, aggregate mining has not occurred within any of the sites. Four additional parcels (APNs 904-10-2-3, -5, -7, and -8) located east of SMP 40 are included in the overall project area.

Project Description

SMP 38, SMP 39, SMP 40, and the Additional Annexation Only Parcels are within the City of Livermore South Livermore Urban Growth Boundary (UGB); however, SMP 38 and SMP 39 are also within the City of Pleasanton's SOI. Accordingly, an SOI Amendment for SMP 38 and SMP 39 is proposed in order to modify City of Pleasanton SOI, align the SOI and South Livermore UGB boundaries to be consistent with one another, and provide a contiguous division of land between the cities of Livermore and Pleasanton. Annexation of SMP 38 into the City of Livermore is not proposed as part of the project, nor is development of the three parcels representing SMP 38. It should be noted that the likelihood for any future development on the Additional Annexation Only Parcels is low due to physical constraints to development present on the parcels and their small size. Thus, the analysis of this EIR assumes that any development on the Additional Annexation Only Parcels would be limited to cooperating with the project applicant regarding development of the proposed trail and trail connection.

On SMP 39, the proposed project would include development of a total of up to six light industrial buildings, consisting of up to approximately 755,500 square feet (sf) total of new building space, and associated internal roadways, parking, landscaping, utilities, and other improvements. On SMP 40, the proposed project would include development of two industrial buildings containing up to approximately 759,275 sf of new building space with related internal roadways, parking, landscaping, utilities, and other improvements. The proposed project would include frontage improvements along SMP 39 and right-of-way dedication for the ultimate buildout of West Jack London Boulevard, which would include an at-grade, paved shared-use path along the project frontage, consistent with the City's Active Transportation Plan (ATP). Similarly, a paved at-grade, on-site trail would be provided along the boundaries of the SMP 40 site, consistent with the City's ATP. The proposed on-site trails would provide connection between SMP 39 to the existing path along the western boundary of the Oaks Business Park, SMP 40, and eventually to the Arroyo Mocho Trail, as the proposed project would include a new off-site trail connection to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. Three alternatives for the proposed off-site crossing to the existing Arroyo Mocho Trail are being considered and evaluated in this EIR, including an at-grade crossing at Discovery Drive, an undercrossing at the existing Isabel Bridge, and an overcrossing of Isabel Avenue/SR 84 just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard).

Development of SMP 38 or the Additional Annexation Only Parcels is not proposed as part of the proposed project.

Project Approvals

The proposed project would require approval of the following entitlements and agreements by the City of Livermore and Responsible Agencies including Alameda County and the City of Pleasanton:

SMP 38

- Resolution authorizing submittal of a SOI Amendment application to the Alameda County LAFCo.

SMP 39

- Resolution authorizing submittal of an annexation and SOI Amendment application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 39 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as PDI-22-001;
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Development Agreement; and
- Pre-Annexation Agreement.

SMP 40

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 40 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as PDI-22-001;
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Site Plan and Design Review;
- Development Agreement; and
- Pre-Annexation Agreement.

Additional Annexation Only Parcels (APNs 904-10-2-3, -5, -7, and -8)

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation from Open Space/Sand and Gravel to Parks, Trailways and Recreation Areas (OSP); and
- Pre-zone the sites to Open Space Flood Plain (OS-F).

A number of other agencies, such as Alameda County LAFCo, would serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This EIR will provide environmental information to these agencies and other public agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation.

1.4 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate

government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Planning and Research (OPR), which will ensure that responsible and trustee State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Commenting agencies have 30 days to respond to the NOP and provide information regarding alternatives and mitigation measures they wish to have explored in the Draft EIR and to provide notification regarding whether the agency will be a responsible agency or a trustee agency for the project.

Upon completion of the Draft EIR and prior to circulation to State and local agencies and interested members of the public, a notice of completion is filed with the SCH and a public notice of availability is published to inform interested parties that a Draft EIR is available for agency and public review. In addition, the notice provides information regarding the location where copies of the Draft EIR are available for public review and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a minimum period of 45 days, during which time reviewers may submit comments on the document to the lead agency. The lead agency must respond to comments in writing. If significant new information, as defined in CEQA Guidelines Section 15088.5, is added to an EIR after public notice of availability is given, but before certification of the EIR, the revised EIR or affected chapters must be recirculated for an additional public review period with related comments and responses.

A Final EIR will be prepared, containing public comments on the Draft EIR and written responses to those comments, as well as a list of changes to the Draft EIR text necessitated by public comments, as warranted. The Final EIR will also include the Mitigation Monitoring and Reporting Program (MMRP) prepared in accordance with PRC Section 21081.6. Before approving a project, the lead agency shall certify that the EIR (consisting of the Draft EIR and Final EIR) has been completed in compliance with CEQA, and that the EIR has been presented to the decision-making body of the lead agency, which has reviewed and considered the EIR. The lead agency shall also certify that the EIR reflects the lead agency's independent judgment and analysis.

Pursuant to CCR Title 14, Section 15091, a public agency shall not approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The findings prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a Statement of Overriding Considerations explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

1.5 SCOPE OF THE EIR

Pursuant to the CEQA Guidelines, the scope of this EIR addresses specific issues and concerns identified as potentially significant in the Initial Study prepared for the proposed project (see Appendix A). Accordingly, the sections of the CEQA Guidelines Appendix G Checklist identified for study in this EIR include the following:

- Agricultural Resources;
- Air Quality, Greenhouse Gas Emissions, and Energy;

- Biological Resources;
- Cultural and Tribal Cultural Resources;
- Hydrology and Water Quality;
- Noise;
- Public Services, Utilities, and Service Systems; and
- Transportation.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.8 of the EIR. Each chapter is divided into the following four sections: Introduction, Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures. The Impacts and Mitigation Measures section addresses both project-specific and cumulative impacts. Impacts that are determined to be significant in Chapters 4.1 through 4.8, and for which feasible mitigation measures are not available to reduce those impacts to a less-than-significant level, are identified as *significant and unavoidable.* Chapter 5 of the EIR presents a discussion of growth-inducing impacts, a summary of cumulative impacts, and significant irreversible as well as significant and unavoidable environmental changes associated with the project. Alternatives to the proposed project are discussed in Chapter 6 of the EIR.

1.6 DEFINITION OF BASELINE

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline physical conditions" against which project-related changes could be compared. In addition, CEQA Guidelines Section 15126.2(a) states that an EIR shall identify and focus on the significant environmental effects of the proposed project. The CEQA Guidelines, Section 15126.2(a), states in pertinent part:

> An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the proposed project was published on January 6, 2023. Therefore, conditions existing at that time are considered to be the baseline against which changes that would result from the proposed project are evaluated. Impacts could include both direct and indirect physical changes to the baseline condition. The baseline condition for the proposed project site is described in Chapter 3, Project Description, of this EIR. The baseline conditions pertaining to each resource area are described in the "Existing Environmental Setting" section of the respective chapters of this EIR.

According to CEQA Guidelines Section 15125(d), the EIR shall discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. An "applicable" plan is a plan that has already been adopted and, thus, legally applies to a project; draft plans need not be evaluated.[1] Since the NOP was circulated for public review, the City of Livermore has updated its General Plan, specifically the 2023-2031 Housing Element of the General Plan, which was adopted on March 13, 2023. However, at the time of the NOP, the

[1] Stephen L. Kostka and Michael H. Zischke. *Practice Under the California Environmental Quality Act, Volume 1*. Continuing Education of the Bar: March 2022, Section 12.27.

adopted General Plan for the City of Livermore was the 2003-2025 General Plan. Thus, this EIR relies on the 2003-2025 Livermore General Plan when determining whether any inconsistencies would occur between the proposed project and the applicable General Plan.

1.7 NOTICE OF PREPARATION AND SCOPING

In accordance with CEQA Guidelines Section 15082, an NOP, as well as an attached Initial Study (see Appendix A), was circulated to the public, local and State agencies, and other known interested parties for a 30-day public and agency review period from January 6, 2023 to February 6, 2023. The purpose of the NOP was to provide notification that an EIR for the proposed project was being prepared and to solicit public input on the scope and content of the document.

In addition, pursuant to CEQA Guidelines Section 15082, the City of Livermore held an NOP scoping meeting during the 30-day review period, on January 17, 2023, for the purpose of receiving comments on the scope of the environmental analysis to be prepared for the proposed project. The meeting was held at the City of Livermore City Council Chambers within the Civic Center Meeting Hall at 1016 South Livermore Avenue in Livermore, California. Agencies and members of the public were invited to attend and provide input on the scope of the EIR. A total of three (3) comment letters were received during the NOP public review period, verbal comments were received at the NOP scoping meeting, and (1) letter was received after the close of the public review period. The comment letters, as well as a summary of the verbal comments from the NOP scoping meeting, are provided as Appendix B to this EIR. All comments were taken into consideration during the preparation of this EIR. A summary of the NOP comments received is provided in Section 1.8 below.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

As noted above, the City of Livermore received four comment letters during and after the NOP public review period. In addition, verbal comments were received at the public scoping meeting held on January 17, 2023. A copy of each letter and a summary of the verbal comments are provided in Appendix B of this EIR. The comment letters received during and after the NOP public review period were authored by representatives of the following public agencies:

- Alameda County Transportation Commission;
- California Department of Transportation (Caltrans);
- Native American Heritage Commission (NAHC); and
- City of Pleasanton.

The following list, categorized by issue, summarizes the environmental concerns brought forth in the comment letters and verbal comments received on the scope of the EIR. It should be noted that comments outside of the purview of CEQA or that are speculative in nature have not been included, as, according to Section 15145 of CEQA Guidelines, CEQA does not require evaluation of speculative impacts.

Air Quality, Greenhouse Gas Emissions, and Energy	Concerns related to: • The inclusion of solar arrays.
Cultural and Tribal Cultural Resources	Concerns related to:

	• Compliance with applicable laws governing tribal notifications, including Assembly Bill 52 and Senate Bill 18.
Transportation	Concerns related to: • Effects to the Metropolitan Transportation System (MTS) roadway network, including Interstate 580 in Livermore and Pleasanton, SR 84 (Isabel Avenue and Vallecitos Road), and East and West Jack London Boulevard, Airway Boulevard, El Charro Road, and Stanley Boulevard. • Effects to the MTS transit operators (Bay Area Rapid Transit (BART), Livermore Amador Valley Transit Authority (LAVTA)). • Potential increase in roadway maintenance needs. • Effects of vehicle traffic on cyclist and pedestrian safety. • Vehicle Miles Traveled (VMT) mitigation measures. • Compliance with applicable Caltrans standards and permits. • Effects on Pleasanton roadways and intersections from project-related traffic.
Alternatives	Concerns related to: • Need for the inclusion of an alternative related to the use of site as a quarry.

All of the foregoing concerns are addressed in this EIR, in the relevant sections identified in the first column.

1.9 DRAFT EIR AND PUBLIC REVIEW

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, the general public, organizations, and agencies can submit comments to the lead agency on the Draft EIR's accuracy and completeness. Release of the Draft EIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105. The public can review the Draft EIR at the City's website at:

https://www.livermoreca.gov/departments/community-development/planning/environmental-documents

or at the following address during normal business hours:

City of Livermore
Community Development Department
1052 South Livermore Avenue
Livermore, CA 94550

All comments or questions regarding the Draft EIR should be submitted in written form and addressed to:

Ashley Vera, Senior Planner
City of Livermore, Community Development Department
(925) 960-4450
asvera@livermoreca.gov

1.10 ORGANIZATION OF THE DRAFT EIR

The EIR is organized into the following sections:

Chapter 1 – Introduction

Provides an introduction and overview describing the intended use of the EIR and the review and certification process, as well as summaries of the chapters included in the EIR and summaries of the issues and concerns received from public agencies during the NOP review period.

Chapter 2 – Executive Summary

Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation. In addition, the Executive Summary includes a summary of the project alternatives and areas of known controversy.

Chapter 3 – Project Description

Provides a detailed description of the proposed project, including the project's location, background information, objectives, and technical characteristics.

Chapter 4 – Environmental Setting, Impacts, and Mitigation

Contains project-specific and cumulative analysis of environmental issue areas associated with the proposed project. The section for each environmental issue contains an introduction and description of the setting of the project site, identifies impacts, and recommends appropriate mitigation measures.

Chapter 5 – Statutorily Required Sections

Provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of potential growth-inducing impacts, significant irreversible changes to the environment, and significant and unavoidable impacts.

Chapter 6 – Alternatives Analysis

Provides a comparative analysis of the alternatives to the proposed project, their respective comparative environmental effects, and a determination of the environmentally superior alternative.

Chapter 7 – EIR Authors and Persons Consulted

Lists EIR and technical report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 8 – References

Provides bibliographic information for all references and resources cited.

Appendices

The Appendices include the NOP and Initial Study, comments received during the NOP comment period, and technical reports prepared for the proposed project.

2. Executive Summary

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Executive Summary chapter of the EIR provides an overview of the proposed project (see Chapter 3, Project Description, for further details) and provides a table summary of the conclusions of the environmental analysis provided in Chapters 4.1 through 4.8. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 6, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1 contains the environmental impacts associated with the proposed project, the significance of the impacts, the proposed mitigation measures for the impacts, and the significance of the impacts after implementation of the mitigation measures.

2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The approximately 217.04-acre project site consists of nine separate parcels identified by Assessor's Parcel Numbers (APNs) 904-1-7-21; 904-1-2-12; 904-1-7-32; 904-3-1-4; 904-10-2-2, -3, -5, -7, and -8 located in unincorporated Alameda County. The project site is located adjacent to the existing Oaks Business Park, which consists of eight light industrial warehouse buildings, in the northwestern corner of the City of Livermore. The project site is generally located west of Isabel Avenue/State Route (SR) 84, north of Stanley Boulevard, south of West Jack London Boulevard, and east of El Charro Road. APNs 904-1-7-32, 904-1-2-12, and 904-1-7-21 are also known as SMP 38; APN 904-3-1-4 is also known as SMP 39; and 904-10-2-2 is also known as SMP 40. The aforementioned SMP numbers are due to the Surface Mining Permit (SMP) numbers applicable to each site. The Surface Mining Permits for each of the sites were approved by Alameda County in 2004 to allow for the extraction of sand and gravel (i.e., aggregate) within the sites; however, aggregate mining has not occurred within any of the sites. Four additional parcels (APNs 904-10-2-3, -5, -7, and -8) located east of SMP 40 are included in the overall project area.

Project Description

SMP 38, SMP 39, SMP 40, and the Additional Annexation Only Parcels are within the City of Livermore South Livermore Urban Growth Boundary (UGB); however, SMP 38 and SMP 39 are also within the City of Pleasanton's Sphere of Influence (SOI). Accordingly, an SOI Amendment for SMP 38 and SMP 39 is proposed in order to modify City of Pleasanton SOI, align the SOI and South Livermore UGB boundaries to be consistent with one another, and provide a contiguous division of land between the cities of Livermore and Pleasanton. Annexation of SMP 38 into the City of Livermore is not proposed as part of the project, nor is development of the three parcels representing SMP 38. It should be noted that the likelihood for any future development on the Additional Annexation Only Parcels is low due to physical constraints to development present on the parcels and their small size. Thus, the analysis of this EIR assumes that any development on the Additional Annexation Only Parcels would be limited to cooperating with the project applicant regarding development of the proposed trail and trail connection.

On the SMP 39 site, the proposed project would include development of a total of up to six light industrial buildings, consisting of up to approximately 755,500 square feet (sf) total of new building space, and associated internal roadways, parking, landscaping, utilities, and other improvements.

On the SMP 40 site, the proposed project would include development of two industrial buildings containing up to approximately 759,275 sf of new building space with related internal roadways, parking, landscaping, utilities, and other improvements. The proposed project would include frontage improvements along SMP 39 and right-of-way dedication for the ultimate buildout of West Jack London Boulevard, which would include an at-grade, paved shared-use path along the project frontage, consistent with the City's Active Transportation Plan (ATP). Similarly, a paved at-grade, on-site trail would be provided along the boundaries of the SMP 40 site, consistent with the City's ATP. The proposed on-site trails would provide connection between SMP 39 to the existing path along the western boundary of the Oaks Business Park, SMP 40, and eventually to the Arroyo Mocho Trail, as the proposed project would include a new off-site trail connection to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. Three alternatives for the proposed off-site trail crossing to the existing Arroyo Mocho Trail are being considered and evaluated in this EIR, including an at-grade crossing at Discovery Drive, an undercrossing at the existing Isabel Bridge, and an overcrossing of Isabel Avenue/SR 84 just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard).

Project Approvals

The proposed project would require approval of the following entitlements and agreements by the City of Livermore and Responsible Agencies including Alameda County and the City of Pleasanton:

SMP 38

- Resolution authorizing submittal of a SOI Amendment application to the Alameda County Local Agency Formation Commission (LAFCo).

SMP 39

- Resolution authorizing submittal of an annexation and SOI Amendment application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 39 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as Planned Development-Industrial (PDI-22-001);
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Development Agreement; and
- Pre-Annexation Agreement.

SMP 40

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 40 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as Planned Development-Industrial (PDI-22-001);
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Site Plan and Design Review;
- Development Agreement; and

- Pre-Annexation Agreement.

Additional Annexation Only Parcels (APNs 904-10-2-3, -5, -7, and -8)

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation from Open Space/Sand and Gravel to Parks, Trailways and Recreation Areas (OSP); and
- Pre-zone the sites to Open Space Flood Plain (OS-F).

A number of other agencies, such as Alameda County LAFCo, would serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This EIR will provide environmental information to these agencies and other public agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation.

Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project and entitlements, as well as a full list of the project objectives.

2.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Mitigation measures must be implemented as part of the proposed project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are noted in this EIR and are found in the following technical chapters: Air Quality, Greenhouse Gas Emissions, and Energy; Biological Resources; Cultural and Tribal Cultural Resources; Hydrology and Water Quality; Public Services, Utilities, and Service Systems; and Transportation. The mitigation measures presented in the EIR will form the basis of the Mitigation Monitoring and Reporting Program. Any impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

A summary of the identified impacts in the technical chapters (Chapters 4.1 through 4.8) of the EIR is presented in Table 2-1, included at the end of this chapter. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact, and the resulting level of significance after implementation of mitigation measures for each impact.

2.4 SUMMARY OF PROJECT ALTERNATIVES

The following section presents a summary of the alternatives evaluated in this EIR for the proposed project, which include the following:

- No Project (No Build) Alternative;
- No Project (Maximum Allowable Operations) Alternative; and
- Reduced Intensity Alternative.

For a more thorough discussion of project alternatives that were evaluated in this EIR, including alternatives considered but dismissed, please refer to Chapter 6, Alternatives Analysis, of this EIR.

No Project (No Build) Alternative

The City has decided to evaluate a No Project (No Build) Alternative, which assumes that the current conditions of the project site would remain, and the site would not be developed. A number of approvals would be required for development of SMP 39 and SMP 40 under the proposed project, including a SOI Amendment for SMP 39, General Plan Amendments, Pre-zoning and Annexation, Zoning Map Amendments/Planned Development, Vesting Tentative Subdivision Maps, Pre-Annexation Agreements, and Development Agreements. The proposed project includes an SOI Amendment to include SMP 38 within the City of Livermore SOI. None of the proposed entitlements for SMP 39 or SMP 40 would be required under the No Project (No Build) Alternative. Similarly, entitlements for SMP 38, the Additional Annexation Only Parcels, or any off-site improvements that would be required under the proposed project would not be required under the No Project (No Build) Alternative.

Although none of the impacts identified for the proposed project would occur under the No Project (No Build) Alternative, the No Project (No Build) Alternative would not meet any of the project objectives.

No Project (Maximum Allowable Operations) Alternative

Under the No Project (Maximum Allowable Operations) Alternative, SMP 39 and SMP 40 would be mined as allowed under the current surface mining permits previously approved for the sites by Alameda County. It should be noted that mining on SMP 38 could occur under the existing zoning of the site; however, because development of SMP 38 is not proposed as part of the project, the No Project (Maximum Allowable Operations) Alternative also assumes no mining or physical changes on SMP 38 in order to provide a more direct comparison. Similarly, because the current mining operations permitted on SMP 40 do not extend to allow mining operations to occur on the Additional Annexation Only Parcels, and the likelihood for any future development on the Additional Annexation Only Parcels is low due to physical constraints to development present on the parcels, the parcels would still not be considered for mining under the Alternative. Thus, the analysis of the No Project (Maximum Allowable Operations) Alternative is focused on the potential impacts associated with the existing allowed mining operations on the SMP 39 and SMP 40 sites only. It should further be noted that the proposed off-site trail connections are assumed not to occur under the No Project (Maximum Allowable Operations) Alternative.

The current surface mining permits for SMP 39 and SMP 40 would allow the parcels to be mined to a depth of approximately 200 feet to remove approximately 9,796,200 tons (5,155,900 cubic yards [CY]) of aggregate materials from SMP 39 and approximately 12,316,200 tons (6,482,600 CY) of aggregate materials from SMP 40.[1] Complete excavation of SMP 39 would occur over a 1.5- to two-year period, while complete excavation of SMP 40 would occur over a three- to four-year period. The mined aggregate materials would then be hauled away from the project area for use elsewhere. Once excavation activities have been completed, the sites would undergo reclamation activities for use as water management such as the detention of peak stormwater runoff, storage of recycled water, and/or groundwater recharge. Reclamation activities are anticipated to occur over an approximately 20- to 30-year period. Following reclamation, SMP 39 would provide approximately 1,798 acre-feet of water storage capacity, and SMP 40 would provide approximately 3,907 acre-feet of water storage capacity and would be managed by the Zone 7 Water Agency.

1 Alameda County. *Application for Rhodes & Jamieson Aggregate Mines Surface Mining Permits SMP-38, SMP-39, and SMP-40 Draft Environmental Impact Report (SCH #2003082034)*. November 2004.

Given that the surface mining permits and reclamation plans were previously approved by Alameda County, and an EIR was certified for the mining activities in 2004, the Alternative would not require the approval of any additional entitlements.

The No Project (Maximum Allowable Operations) Alternative would involve the use of the sites for aggregate mining, as allowed under existing conditions, and, therefore, would not meet any of the objectives for the proposed project, as the sites would not be annexed into the City, industrial uses would not be developed on the sites, and off-site improvements, such as the widening of West Jack London Boulevard and the construction of an off-site trail connection, would not occur under the Alternative.

The No Project (Maximum Allowable Operations) Alternative would be considered to result in fewer impacts than the proposed project related to Agricultural Resources; Public Services, Utilities, and Service Systems; and Transportation; similar impacts as the proposed project related to Biological Resources; and greater impacts than the proposed project related to Air Quality, GHG Emissions, and Energy; Cultural and Tribal Cultural Resources; and Hydrology and Water Quality.

Reduced Intensity Alternative

The Reduced Intensity Alternative would involve development of the proposed project at a reduced scale. Specifically, only the 470,526-sf building on the western portion of the SMP 40 site would be developed, and the 288,747-sf building on the eastern portion of SMP 40 would not be developed, under the Reduced Intensity Alternative. Development of the SMP 39 site would remain the same as the proposed project at 755,500 sf. As such, the overall building square footage would be reduced from a total of 1,514,773 sf to a total of approximately 1,226,026 sf. Because the eastern building on SMP 40 would not be developed, the disturbance area would also be reduced by 16.93 acres. All other aspects of the proposed project, including building heights, vehicle access, required entitlements, and the off-site improvements, would be similar under the Reduced Intensity Alternative.

While the eastern building on SMP 40 would not be developed under the Reduced Intensity Alternative, the Alternative would generally meet all of the objectives of the proposed project. For instance, Objectives 1, 2, 3, 5, and 8 refer to developing industrial uses on-site; Objectives 4 and 7 are related to the annexation of the sites into the City; and Objectives 6 and 9 are related to the development of off-site improvements that would occur under both the proposed project and the Alternative, including dedicating, widening, and improving West Jack London Boulevard and the construction of off-site trail improvements.

The Reduced Intensity Alternative would result in fewer impacts than the proposed project related to all resource areas for which project impacts were identified.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The environmentally superior alternative is generally the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the City. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative

be designated and states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

The No Project (No Build) Alternative would not meet any of the project objectives, because the site would not be developed for industrial use. As discussed in Chapter 6, Alternatives Analysis, of this EIR, the impacts resulting from the proposed project would not occur under the No Project (No Build) Alternative, as the project site is assumed to remain in its current condition under the Alternative. As such, the No Project (No Build) Alternative would be considered the environmentally superior alternative. However, as discussed above, in accordance with Section 15126(e)(2) of the CEQA Guidelines, if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The No Project (Maximum Allowable Operations) Alternative is also a form of a no project alternative; however, the No Project (Maximum Allowable Operations) Alternative would not meet any of the project objectives, because the site would not be developed for industrial use. In addition, while the No Project (Maximum Allowable Operations) Alternative would result in fewer impacts than the proposed project related to three of the seven issue areas, the Alternative would result in similar impacts as the proposed project for one issue area, and greater impacts for the remaining three issue areas for which project impacts were identified. Therefore, the No Project (Maximum Allowable Operations) Alternative would not be considered the environmentally superior alternative.

Based on the above, the Reduced Intensity Alternative would be considered the Environmentally Superior Alternative. The Reduced Intensity Alternative would generally meet all of the objectives of the proposed project, as the site would still be developed for industrial use, just at a reduced intensity as compared to the proposed project. In addition, the Reduced Intensity Alternative would result in fewer impacts to all seven issue areas, as compared to the proposed project. However, under the Reduced Intensity Alternative, the significant and unavoidable impact related to agricultural resources, which was identified for the proposed project, would still occur. As such, the number of significant and unavoidable impacts under the Reduced Intensity Alternative would be the same as the proposed project.

2.5 AREAS OF KNOWN CONTROVERSY

The CEQA Guidelines, Section 15123(b), require that this EIR consider areas of controversy known to the lead agency, including issues raised by agencies and the public. Areas of controversy that were identified in NOP comment letters on the proposed project should be considered, as well. The areas of known controversy for the proposed project relate to the following:

- The inclusion of solar arrays.
- Compliance with applicable laws governing tribal notifications, including Assembly Bill 52 and Senate Bill 18.
- Effects to the Metropolitan Transportation System (MTS) roadway network, including Interstate 580 in Livermore and Pleasanton, SR 84 (Isabel Avenue and Vallecitos Road), and East and West Jack London Boulevard, Airway Boulevard, El Charro Road, and Stanley Boulevard.
- Effects to the MTS transit operators (Bay Area Rapid Transit [BART], Livermore Amador Valley Transit Authority [LAVTA]).

- Potential increase in roadway maintenance needs.
- Effects of vehicle traffic on cyclist and pedestrian safety.
- Vehicle miles traveled (VMT) mitigation measures.
- Compliance with applicable Caltrans standards and permits.
- Effects on Pleasanton roadways and intersections from project-related traffic.
- Use of site as a quarry.
- Potential allowed land use and zoning for SMP 38 in the future.
- Potential increase in noise levels associated with project operations.

Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Agricultural Resources				
4.1-1	Conflict with existing zoning for agricultural use, or a Williamson Act contract.	LS	*None required.*	N/A
4.1-2	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.	SU	*None feasible.*	SU
4.1-3	Impacts related to the cumulative loss of agricultural land.	CC & SU	*None feasible.*	CC & SU
4.2 Air Quality and Greenhouse Gas Emissions				
4.2-1	Conflict with or obstruct implementation of the applicable air quality plan during project construction.	S	*4.2-1(a) Prior to approval of any Improvement Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Livermore Community Development Department:* *The project applicant shall show on the plans via notation that the contractor shall ensure that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction of all project components (i.e., construction of SMP 39, SMP 40, and the chosen off-site trail connection option), including owned, leased, and subcontractor vehicles, shall be a combination of engine Tier 3 or Tier 4 off-road construction equipment, or hybrid, electric, or alternatively fueled equipment (or any combination of the above), sufficient to achieve a fleet-wide average*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		reduction in construction-related ROG and NOX emissions to below the applicable BAAQMD thresholds of significance (54 lbs/day). For instance, the emissions presented in Table 4.2-9 were achieved by requiring all equipment used during construction to be engine Tier 4. *In addition, all off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Clear signage regarding idling restrictions shall be placed at the entrances to the construction site.* *Portable equipment over 50 horsepower must have either a valid BAAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.* *Conformance with the foregoing requirements shall be included as notes and be confirmed through review and approval of grading plans by the City of Livermore Community Development Department.* *4.2-1(b) The project applicant shall show on Improvement Plans via notation that the project contractor shall restrict the building construction and architectural coating phases of construction for SMP 39 from*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures		Level of Significance After Mitigation
				occurring simultaneously with the building construction and architectural coating phases of construction for SMP 40. Conformance with this requirement shall be confirmed through review and approval of plans by the City of Livermore Community Development Department.	
4.2-2	Conflict with or obstruct implementation of the applicable air quality plan during project operation.	S	*4.2-2*	*Prior to approval of any Improvement Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Livermore Community Development Department:* *The project applicant shall show on the Improvement Plans via notation that all off-road equipment (i.e., forklifts) to be used during operations of the proposed project shall be a combination of propane and electric, sufficient to achieve a fleet-wide average reduction in operational-related NO_X emissions to below the applicable BAAQMD threshold of significance (54 lbs/day). For instance, the emissions presented in Table 4.2-11 were achieved by requiring that 27 percent of the forklifts used during operations on both SMP 39 and SMP 40 are electric.*	LS
4.2-3	Expose sensitive receptors to substantial pollutant concentrations.	LS	*None required.*		N/A
4.2-4	Result in other emissions (such as those leading to odors) affecting a substantial number of people.	LS	*None required.*		N/A

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2-5	Result in the inefficient or wasteful use of energy or conflict with a State or local plan for renewable energy or energy efficiency.	LS	*None required.*	N/A
4.2-6	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	LCC	*None required.*	N/A
4.2-7	Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	LCC	*None required.*	N/A
4.2-8	Result in a cumulatively considerable inefficient or wasteful use of energy or conflict with a State or local plan for renewable energy or energy efficiency.	LCC	*None required.*	N/A
4.3 Biological Resources				
4.3-1	Have a substantial adverse effect, either directly or through habitat	LS	*None required.*	N/A

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Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	modifications, on special-status plant species.			
4.3-2	Have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species.	S	*Western Burrowing Owl* *4.3-2(a) If project construction begins during the western burrowing owl nesting season (February 15 to August 31), a qualified biologist shall conduct targeted burrowing owl nest surveys within 14 days prior to construction activities using seven- to 20-foot transects. A separate preconstruction survey shall be conducted for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The survey shall include the project site and all accessible areas within 500 feet of the project impact zone, and shall follow CDFW guidelines outlined in the 2012 Staff Report on Burrowing Owl Mitigation. The results of the survey shall be submitted to the City of Livermore Community Development Department within 30 days of the completed survey. The survey report shall be valid for one construction season.* *If western burrowing owls are not detected on-site during the survey, further mitigation shall not be required. If any western burrowing owls are detected on-site, pursuant to the CDFW's 2012 Staff Report on Burrowing Owl Mitigation, the following restricted activity dates and setback distances shall be implemented:*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *From April 1 through October 15, low disturbance activities shall have a 200-meter buffer while high disturbance activities shall have a 500-meter buffer from occupied nests.* • *From April 1 through August 15, medium disturbance activities shall have a 500-meter buffer from occupied nests. Medium disturbance activities can have a reduced buffer of 200 meters starting August 16 through October 15.* • *From October 16 through March 31, low disturbance activities shall have a 50-meter buffer, medium disturbance activities shall have a 100-meter buffer, and high disturbance activities shall have a 500-meter buffer from occupied nests.* • *Earth-moving activities or other disturbance shall not occur within the aforementioned buffer zones of occupied burrows unless monitoring of the nest site by a qualified biologist determines that the owls are acclimated to the disturbance and would not be disturbed by a smaller buffer. The buffer zones shall be fenced.* • *A qualified biologist shall delineate the extent of burrowing owl habitat on the site.* • *Owls may be passively relocated from the project site between October 1 and February 1. Passive removal shall be conducted by a*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		qualified biologist with demonstrated experience with passive relocation. • *Credits shall be purchased from a mitigation bank in coordination with CDFW and the City of Livermore to offset the project's habitat loss on the burrowing owl.* *A report detailing compliance with the provisions set forth herein shall be prepared by the qualified biologist and submitted for review and approval to the City of Livermore Community Development Department.* *Western Burrowing Owl (Trail Connection Options 2 and 3)* *4.3-2(b) In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge or Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84 is the selected trail connection option for the proposed project, the requirements of Mitigation Measure 4.3-2(a) shall be implemented for the disturbance area associated with the trail connection option.* *Tricolored Blackbird* *4.3-2(c) Prior to any ground disturbance on SMP 40, a qualified biologist shall conduct a preconstruction survey in all accessible areas identified as supporting potential tricolored blackbird nesting habitat. The survey shall document the current, and to the extent possible, historical presence or absence of nesting colonies of tricolored blackbird. Surveys shall conclude no more than two calendar days prior to construction. If a*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		tricolored blackbird nesting colony is present, a 250-foot buffer shall be applied from the outer edge of all hydrophytic vegetation associated with the site and the site plus buffer shall be avoided. The Wildlife Agencies shall be notified immediately of nest locations. All survey results shall be submitted to the City of Livermore Community Development Department prior to the start of construction. If current or recent tricolored blackbird nesting colonies are not identified, further action is not required. *If construction takes place during the breeding season when an active colony is present, a qualified biologist shall monitor construction to ensure that the 250-foot buffer zone is enforced. If monitoring indicates that construction outside of the buffer is affecting a breeding colony, the buffer shall be increased if space allows (e.g., move staging areas farther away). If space does not allow, construction shall cease until the colony abandons the site or until the end of the breeding season, whichever occurs first. The biological monitor shall also conduct training of construction personnel on the avoidance procedures, buffer zones, and protocols in the event that tricolored blackbirds fly into an active construction zone (i.e., outside the buffer zone).* *Nesting Birds and Raptors (Including Loggerhead Shrike)* *4.3-2(d) If project construction begins during the nesting season (February 1 to August 31), a qualified biologist*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		shall conduct a nesting bird survey within 7 days prior to construction activities. A separate preconstruction survey shall be conducted for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The nesting bird survey shall include walking transects to search for ground nesting birds, and an examination of all trees on-site and within all accessible areas within 200 feet of the entire project site and off-site improvement areas (i.e., within a zone of influence of nesting birds). If nesting birds are not found within the project site or off-site improvement areas, further mitigation shall not be required. *If migratory birds are identified nesting on or within the zone of influence, the Wildlife Agencies shall be notified immediately of nest locations. A qualified biologist shall establish a temporary protective nest buffer around the nest(s). The nest buffer shall be staked with orange construction fencing. The buffer must be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist with extensive experience working with nesting birds near and on construction sites. Typically, adequate nesting buffers are 75 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several raptor species known in the region of the project site but that are not expected to occur on the project site. Upon completion*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		of nesting surveys, if nesting birds are identified on or within a zone of influence of the project site, a qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed. *Construction or earth-moving activity shall not occur within any established nest protection buffer prior to September 1 unless a qualified ornithologist/biologist determines that the young have fledged and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July; however, the date may be significantly earlier or later, and would have to be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence in established nesting buffers without further regard for the nest site. If active nesting buffers are established and a biologist does not confirm that the nesting cycle is completed, then the nesting buffers must be maintained until the end of the CDFW recognized nesting season (September 1).* *Should construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities, then the*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		exclusionary buffer shall be increased such that activities are far enough from the nest to stop the following agitated behavior: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest. The revised non-disturbance buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City of Livermore. *A report detailing compliance with the provisions set forth herein shall be prepared by the qualified biologist and submitted for review and approval to the City of Livermore Community Development Department.*	
4.3-3 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS, or State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	*Trail Connection Option 2 – Undercrossing at Isabel Bridge* *4.3-3(a) Prior to the initiation of ground-disturbing activities, the project applicant shall submit a formal wetland delineation to the USACE for Trail Connection Option 2 for verification to determine the extent of all hydrological features, their jurisdictional status, and the extent of any impacts resulting from the proposed project. A copy of the wetland delineation and USACE verification letter shall be submitted to the City of Livermore Community Development Department. If Trail Connection Option 2 will result in impacts to features under the USACE's jurisdiction, Mitigation Measure 4.3-3(e) shall be required.*	LS

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		Trail Connection Option 2 – Undercrossing at Isabel Bridge *4.3-3(b) In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge is the selected Trail Connection Option for the proposed project, implement Mitigation Measures 4.5-1 and 4.5-2 related to the preparation of a SWPPP and final Stormwater Control Plan and Maintenance Plan during project construction and operations, respectively.* *SMP 40 and Trail Connection Option 2* *4.3-3(c) Prior to the commencement of ground-disturbing activities for SMP 40 or Trail Connection Option 2, if selected, the project contractor shall notify CDFW pursuant to Section 1600 of the CFGC. The notification shall include a description of all of the activities associated with the proposed project, not just those associated with the drainages and/or riparian vegetation. Impacts shall be outlined in the notification and are expected to be in substantial conformance with the impacts to biological resources outlined in the Biological Resources Assessments prepared for SMP 40 by Monk & Associates. Impacts for each activity shall be broken down by temporary and permanent impacts. A description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent impact. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, as well as a description of stormwater treatment methods. Minimization and avoidance measures shall be proposed, as appropriate, and may include the following:* • *To avoid fuels, lubricants, soils and other pollutants from entering Arroyo Mocho, wildlife*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		friendly hay wattles (that is, no mono-filament netting) and silt fencing shall be installed at the top of bank. The use of mulch or any other substitute that may enter into the creek shall be prohibited. • *Staging, operation and maintenance of heavy duty construction equipment shall be located away from Arroyo Mocho at all times and well outside of the riparian corridor unless the equipment is needed to specifically work on the realignment of Arroyo Mocho or the outfalls for the project.* • *To mitigate for any impacts to the riparian corridor of Arroyo Mocho, disturbed areas shall be revegetated with native riparian plant species. Replacement of riparian trees to be removed shall be planted near the creek as feasible and/or adjacent to the existing limits of the riparian corridor to contribute to the existing riparian canopy. Riparian plantings shall be maintained for a minimum of 5 years to ensure that the canopy is enhanced and the understory restored.* • *Non-native and invasive ornamental landscaping shall be precluded from use proximate to Arroyo Mocho.* • *To avoid debris from entering Arroyo Mocho, the final project design shall provide for enclosed and accessible trash receptacles (located outside of the riparian corridor).*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *New lighting introduced by the project shall be downcast and precluded from spilling over to the riparian corridor as direct lighting along creek corridors has a negative impact on nocturnal wildlife.* *Mitigation shall not result in a net loss of a Sensitive Natural Community. Written verification of Section 1600 of the LSAA shall be submitted to the City of Livermore Community Development Department.* *Trail Connection Option 2 – Undercrossing at Isabel Bridge* *4.3-3(d)* *Prior to the initiation of groundbreaking activity associated with Trail Connection Option 2, if selected, the project applicant shall ensure that authorization pursuant to the Clean Water Act (CWA) Section 401 from the San Francisco Bay Regional Water Quality Control board (RWQCB) is obtained.* *If Trail Connection Option 2 will result in impacts to features under the RWQCB's jurisdiction, the construction contractor shall adhere to all conditions outlined in the permit. The project applicant shall ensure that the proposed project replaces, restores, or enhances on a "no net loss" basis (in accordance with the RWQCB) the acreage of all riparian habitat and waters of the State that would be removed, lost, and/or degraded due to project implementation by methods agreeable to the RWQCB and the City, as appropriate, depending on agency jurisdiction, and as determined	

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		during the Section 401 permitting processes. Methods include, but are not limited to implementation of a riparian enhancement planting plan and/or tree planting mitigation at a 1:1 ratio, or as otherwise prescribed by the RWQCB. *Trail Connection Option 2 – Undercrossing at Isabel Bridge* *4.3-3(e) If it is determined that work below the OHWM cannot be avoided for Trail Connection Option 2, prior to the issuance of grading permits, the project applicant shall apply for a CWA Section 404 permit from the USACE. Waters that would be lost or disturbed shall be restored, replaced, or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement, including the purchase of credits from a USACE approved mitigation bank at a 1:1 ratio, shall be at a location and by methods acceptable to the USACE. Documentation of compliance with the provisions set forth herein shall be submitted to the City of Livermore Community Development Department for verification.*	
4.3-4 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.	LS	*None required.*	N/A
4.3-5 Conflict with any local policies or ordinances protecting biological	LS	*None required.*	N/A

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	resources, such as a tree preservation policy or ordinance.			
4.3-6	Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.	LS	*None required*	N/A
4.3-7	Cumulative loss of habitat for special-status species.	LCC	*None required.*	N/A
4.4 Cultural and Tribal Cultural Resources				
4.4-1	Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5.	LS	*None required.*	N/A
4.4-2	Cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5.	S	*4.4-2* *In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology has evaluated the find. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The qualified archeologist shall make recommendations to the City of Livermore on the measures that shall be implemented to protect the discovered resources, including, but not limited to, culturally appropriate temporary and permanent treatment, which may include avoidance of cultural resources, in-place*	LS

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		preservation, and/or reburial on the project site so the resource(s) are not subject to further disturbance in perpetuity. In addition, The Confederated Villages of Lisjan shall be notified of the discovery. If avoidance is determined to be infeasible, pursuant to CEQA Guidelines Section 15126.4(b)(3)(C), a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. If necessary, excavation and evaluation of the finds shall comply with Section 15064.5 of the CEQA Guidelines. *Potentially significant archaeological site indicators include obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Livermore, the Northwest Information Center (NWIC), and the State Historic Preservation Office (SHPO), as required.*	

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4.4-3	Disturb any human remains, including those interred outside of dedicated cemeteries.	S	*4.4-3*	*In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the Alameda County Coroner has been notified to determine if an investigation into the cause of death is required. If the County Coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission (NAHC), which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. The potential exists that the NAHC may be unable to identify a most likely descendant, the most likely descendant fails to make a recommendation within 48 hours after notification by the NAHC, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the NAHC fails to provide a measure acceptable to the landowner. In such case, the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. Should human*	LS

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				remains be encountered, a copy of the resulting County Coroner report noting any written consultation with the NAHC shall be submitted as proof of compliance to the City of Livermore Community Development Department.	
4.4-4	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.	S	*4.4-4*	*Implement Mitigation Measures 4.4-2 and 4.4-3.*	LS
4.4-5	Cause a cumulative loss of cultural and tribal cultural resources.	LS	*None required.*		N/A
4.5 Hydrology and Water Quality					
4.5-1	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality during construction.	S	*4.5-1*	*Prior to issuance of any grading permits, the contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for review and approval by the San Francisco Bay RWQCB. The contractor shall file the Notice of Intent (NOI) and associated fee to the SWRCB. A separate SWPPP shall be prepared for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The SWPPP shall serve as the framework for identification, assignment, and implementation of BMPs. The contractor shall implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. Construction (temporary) BMPs for the project may include, but are not limited to: fiber rolls, straw bale barrier, straw wattles, storm drain inlet protection, velocity dissipation devices, silt fences, wind erosion*	LS

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				control, stabilized construction entrance, hydroseeding, revegetation techniques, and dust control measures. The SWPPP shall be submitted to the City's Director of Public Works and the City Engineer for review and approval and shall remain on the project site during all phases of construction. Following implementation of the SWPPP, the contractor shall subsequently demonstrate the SWPPP's effectiveness and provide for necessary and appropriate revisions, modifications, and improvements to reduce pollutants in stormwater discharges to the maximum extent practicable.	
4.5-2	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality during operations.	S	*4.5-2(a)*	*Prior to approval of final project improvement plans for SMP 39, SMP 40, and the selected off-site trail connection option, a final Stormwater Control Plan and Maintenance Plan shall be submitted to the City Director of Public Works, and the City Engineer for review and approval. A separate Stormwater Control Plan and Maintenance Plan shall be prepared for SMP 39, SMP 40, and the selected off-site trail connection option, if the components of the project are not constructed concurrently. The final Stormwater Control Plan and Maintenance Plan shall be in compliance with all applicable provisions of the C.3 Standards, and shall meet the standards of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment. Site design measures, source control measures, hydromodification management, and Low Impact Development (LID) standards, as*	LS

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		necessary, shall be incorporated into the design and shown on the improvement plans. The final plans shall include calculations demonstrating that the water quality BMPs are appropriately sized, using methodology in the CASQA Stormwater BMP Handbook for New Development and Redevelopment. The final plans shall be submitted to the Public Works Department for review and approval. *4.5-2(b) Implement Mitigation Measures 4.3-3(b) through 4.3-3(e).*	
4.5-3 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LS	*None required.*	N/A
4.5-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or	S	*4.5-4 Prior to approval of final project improvement plans for SMP 39, SMP 40, and the selected off-site trail connection option, a final drainage plan shall be submitted to the City Director of Public Works, and the City Engineer for review and approval demonstrating the project's compliance with all State stormwater standards and requirements. A separate drainage plan shall be prepared for SMP 39, SMP 40, and the selected off-site trail connection option, if the components of the project are not constructed concurrently. The final drainage plan shall identify the*	LS

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	contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or result in substantial erosion or siltation on- or off-site.			*water quality treatment and source control measures needed to ensure that stormwater runoff from the proposed project is adequately treated and peak flows do not exceed the capacity of the receiving storm drainage system.*	
4.5-5	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation.	S	*4.5-5*	*Prior to Building Permit issuance for SMP 39 (if buildings are determined to be within a SFHA) and SMP 40, the City or applicant shall obtain from the Federal Emergency Management Agency (FEMA), a Letter of Map Revision (LOMR).*	LS
4.5-6	Cumulative impacts related to the violation of water quality standards or waste discharge requirements, and impacts resulting from the alteration of existing drainage patterns.	LS	*None required.*		N/A
4.6 Noise					
4.6-1	Generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards	S	*4.6-1*	*Prior to issuance of a grading permit for the chosen off-site trail connection option, the project applicant shall prepare a construction noise management plan that identifies measures to be taken to minimize*	LS

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established in the local general plan or noise ordinance, or applicable standards of other agencies.		*construction noise on surrounding sensitive land uses and include specific noise management measures to be included within the plans and specifications for the trail connection option, subject to review and approval by the City of Livermore Community Development Department. The project applicant shall demonstrate, to the satisfaction of the City that the project complies with the following:* • *All heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition.* • *All mobile or fixed noise producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulations while in the source of project activity.* • *Where feasible, electrically-powered equipment shall be used instead of pneumatic or internal combustion powered equipment.* • *All stationary noise-generating equipment shall be located as far away as possible from the nearest residential uses.* • *Signs prohibiting unnecessary idling of internal combustion engines shall be posted.*	

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		• *The use of noise-producing signals, including horns, whistles, alarms and bells shall be for safety warning purposes only.* • *The use of temporary sound barriers shall be incorporated along the outer work area of the construction site, east of Isabel Avenue/SR 84. Barrier height and location(s) shall be determined by a qualified acoustical engineer to ensure that the resultant construction noise levels at the nearest residence would meet the applicable standard. The sound barrier fencing shall consist of 0.5-inch plywood or minimum STC 27 sound curtains placed to shield nearby sensitive receptors. The plywood barrier shall be free from gaps, openings, or penetrations to ensure maximum performance.*	
4.6-2 Generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LS	*None required.*	N/A
4.6-3 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	LS	*None required.*	N/A
4.6-4 For a project located within the vicinity of a private airstrip or an	LS	*None required.*	N/A

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	airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose persons residing or working in the project area to excessive noise levels.			
4.6-5	Generation of a substantial permanent increase in ambient noise levels associated with development of the proposed project in combination with buildout of the City of Livermore General Plan.	LCC	*None required.*	N/A
4.7 Public Services, Utilities, and Service Systems				
4.7-1	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.	LS	*None required.*	N/A
4.7-2	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services	LS	*None required.*	N/A

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	and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.			
4.7-3	Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	LS	*None required.*	N/A
4.7-4	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LS	*None required.*	N/A
4.7-5	Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	LS	*None required.*	N/A

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4.7-6 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or conflict with federal, State, and local management and reduction statutes and regulations related to solid waste.	LS	*None required.*	N/A
4.7-7 Cumulative impacts to public services.	LS	*None required.*	N/A
4.7-8 Increase in demand for utilities and service systems associated with the proposed project, in combination with future buildout of the Livermore General Plan.	S & CC	*4.7-8(a) Prior to approval of improvement plans, the project applicant shall pay the applicable sewer fair share fees to the City of Livermore Community Development Department. Payment of such fees shall be made in compliance with Livermore Municipal Code Chapter 13.28.* *4.7-8(b) In conjunction with submittal of improvement plans for SMP 39 or SMP 40, whichever is developed second as part of the proposed project, the project applicant shall submit an analysis of the pumping capacity available at the Airport Lift Station to convey additional flows generated by SMP 39 and SMP 40. The lift station capacity analysis shall be prepared by a registered civil engineer. According to the 2022 Airport Lift Station Analysis prepared by West Yost Associates, the City of Livermore has indicated that the pumping capacity necessary to accommodate*	LCC

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		SMP 39 and SMP 40 would be 2,088 gallons per minute (gpm). The subsequent evaluation shall confirm the aforementioned estimate and be submitted for review and approval to the City of Livermore Community Development Department. *If the Airport Lift Station pumping capacity is determined to be inadequate, the project applicant shall ensure the pumping capacity is increased to the necessary gpm determined by the subsequent analysis, with all design recommendations contained therein incorporated into the improvement plans for SMP 39 or SMP 40, whichever is developed second as part of the proposed project. Incorporation of the design recommendations to increase the Airport Lift Station pumping capacity shall be submitted for review and approval to the City Engineer.*	
4.8 Transportation			
4.8-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities.	S	*4.8-1* *Prior to grading permit issuance for the SMP 39 and SMP 40 sites, as well as the chosen off-site trail connection option, the project applicant shall prepare a Construction Traffic Management Plan for review and approval by the City Engineer. The plan shall include the following:* • *A project staging plan to maximize on-site storage of materials and equipment;* • *A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane*	LS

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		closure proceedings; signs, cones and other warning devices for drivers; and designation of construction access routes; • *Provisions for maintaining adequate emergency access to the project site;* • *Permitted construction hours, per City of Livermore standards;* • *Designated locations for construction staging areas;* • *Identification of parking areas for construction employees, site visitors, and inspectors, including on-site locations;* • *Signs posted at the entrances to the construction sites noting who to contact if there are questions or concerns, along with a contact phone number; and* • *Provisions for street sweeping to remove construction-related debris on public streets.*	
4.8-2 Conflict with a program, plan, ordinance or policy addressing the circulation system during operations.	LS	*None required.*	N/A
4.8-3 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	S	*4.8-3 Prior to the issuance of the first building permit, the project applicant shall be required to develop a Transportation Demand Management (TDM) Program for SMP 39 and SMP 40. The TDM Program shall be monitored by the project applicant/operator on an annual basis to determine the efficacy of the selected TDM strategies in achieving the reduction below the regional average VMT per employee of three percent*	LS

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		(i.e., the performance target). An Annual Status Report on the TDM Program shall be submitted to the City of Livermore Engineering Division beginning a year after the issuance of any certificate of occupancy and shall include details on the TDM strategies, including an Employer Carpool Program which has a goal to reduce VMT per employee by approximately four percent and, thus, would meet and exceed the performance target. The Employer Carpool Program shall implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. Data shall be collected in October of each year and the Annual Status Report shall be submitted by December 31st of each year. The report shall be prepared in the form and format designated by the City. The data shall include project-generated VMT estimates compatible with the methodology used to estimate the benchmark VMT so that performance comparisons can be made. If the Annual Status Report demonstrates that the project is not in compliance with the performance target set forth in this mitigation measure, the project must incorporate additional TDM strategies to meet the performance target in coordination with City staff. The project applicant/operator may propose new TDM strategies that develop over time to further reduce project-generated VMT if substantial evidence is provided to support the efficacy of the strategy. If the Annual Status Reports demonstrate that the performance target has been achieved for three	

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			consecutive years once SMP 39 and SMP 40 are both fully occupied and operational, the project shall no longer need to provide annual reporting.	
4.8-4	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.	LS	*None required.*	N/A
Initial Study Impacts Requiring Mitigation				
I-a.	Would the project have a substantial adverse effect on a scenic vista?	S	*I-1. In the event that Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84 is the selected Trail Connection Option for the proposed project, improvement plans associated with the proposed above-grade crossing shall be submitted to the City's Community Development Department for review and approval to ensure that the proposed above-grade crossing is constructed using soft earth tone colors that help the bridge blend in with the surrounding landscape.*	LS
I-b.	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?			

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VII-a.	Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iii. Seismic-related ground failure, including liquefaction? iv. Landslides?	S	*VII-1.*	*All grading and foundation plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the City Engineer, Chief Building Official, and a qualified Geotechnical Engineer prior to the issuance of building permits or grading permits, whichever comes first, to ensure that all geotechnical recommendations specified in the geotechnical recommendations specified in the Geotechnical Investigation prepared for the proposed project by Cornerstone Earth Group are properly incorporated and utilized in the project design.*	LS
VII-c.	Would the project 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?		*VII-2.*	*In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge or Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84 is the selected Trail Connection Option for the proposed project, in conjunction with the submittal of improvement plans associated with the proposed above-grade crossing, a final design-level geotechnical report shall be prepared and submitted to the City for review and approval. The site-specific geotechnical report shall be prepared by a State-registered civil engineer with the purpose of observing and sampling the subsurface conditions encountered at the proposed undercrossing or above-grade crossing sites and providing conclusions and recommendations relative to each crossing, as proposed. The recommendations presented therein shall be based on analysis of the data obtained during the geotechnical investigation and the local experience of the civil engineer regarding similar soil and geologic conditions. All recommendations set forth in the final design-level geotechnical report shall be appropriately incorporated into the design of the project and shall be subject to review and approval by the City Engineer.*	
VII-d.	Would the project be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				
VII-f.	Directly or indirectly destroy a unique paleontological resource	S	*VII-3.*	*The applicant shall retain the services of a professional paleontologist to educate the construction crew that will*	LS

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	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
	or site or unique geologic feature?			*be conducting grading and excavation at the project site, as well as the off-site trail improvement areas. The education shall consist of an introduction to the geology of the project site and the kinds of fossils that may be encountered, as well as what to do in case of a discovery. Should any vertebrate fossils (e.g., teeth, bones), an unusually large or dense accumulation of intact invertebrates, or well-preserved plant material (e.g., leaves) be unearthed by the construction crew, then ground-disturbing activity shall be diverted to another part of the project site and the paleontologist shall be called on-site to assess the find and, if significant, recover the find in a timely matter. Finds determined significant by the paleontologist shall then be conserved and deposited with a recognized repository, such as the University of California Museum of Paleontology. The alternative mitigation would be to leave the significant finds in place, determine the extent of significant deposit, and avoid further disturbance of the significant deposit. Proof of the construction crew awareness training shall be submitted to the City's Community Development Department in the form of a copy of training materials and the completed training attendance roster.*	
IX-b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	S	*IX-1.*	*Prior to any ground-disturbing activities, the groundwater well observed along the western boundary of SMP 39 shall be assessed to determine whether it is located on-site. If the well is determined to be located on-site, the project applicant shall hire a licensed contractor to obtain the applicable*	LS

N/A = *Not Applicable*; N = *No Impact;* LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		abandonment permit from Alameda County Department of Environmental Health (ACDEH), and properly abandon the on-site well for review and approval by the ACDEH. *In addition, the licensed contractor shall contact Zone 7 regarding its well located towards the middle of the SMP 39 site, and if feasible, obtain the applicable abandonment permit from ACDEH to properly abandon the well. Alternatively, if required by Zone 7, the applicant shall implement other measures identified by Zone 7, such as providing any necessary upgrades or adjustments to the well and/or well box elevation to match the final grade.* *IX-2. In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge or Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84 is the selected Trail Connection Option for the proposed project, in conjunction with the submittal of improvement plans associated with the proposed above-grade crossing, a Phase I Environmental Site Assessment (ESA) shall be prepared and submitted to the City for review and approval. The Phase I Environmental Site Assessment (ESA) shall be prepared by a licensed contractor with the purpose of observing and assessing the conditions encountered at the proposed undercrossing or above-grade crossing sites and providing conclusions and recommendations relative to any hazardous conditions or materials*	

N/A = *Not Applicable*; N = *No Impact;* LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		identified on-site. All recommendations set forth in the Phase I Environmental Site Assessment (ESA) shall be appropriately incorporated into the project and shall be subject to review and approval by the City of Livermore Community Development Department.	

N/A = *Not Applicable*; N = *No Impact;* LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

3. Project Description

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

CEQA Guidelines Section 15125 requires an EIR to include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation is published, from both a local and regional perspective. Knowledge of the existing environmental setting is critical to the assessment of environmental impacts. Pursuant to CEQA Guidelines Section 15125, the description of the environmental setting shall not be longer than necessary to understand the potential significant effects of the project and its alternatives.

The Project Description chapter of this EIR provides a comprehensive description of the SMP 38/SMP 39/SMP 40 Project (proposed project), in accordance with the CEQA Guidelines. Please note that this chapter provides an overall general description of the existing environmental conditions; however, more detailed discussions of the existing setting as they relate to each given potential impact area are included in each technical chapter of this EIR.

Pursuant to CEQA Guidelines Section 15124, an EIR is required to include a project description that includes the following information: project location, project objectives, a general description of the project's technical, economic and environmental characteristics, and a statement briefly describing the intended uses of the EIR, including a list of agencies expected to use the EIR, a list of approvals required to implement the project, and a list of related environmental reviews required by federal, state or local laws, regulations or policies. According to CEQA Guidelines Section 15124, the project description is not required to supply extensive detail beyond that needed for evaluation and review of the environmental impacts.

3.2 PROJECT LOCATION

The +/-217.04-acre project site consists of nine separate parcels identified by Assessor's Parcel Numbers (APNs) 904-1-7-21; 904-1-2-12; 904-1-7-32; 904-3-1-4; 904-10-2-2, -3, -5, -7, and -8 located in unincorporated Alameda County. The project site is located adjacent to the existing Oaks Business Park, which consists of eight light industrial warehouse buildings, in the northwestern corner of the City of Livermore. The project site is generally located west of Isabel Avenue/State Route (SR) 84, north of Stanley Boulevard, south of West Jack London Boulevard, and east of El Charro Road (see Figure 3-1 and Figure 3-2).

3.3 PROJECT SETTING AND SURROUNDING LAND USES

APNs 904-1-7-32, 904-1-2-12, and 904-1-7-21 are also known as SMP 38; APN 904-3-1-4 is also known as SMP 39; and 904-10-2-2 is also known as SMP 40. The aforementioned SMP numbers are due to the Surface Mining Permit (SMP) numbers applicable to each site. The Surface Mining Permits for each of the sites were approved by Alameda County in 2004 to allow for the extraction of sand and gravel (i.e., aggregate) within the sites; however, aggregate mining has not occurred within any of the sites. Table 3-1 provides a summary of the parcels that comprise the project site, and each parcel is described in further detail below. In addition, a summary of the land uses surrounding each parcel of the project site is included in Table 3-2.

Figure 3-1
Regional Project Location

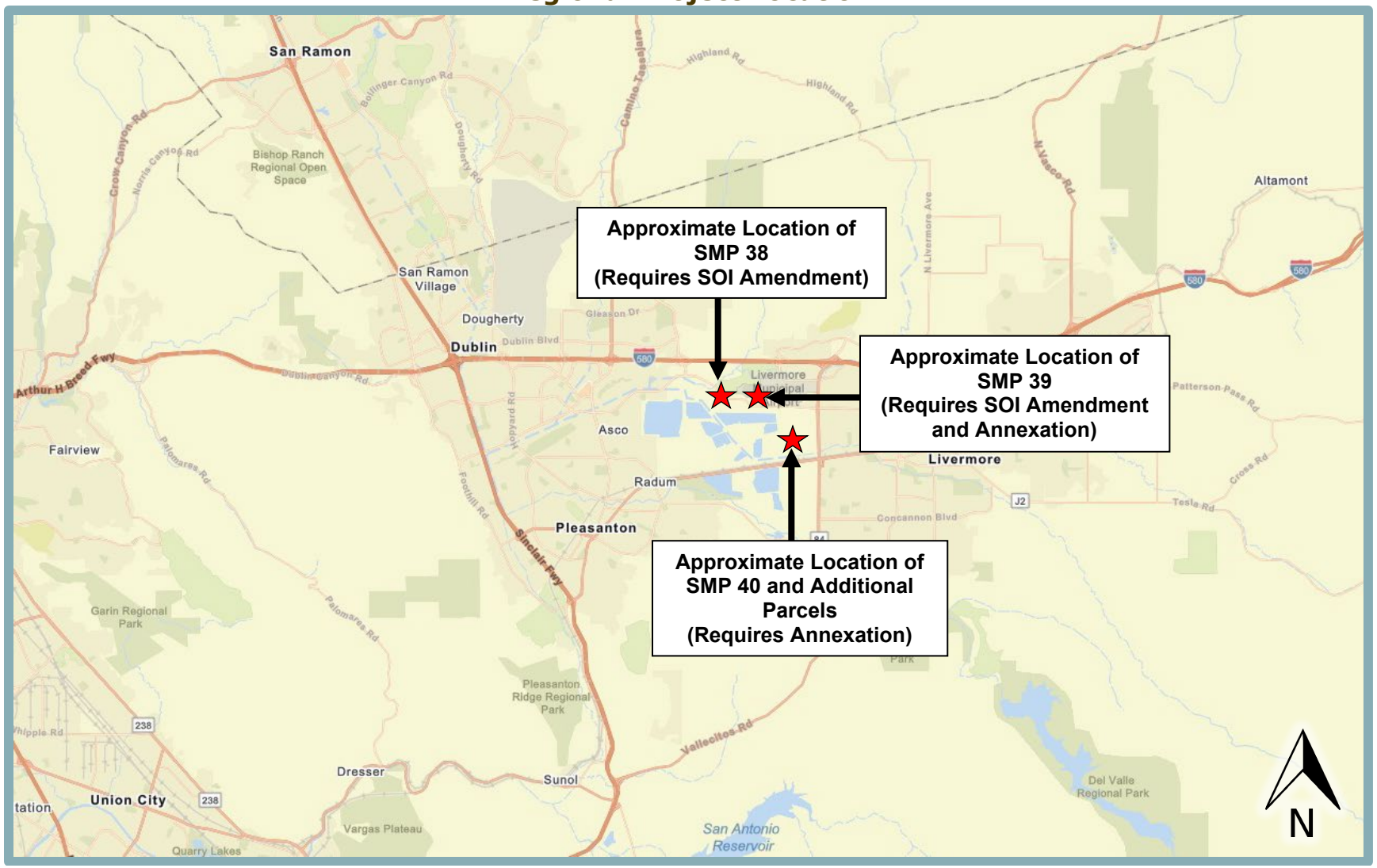


Figure 3-2
Approximate Project Site Boundaries Map

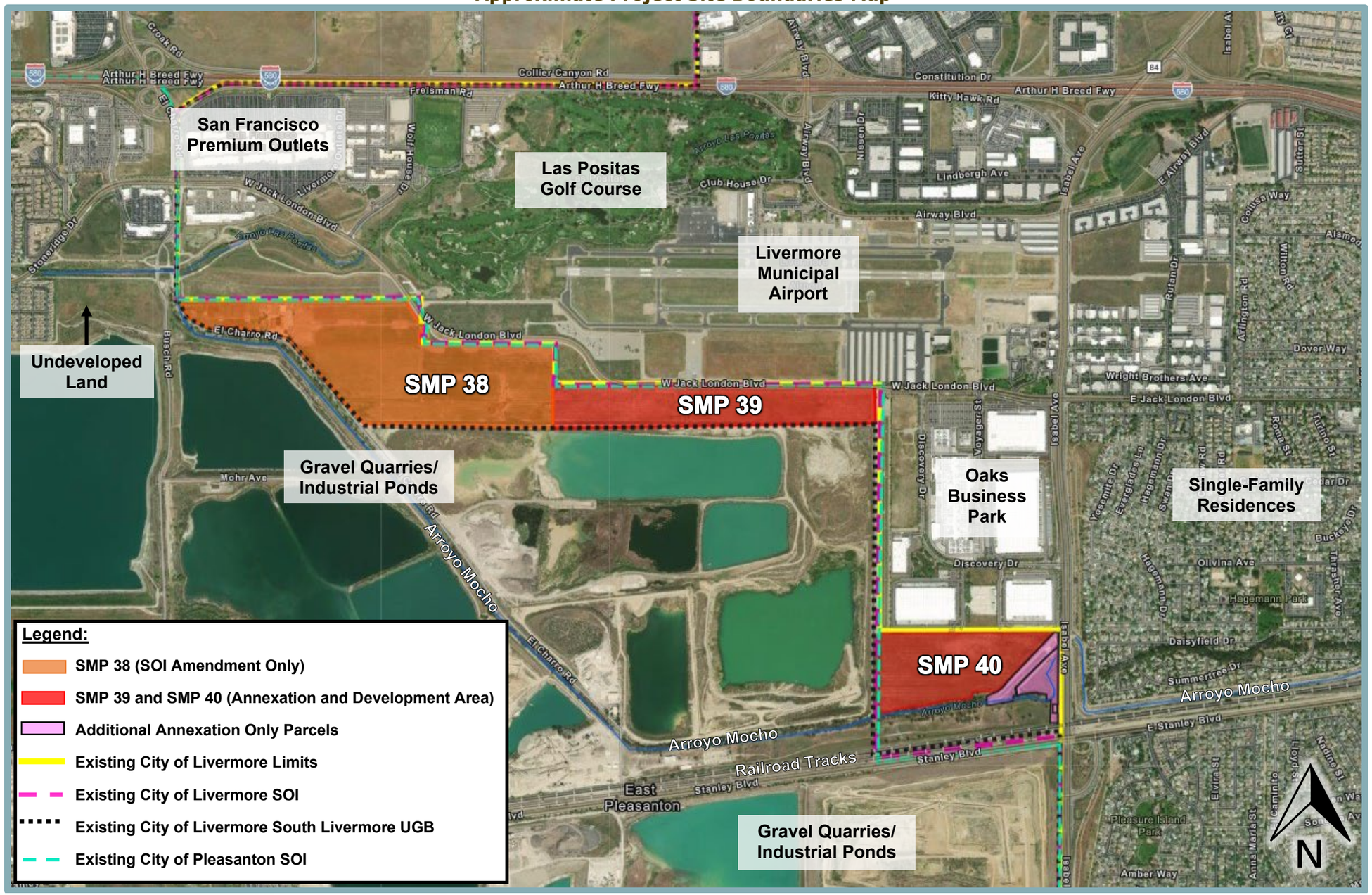


Table 3-1
Project Site Summary

Parcel Name	APN(s)	Existing General Plan Land Use Designation	Existing Zoning Designation	Proposed General Plan Land Use Designation	Proposed Zoning Designation
SMP 38	904-1-7-32, 904-1-2-12 and 904-1-7-21	City: Open Space Sand and Gravel/Limited Agriculture County: Industrial/Water Management	Agriculture (A) with an overlay permitting quarry operations	City: Open Space Sand and Gravel/Limited Agriculture County: Industrial/Water Management	Agriculture (A)
SMP 39	904-3-1-4	City: Open Space Sand and Gravel County: Industrial	Agriculture (A) with an overlay permitting quarry operations	City: Low Intensity Industrial	Planned Development-Industrial (PDI-22-001)
SMP 40	904-10-2-2	City: Open Space Sand and Gravel County: Industrial	Agriculture (A) with an overlay permitting quarry operations	City: Low Intensity Industrial	Planned Development-Industrial (PDI-22-001)
Additional Annexation Only Parcels	904-10-2-3, -5, -7, and -8	City: Open Space Sand and Gravel County: Industrial	Agriculture (A)	City: Parks, Trailways and Recreation Areas	Open Space Flood Plain (OS-F)

Table 3-2
Surrounding Land Use Summary

Parcel Name	Surrounding Land Uses
SMP 38	North: Undeveloped land, a paved shared-use path, the Las Positas Golf Course and retail outlets
	South: Industrial ponds associated with mining operations
	East: SMP 39
	West: Undeveloped land, Arroyo Mocho, and industrial ponds
SMP 39	North: A paved shared-use path and the Livermore Municipal Airport
	South: Gravel quarries and industrial ponds associated with mining
	East: Oaks Business Park; Arroyo Mocho Trail and single-family residences
	West: SMP 38, Arroyo Mocho, and industrial ponds
SMP 40	North: Oaks Business Park
	South: Arroyo Mocho, open fields, railroad tracks, and gravel quarries associated with mining operations
	East: Single-family residences
	West: Vacant land, gravel quarries, and industrial ponds associated with mining
Additional Annexation Only Parcels	North: Oaks Business Park
	South: Open fields, railroad tracks, Arroyo Mocho, and gravel quarries associated with mining operations
	East: Arroyo Mocho Trail and single-family residences
	West: SMP 40, Arroyo Mocho, gravel quarries and industrial ponds associated with mining operations

SMP 38

SMP 38 represents three parcels (APN 904-1-7-32, 904-1-2-12 and 904-1-7-21) and is approximately +/- 111.7 gross acres, located immediately west of SMP 39. SMP 38 is owned by Pacific Coast Aggregates LLC and is located within unincorporated Alameda County, the City of Pleasanton Sphere of Influence (SOI), and the City of Livermore South Livermore Urban Growth Boundary (UGB). Several structures exist in the northwest corner of the site related to a former horse ranch. The Livermore Municipal Airport is located approximately 100 feet north of SMP 38. As such, the site is included within the Airport's Land Use Compatibility Plan (ALUCP) area. SMP 38 is within the Airport Protection Area boundaries and the Airport Influence Area boundaries identified in the ALUCP. The majority of SMP 38 is within ALUCP Safety Zone 6, with portions within Safety Zones 2 and 3. Other surrounding existing uses include undeveloped land and a paved shared-use path to the north, and the Las Positas Golf Course and shopping centers further north beyond West Jack London Boulevard; SMP 39 to the east; gravel quarries and industrial ponds associated with mining operations to the south; and undeveloped land, Arroyo Mocho, and industrial ponds to the west. The City of Livermore General Plan designates SMP 38 as Limited Agriculture, as well as Open Space/Sand and Gravel. Because SMP 38 is within the City of Pleasanton SOI and is located outside of the City of Livermore limits, the site does not have a City zoning designation. SMP 38 is within the East County Area Plan (ECAP) of the Alameda County General Plan, which designates the site as Industrial and Water Management. The site is zoned Agriculture by Alameda County, with an overlay permitting quarry operations.

SMP 39

SMP 39 (APN 904-3-1-4) is a rectangular-shaped, +/- 51.9-acre parcel owned by SMP 39, LLC. It is located within unincorporated Alameda County, the City of Pleasanton SOI, and the City of Livermore South Livermore UGB. SMP 39 is currently undeveloped and surrounded by existing uses, including a paved shared-use path and the Livermore Municipal Airport to the north; the Oaks Business Park to the east and the Arroyo Mocho Trail and single-family residences further east, across Isabel Avenue/SR 84; gravel quarries and industrial ponds associated with mining operations to the south; and SMP 38, Arroyo Mocho, and industrial ponds to the west.

The Livermore Municipal Airport is located approximately 100 feet north of SMP 39. As such, the site is included within the ALUCP area. SMP 39 is within the Airport Protection Area boundaries and the Airport Influence Area boundaries identified in the ALUCP. The majority of SMP 39 is within ALUCP Safety Zone 6, with a small portion of the northwest corner of SMP 39 located within Safety Zone 3. The City of Livermore General Plan designates the site as Open Space/Sand and Gravel. SMP 39 is within the City of Pleasanton SOI and is located outside of the City of Livermore limits, and therefore, does not have a City zoning designation. SMP 39 is also within the ECAP of the Alameda County General Plan, which designates SMP 39 as Industrial. SMP 39 is zoned Agriculture by Alameda County, with an overlay permitting quarry operations.

SMP 40

The entire SMP 40 parcel (APN 904-10-2-2) consists of a total of approximately +/- 70 acres that is currently undeveloped and is owned by SMP 40, LLC. SMP 40 is located within unincorporated Alameda County, the City of Livermore SOI, and the City of Livermore South Livermore UGB. While the total SMP 40 parcel is +/- 70 acres, upon recordation of the proposed Vesting Tentative Subdivision Map for SMP 40, SMP 40 would be approximately +/- 41 acres. Thus, only approximately +/- 41 acres would require annexation; the balance of the SMP 40 parcel (primarily south of the Arroyo Mocho) would remain within unincorporated Alameda County. Accordingly,

this EIR focuses on the 41-acre SMP 40 site north of the Arroyo. SMP 40 is included within the ALUCP area, within the Airport Protection Area boundaries and the Airport Influence Area boundaries identified in the ALUCP. The entirety of SMP 40 is within ALUCP Safety Zone 6. A portion of the project site is within an area identified by the Federal Emergency Management Agency (FEMA) as Zone AE, which is considered a special flood hazard area (SFHA) within the 100-year floodplain. Surrounding existing uses include the Oaks Business Park to the north; single-family residences to the east, across Isabel Avenue/SR 84; the Arroyo Mocho, open fields, railroad tracks, and gravel quarries associated with mining operations to the south, across Stanley Boulevard; and vacant land, gravel quarries, and industrial ponds associated with mining operations to the west. The City of Livermore General Plan designates SMP 40 as Open Space/Sand and Gravel. While the SMP 40 site is within the City of Livermore SOI, the site is located outside the City limits, and therefore, does not have a City zoning designation. SMP 40 is also within the ECAP of the Alameda County General Plan, which designates SMP 40 as Industrial. The site is zoned Agriculture by Alameda County, with an overlay permitting quarry operations.

Additional Annexation Only Parcels

Four additional parcels (APNs 904-10-2,-3, -5, -7, and -8) located east of SMP 40 are included in the overall project area. The City has chosen to include the parcels in the proposed annexation area for purposes of efficiency. The additional City-initiated annexation only parcels are within unincorporated Alameda County, the City of Livermore SOI, and the City of Livermore South Livermore UGB. APN 904-10-2-3 is an approximately 0.20-acre parcel owned by the Pacific Gas and Electric Company (PG&E) and is developed with existing PG&E infrastructure. APN 904-10-2-5 is an approximately 5.76-acre parcel owned by the Zone 7 Water Agency and serves as a flood control channel. APN 904-10-2-5 is within an area identified by FEMA as Zone AE, which is considered a SFHA within the 100-year floodplain. APN 904-10-2-7 is an approximately 1.57-acre parcel owned by the California Department of Transportation (Caltrans) and is currently undeveloped. APN 904-10-2-8 is an approximately 5.46-acre parcel owned by the City of Livermore and is currently undeveloped with scattered trees throughout the parcel.

Surrounding existing uses include the Oaks Business Park to the north; the Arroyo Mocho Trail and single-family residences to the east, across Isabel Avenue/SR 84; open fields, railroad tracks, Arroyo Mocho, and gravel quarries associated with mining operations to the south, across Stanley Boulevard; and SMP 40 and Arroyo Mocho to the west, with gravel quarries and industrial ponds associated with mining operations further to the west. The City of Livermore General Plan designates the additional parcels as Open Space/Sand and Gravel. While the additional parcels are within the City of Livermore SOI, they are outside of the City limits, and, therefore, do not have City zoning designations. The additional parcels are also within the ECAP of the Alameda County General Plan, which designates the parcels as Industrial. The parcels are zoned Agriculture by Alameda County.

3.4 PROJECT OBJECTIVES

The following project objectives have been developed by the project applicant:

1. Promote light industrial development that is consistent with the goals, policies, and objectives set forth in both the existing City of Livermore General Plan and General Plan update, including development that will provide jobs with competitive salaries; reduce vehicle miles traveled; and provide necessary off-site and on-site improvements to the

area roadway system, public works, power, and telecommunications infrastructure consistent with planned infrastructure systems;
2. Support an innovation driven economy, generate high wage jobs, and provide an environment exclusively for and conducive to the development and protection of modern professional and administrative facilities, research institutions, manufacturing operations, warehouse and distribution facilities, experimental and testing laboratory and related uses, which are compatible with surrounding land uses in the area, the City's General Plan, and the Alameda County Airport Land Use Compatibility Plan;
3. Develop industrial facilities with high-quality architectural design, landscaping, and signage that are consistent with the City's design standards and guidelines;
4. Create logical and future city boundaries in cooperation with the City of Pleasanton and Alameda County that align with the City of Livermore's General Plan and Urban Growth Boundary, including ensuring compatible development with existing and planned land uses and adequate infrastructure capacity;
5. Implement the City's goal of revitalizing underutilized lands that are appropriate for infill development;
6. Dedicate, widen, and improve West Jack London Boulevard, as envisioned in the City's General Plan and Capital Improvement Program;
7. Development of the property should generate long term sustainable property tax and sales tax revenue for the City of Livermore via annexation of SMP-39 and SMP-40; and
8. Construct on-site and off-site trail improvements and connections to existing trail network, as identified in the Active Transportation Plan.

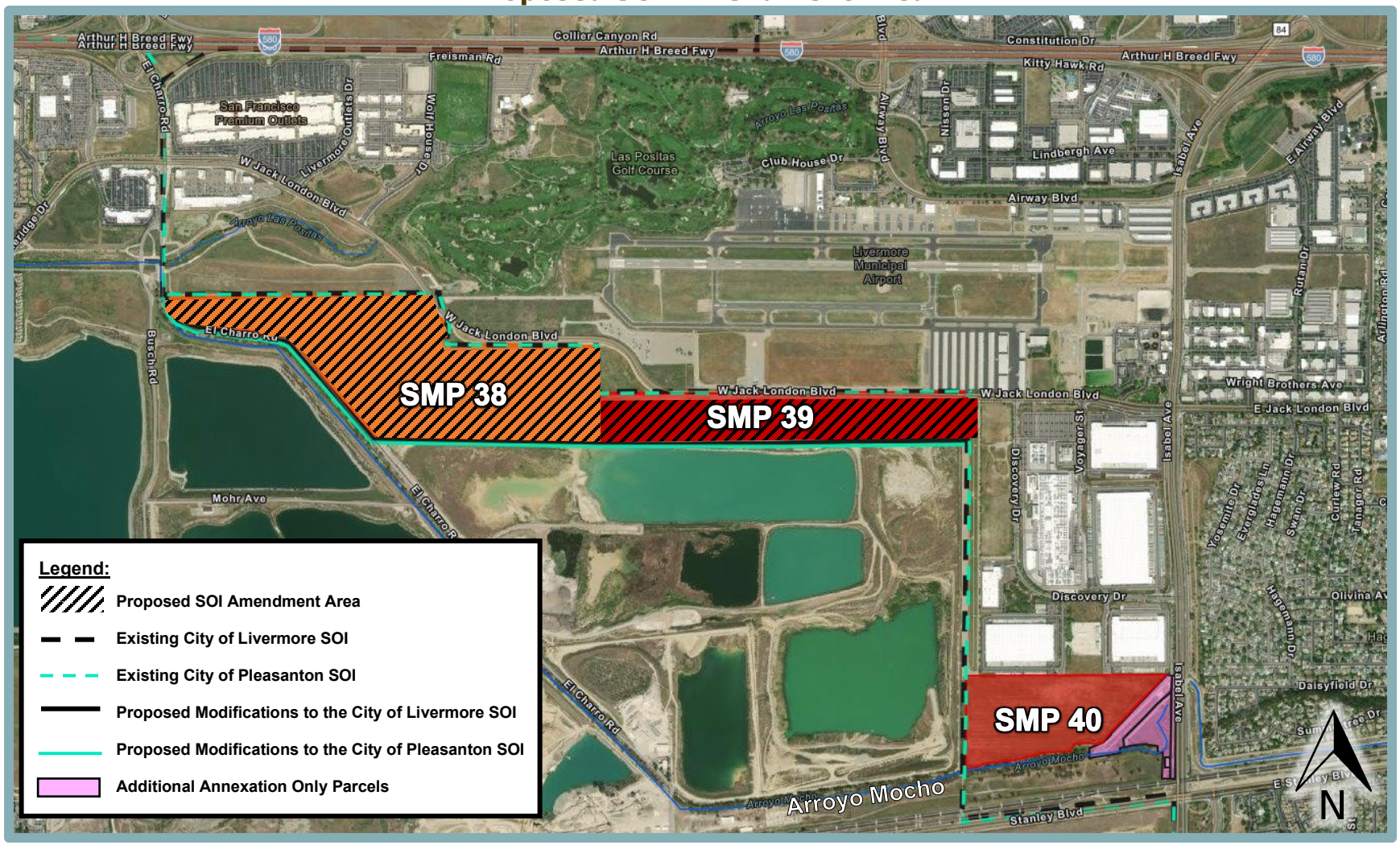
3.5 PROJECT COMPONENTS

For SMP 39, the proposed project would include development of a total of up to six light industrial buildings, consisting of up to approximately 755,500 square feet (sf) of new building space, and associated internal roadways and other improvements; for SMP 40, the proposed project would include development of two industrial buildings consisting of up to 759,275 sf of new building space with related internal roadways and other improvements. A number of approvals would be required for development of SMP 39 and SMP 40, including a SOI Amendment for SMP 39, General Plan Amendment, Pre-zoning and Annexation, Zoning Map Amendment/Planned Development, Vesting Tentative Subdivision Maps, a Pre-Annexation Agreement, and Development Agreement. A Site Plan Design Review entitlement is required for SMP 39 and SMP 40, which would include a review of the site plan, building, and landscape design; however, the Site Plan Design Review entitlement is only proposed for SMP 40 at this time. A Site Plan Design Review entitlement will be required at a later date for the future development of SMP 39. Development of SMP 38 is not proposed. The proposed project includes an SOI Amendment to include SMP 38 within the City of Livermore SOI. The City of Livermore General Plan land use designation for SMP 38 would remain Limited Agriculture and Open Space/Sand and Gravel and the Alameda County zoning would remain Agriculture. A detailed description of the proposed project, including the necessary approvals, is provided below.

Annexation, SOI Amendment, and Pre-Annexation Agreement

SMP 38, SMP 39, SMP 40, and the additional annexation only parcels described above are within the City of Livermore South Livermore UGB; however, SMP 38 and SMP 39 are within the City of Pleasanton's SOI. Accordingly, an SOI Amendment for SMP 38 and SMP 39 is proposed in order to modify SOI, align the SOI and South Livermore UGB boundaries to be consistent with one another, and provide a contiguous division of land between the cities of Livermore and Pleasanton (see Figure 3-3).

Figure 3-3
Proposed SOI Amendment Area



Annexation of SMP 38 into the City of Livermore is not proposed as part of the project, nor is development of the three parcels representing SMP 38.

In addition to the SOI Amendment for SMP 39, the proposed project would include annexation of the SMP 39 site into the City of Livermore. The proposed project would also include annexation of a portion of the SMP 40 parcel, as well as the Additional Annexation Only Parcels, which are all currently within the City of Livermore's SOI, into the City of Livermore. While the current SMP 40 parcel is +/- 70 acres, upon recordation of the proposed Vesting Tentative Subdivision Map for SMP 40, SMP 40 would be approximately +/- 41 acres. Thus, only the +/- 41-acre SMP 40 site would require annexation; the balance of the SMP 40 parcel would remain within unincorporated Alameda County. Figure 3-4 shows the proposed annexation area, which totals approximately 93 acres. The City of Livermore SOI and City limit boundaries upon implementation of the proposed project are shown on Figure 3-5 and the City of Pleasanton SOI limit boundaries upon implementation of the proposed project are shown on Figure 3-6.

It should be noted that the likelihood for any future development on the Additional Annexation Only Parcels is low due to physical constraints to development present on the parcels and their small size. Thus, this analysis assumes that any development on the Additional Annexation Only Parcels would be limited to cooperating with the project applicant regarding development of the proposed trail and trail connection, which is discussed in further detail under the Site Plan for SMP 40 section, below.

Annexation of the total +/-93 acres into the City of Livermore and the proposed SOI Amendment are formal municipal reorganization actions that require approval by the Alameda County Local Agency Formation Commission (LAFCo).

First, the Pleasanton City Council must consider adopting a resolution supporting the SOI amendments for SMP 38 and SMP 39. Then, Livermore City Council would consider adopting a resolution to initiate the annexation and SOI amendment proceedings, which would subsequently be submitted to the Alameda County LAFCo for approval as a Responsible Agency. The City and the County would negotiate a property tax exchange agreement to determine how much property tax the City would receive and how much the County would retain. Annexation of SMP 39, SMP 40, and the Additional Annexation Only Parcels would formally transfer all governmental powers and municipal services pertaining to the parcels from Alameda County to the City of Livermore.

Upon annexation, the City would be responsible for providing water service, sewer service, police protection, and general government services, along with maintaining public water and sewer mains, and the on-site storm drainage system. A Pre-Annexation Agreement is proposed for SMP 39 and SMP 40. The Pre-Annexation Agreement with the City of Livermore would identify a number of financial responsibilities and other agreements for the applicant (e.g., paying utility connection fees and all costs for making connections, constructing and paying the project's fair share for frontage improvements, paying processing fees for LAFCo and utilities, obtaining City design review and approval for any future additions or alterations, agreeing not to subdivide the property, etc.).

Figure 3-4
Proposed Annexation Area

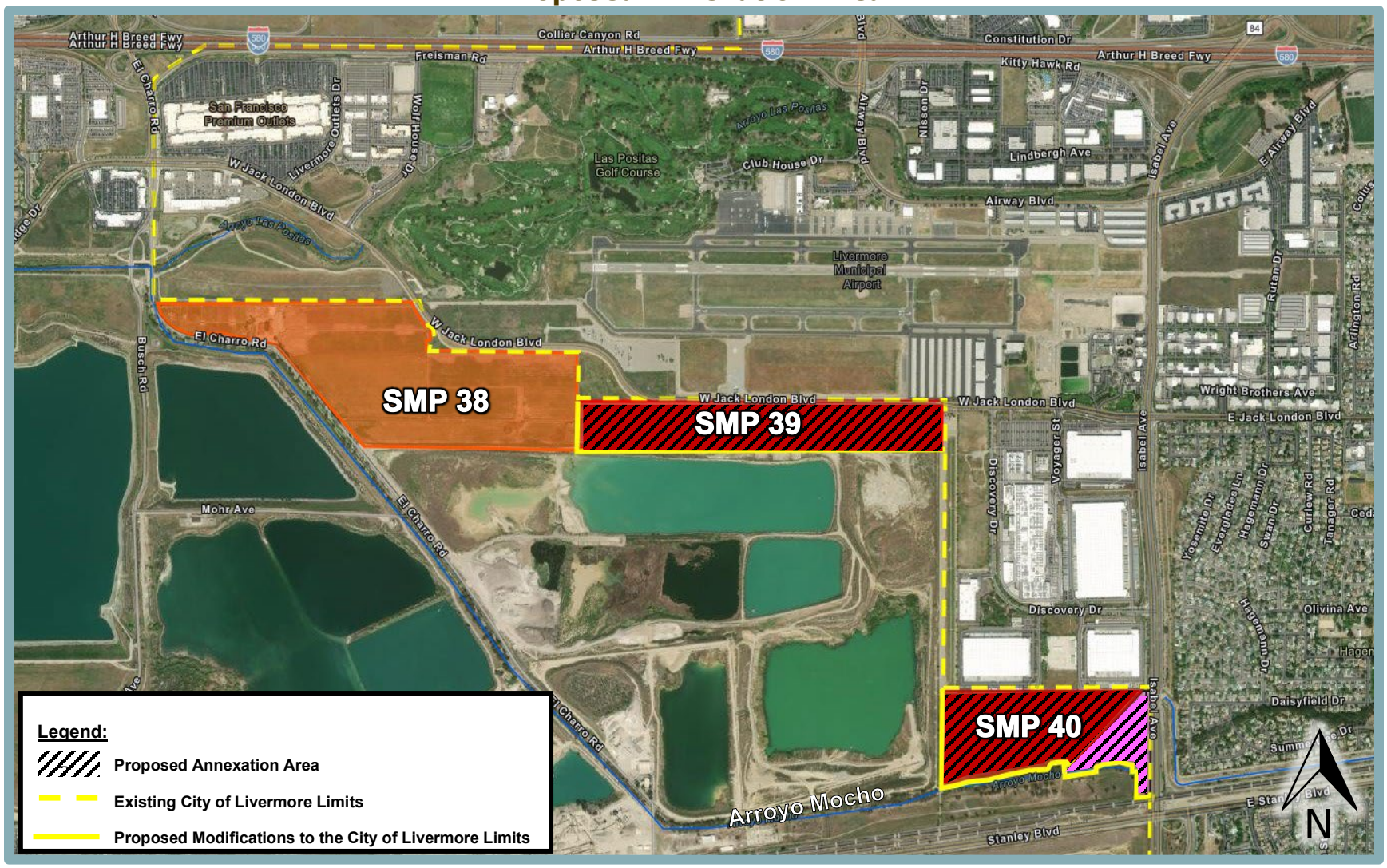


Figure 3-5
Proposed City of Livermore Boundary Amendments

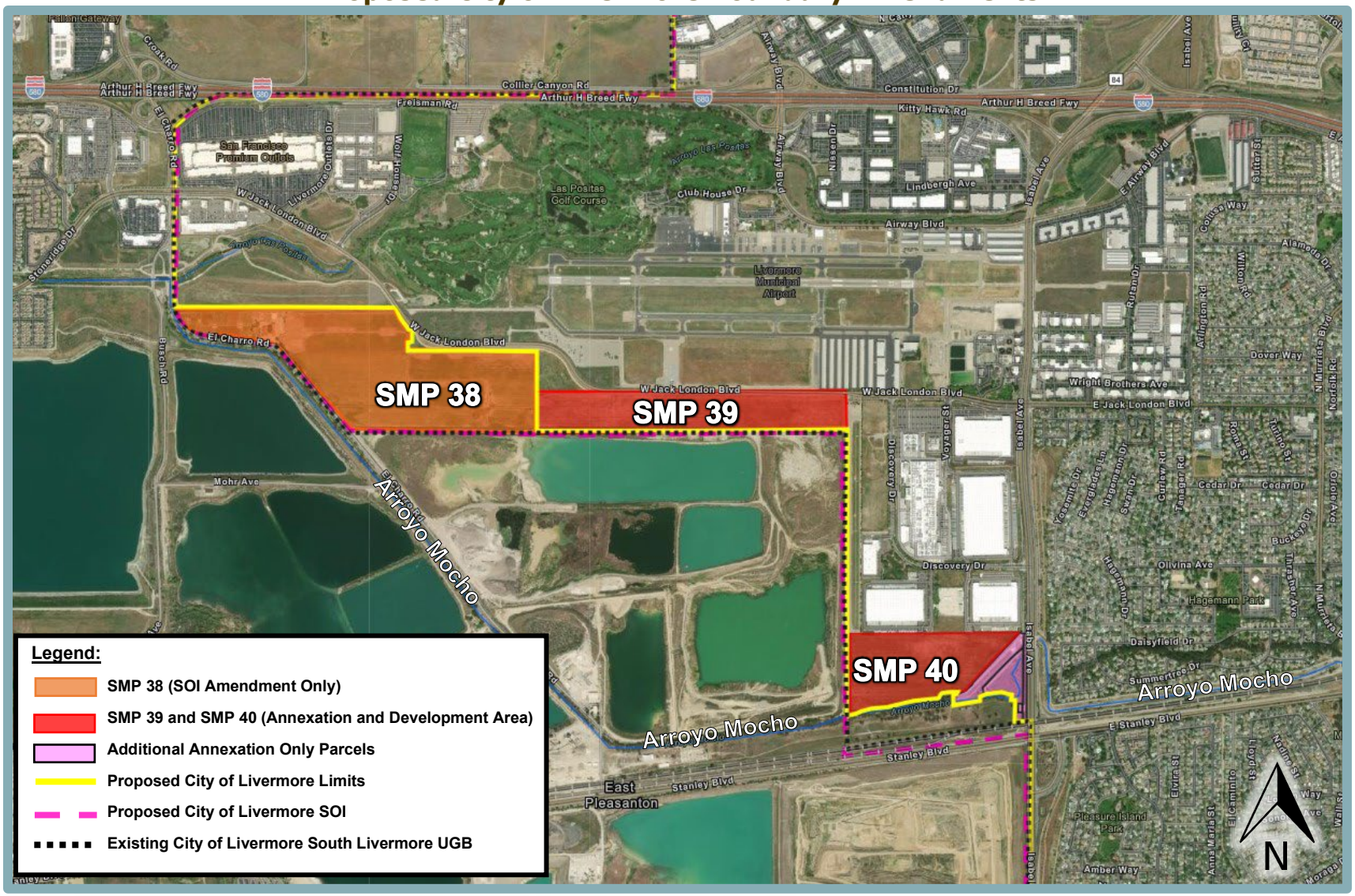
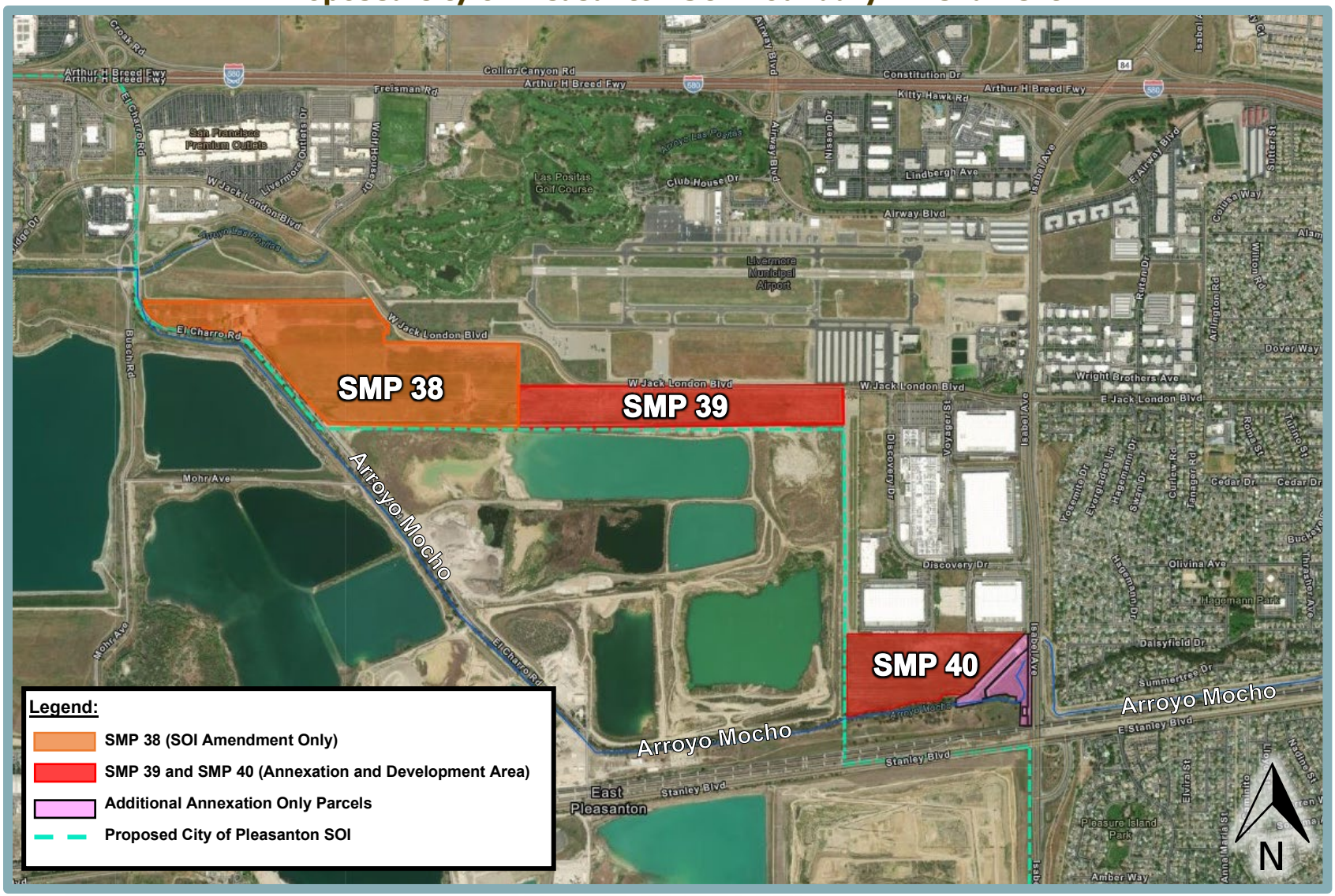


Figure 3-6
Proposed City of Pleasanton SOI Boundary Amendment



General Plan Amendment

The proposed project would include a General Plan Amendment to modify the existing land use designations for SMP 39 and SMP 40 from Open Space/Sand and Gravel to Low Intensity Industrial (LII), while the Annexation Only Parcels would be re-designated Parks, Trailways and Recreation Areas (OSP). A General Plan Amendment is not proposed for SMP 38.

Pre-zoning and Zoning Map Amendment

Consistent with the Cortese-Knox-Hertzberg Local Government Reorganization Act, Pre-zoning shall be applied to the annexation areas (i.e., SMP 39, SMP 40, and the Annexation Only Parcels) (see Gov. Code Section 56375). Because these areas are currently located within the jurisdiction of Alameda County, the sites do not have any existing City of Livermore zoning designations. Consistent with the proposed City of Livermore General Plan land use designations, SMP 39 and SMP 40 would be pre-zoned to Planned Development-Industrial (PDI-22-001), while the Annexation Only Parcels would be pre-zoned Open Space Flood Plain (OS-F). The proposed project would also require an amendment to the City of Livermore Zoning Map to reflect the new PDI-22-001 zoning designation for SMP 39 and SMP 40 and an OS-F designation for the Annexation Only Parcels.

The PDI-22-001 proposed Development Standards applicable to the SMP 39 and SMP 40 sites would include specific setbacks, building design, building heights, uses, and landscaping. For example, the PDI-22-001 Development Standards would limit the height of all on-site structures, including rooftop mechanical equipment, to 50 feet or the height permitted by the Federal Aviation Administration (FAA) review under FAA regulations, Part 77, whichever is more restrictive. Upon providing a minimum 40-foot setback from street rights-of-way, a Conditional Use Permit may be requested to increase height to a maximum of 55 feet, or the height permitted by the FAA review under FAA regulations, Part 77, whichever is more restrictive. The height of pole- and building-mounted lights may be approved up to 28 feet by administrative approval of Site Plan and Design Review entitlement, if found necessary for the health and safety of a site designed for truck or other large vehicle maneuvering and documented by a light study to not cause glare off-site. The principal permitted uses for the SMP 39 and SMP 40 sites under the proposed PDI-22-001 are preliminarily anticipated to include research and development, office, manufacturing, and other light industrial uses. Additional uses for SMP 39 are preliminarily anticipated to include restaurants, except for fast food, and additional uses for SMP 40 are preliminarily anticipated to include warehouse and distribution and e-commerce/fulfillment facilities. These preliminary uses are subject to further refinement by the City.

Vesting Tentative Subdivision Maps

The proposed project would include subdivision and development of the SMP 39 and SMP 40 sites, which are discussed in detail separately below.

Vesting Tentative Subdivision Map for SMP 39

The proposed project would include subdivision of the SMP 39 site into up to six lots, ranging in size from +/- 5.75 acres to +/- 11.76 acres.

Utilities

Water service for SMP 39 would be provided by the City of Livermore. Potable water would be supplied to the site by an existing 12-inch potable water line within West Jack London Boulevard. The existing 12-inch potable water line runs along West Jack London Boulevard to within 1,250 feet of the westernmost property boundary, then turns north and travels through the Livermore

Municipal Airport. This line would be extended west as a dead end main for a maximum distance of 550 feet in order to serve the westernmost proposed parcel. Each proposed building parcel would have two 12-inch potable water service fire connections from the West Jack London Boulevard main. The domestic water services would be installed off of at least one of the fire services using a City of Livermore standard manifold connection.

Sanitary sewer service for SMP 39 would connect to the existing eight-inch public sanitary sewer main within West Jack London Boulevard. New service laterals shall be installed to each proposed lot.

Stormwater from the new impervious areas within SMP 39 would be collected and treated pursuant to the requirements listed the City of Livermore's Municipal Separate Storm Sewer System (MS4) Permit. The eastern half of the site would be discharged directly to the existing storm drain system within West Jack London Boulevard through new service laterals connected to each lot. The remaining western portion would be routed through a three-acre-foot detention pond before discharging to a new 18- to 24-inch public storm drain line that runs approximately 600 feet north along the western property line of City of Livermore parcel APN 904-3-1-1 and connect to the existing storm drain system of West Jack London Boulevard.

Recycled water for SMP 39 would be supplied to the site by extending the existing 12-inch recycled water line located within West Jack London Boulevard from the western boundary of the Oaks Business Park (Tract 7300) west approximately 3,800 feet.

New four-inch service laterals would be connected to each proposed lot. Recycled water would be used for all site irrigation and may be used for non-potable uses, as determined on a project-by-project basis.

Preliminary utility information for SMP 39 would be provided within the Vesting Tentative Subdivision Map prepared for the site. In addition, as discussed above, a Site Plan and Design Review entitlement will be required at a later date for the future development of SMP 39. As part of Site Plan and Design Review approval, a comprehensive utility plan and hydrology plan will be submitted to the City for review. Some information will be provided with the Vesting Tentative Tract Map, but the Site Plan and Design Review will occur later.

Vesting Tentative Subdivision Map for SMP 40

The proposed project would include a Vesting Tentative Subdivision Map for SMP 40 to subdivide the site into two lots. As discussed above, while the SMP 40 parcel is +/- 70 acres, upon recordation of the proposed Final Parcel Map for SMP 40, SMP 40 would be approximately +/- 41 acres. As such, the western lot would be approximately 25 acres and the eastern lot would be 16 acres.

Utilities

Water service for SMP 40 would be provided by the City of Livermore. Potable water would be supplied to the site by an extension of the existing water lines within Atlantis Street and Challenger Street to the north. In addition, fire hydrants are proposed throughout the SMP 40 site (see Figure 3-7 and Figure 3-8).

Figure 3-7
Preliminary Utility Plan for SMP 40, Building 1

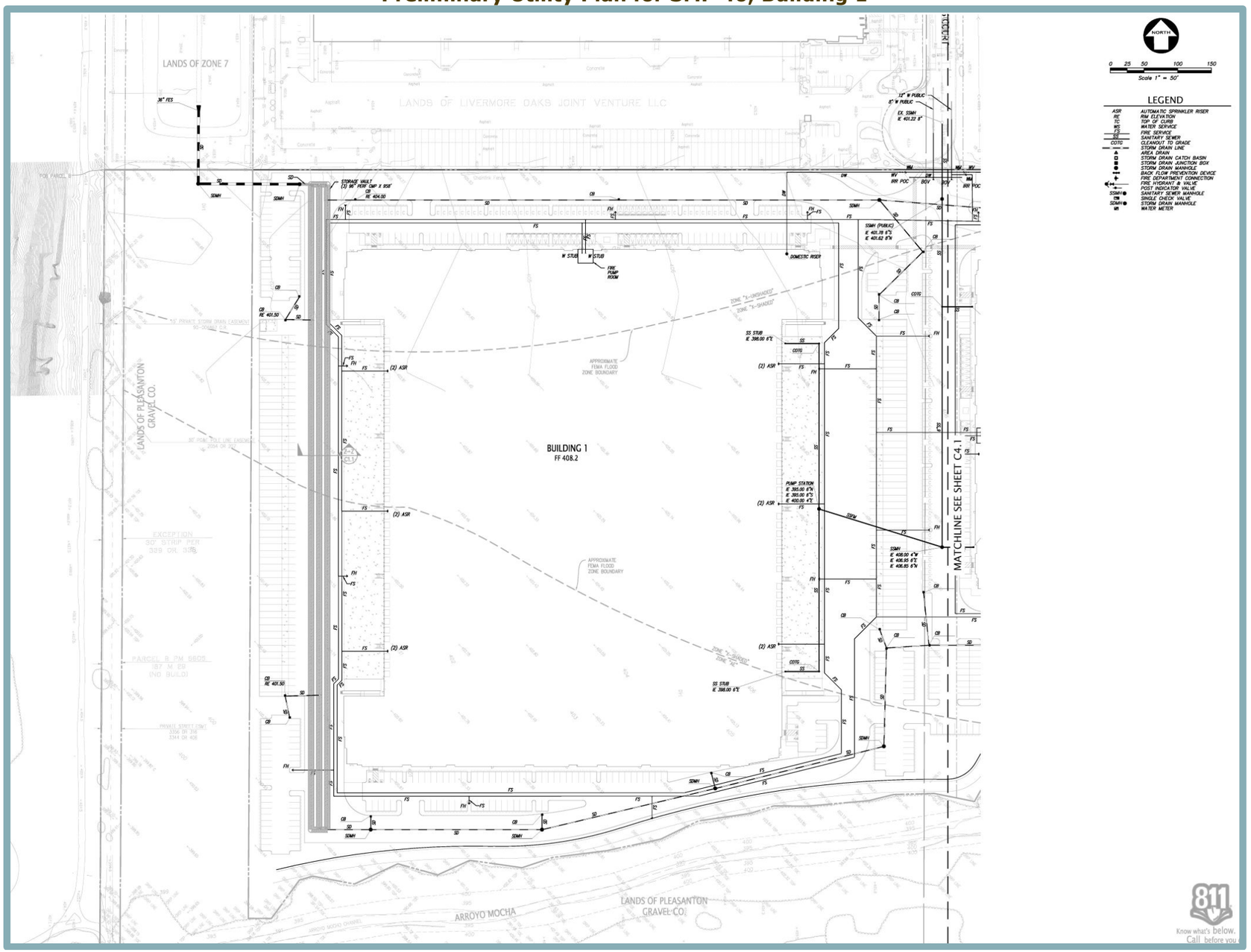
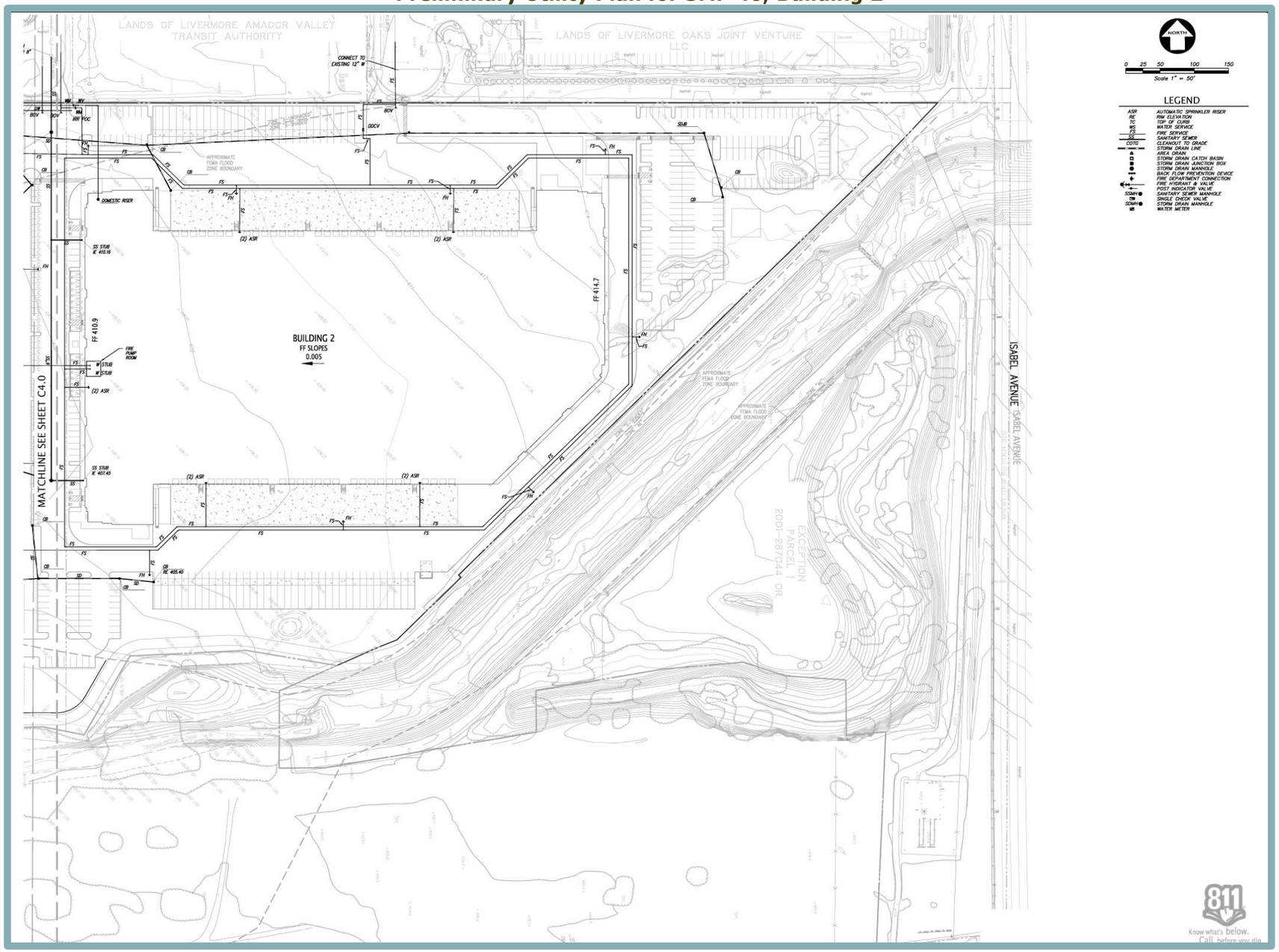


Figure 3-8
Preliminary Utility Plan for SMP 40, Building 2



Sanitary sewer service for SMP 40 would be provided by the City of Livermore. The proposed project would include construction of new sanitary sewer lines throughout the site that would extend to the existing line in Atlantis Street. The proposed sanitary sewer lines within the project site would direct wastewater from Buildings 1 and 2 to a new 6-inch line between the proposed buildings, which would ultimately connect to an existing manhole and eight-inch line within Atlantis Street.

According to the Stormwater Quality Control Plan that has been prepared for the SMP 40 site, stormwater from impervious areas within SMP 40 would flow to a number of catch basin filtration inserts located throughout the SMP 40 site. The catch basins would connect a new network of stormwater lines to three 96-inch underground storage vaults located west of Building 1, within the internal drive aisle, between the dock doors and trailer parking. The storage vaults would be placed five feet underground and surrounded by rock. Stormwater from the storage vaults would be routed north and west to the existing detention basin located northwest of Building 1, within the Oaks Business Park, before being ultimately directed into a portion of the Arroyo Mocho Bypass Channel.

A portion of SMP 40 and the annexation only parcel, owned by the Zone 7 Water Agency and identified by APN 904-10-2-5, are within an area identified by FEMA as Zone AE, which is considered a SFHA within the 100-year floodplain. The proposed project would involve importing soils to bring the proposed building area above the 100-year floodplain, subject to approval of a Letter of Map Revision (LOMR) from FEMA.

Hydraulic modeling and mapping have been prepared to show the updated floodplain and floodway, and the technical studies have been submitted to FEMA. Effective mapping will be reviewed and is subject to approval by FEMA prior to issuance of a LOMR.

Site Plan and Design Review

The proposed development of SMP 39 and SMP 40 would be subject to Site Plan and Design Review by the City of Livermore.

Chapter 9.07 of the City's Development Code specifies that the purpose of Site Plan and Design Review "is to provide a process for the appropriate review of construction and development projects." Such review is intended to ensure that new development and/or redevelopment within the City respect environmental and aesthetic considerations, reduce potential visual impacts, and provide for physical safety of the public, among other considerations. The site plans for SMP 39 and SMP 40 are discussed in detail separately below.

Site Plan for SMP 39

SMP 39 would be developed with up to six light industrial buildings totaling approximately 755,500 sf of new building space (see Figure 3-9). Each building would have a maximum height of 50 feet or 55 feet with a Conditional Use Permit. The buildings are conceptually proposed at this time. They would range in size from 89,400 sf to 183,600 sf and would each include between eight to 34 dock doors for a total of 104 dock doors. A total of 1,647 parking stalls would be provided at the SMP 39 site. This includes 104 truck/trailer stalls.

Access, Circulation, and Parking

Access to SMP 39 would be provided through three new 40-foot-wide driveways from West Jack London Boulevard to the north.

Figure 3-9
Preliminary Site Plan for SMP 39

Tabulation

	BLDG.1	BLDG.2	BLDG.3	BLDG.4	BLDG.5	BLDG.6	TOTAL	
SITE AREA								
In s.f.	473,671	367,700	285,788	363,649	337,531	256,615	2,084,953	s.f.
In acres	10.87	8.44	6.56	8.35	7.75	5.89	47.86	ac
BUILDING AREA								
Office	20,000	10,000	6,000	10,000	10,000	6,000	62,000	s.f.
Industrial	163,600	112,500	83,500	129,500	121,000	83,400	693,500	s.f.
TOTAL	183,600	122,500	89,500	139,500	131,000	89,400	755,500	s.f.
COVERAGE	38.8%	33.3%	31.3%	38.4%	38.8%	34.8%	36.2%	
AUTO PARKING REQUIRED								
Office: 1/300 s.f.	67	33	20	33	33	20	207	stalls
Industrial 1/1,200 s.f.	136	94	70	108	101	70	578	stalls
TOTAL	203	127	90	141	134	90	785	stalls
CLIENT REQUIRED AUTO PARKING								
Standard 2/1000 s.f.	374	245	177	279	256	176	1,507	stalls
AUTO PARKING PROVIDED								
Standard (9' x 19')	360	280	225	287	268	227	1,647	stalls

north

1" = 120'

Aerial Map

Legend

- POTENTIAL OFFICE
- INDUSTRIAL
- LANDSCAPE
- ▼ DRIVE THRU DOOR

The new driveways would be located along the eastern boundary of the site near Building 6, between Buildings 4 and 5, and between Buildings 2 and 3. New paving for parking stalls and drive aisles would be provided along the north, east, and west sides of each new building. The loading docks would be located on the south side of each building, opposite West Jack London Boulevard, accessible through a larger drive aisle along the southern portion of the site. Additional parking stalls would be located along the southern boundary of the site, opposite the loading docks and larger drive aisle.

After implementation of the proposed project, a total of 1,647 parking stalls would be provided at the SMP 39 site. The proposed project would include frontage improvements to and right-of-way dedication for the ultimate buildout of West Jack London Boulevard. Ultimate buildout of the roadway is anticipated to consist of four through lanes, including a 12-foot through lane and a 14-foot through lane on each side, a 16-foot landscape median buffer in the center of the roadway, as well as a six-foot bike line on each side of the roadway, separated from the through lanes by a two-foot buffer. As part of the proposed frontage improvements, the project would include an at-grade, paved shared-use path within a 38.5-foot trail easement along the project frontage, consistent with the City's Active Transportation Plan (ATP) (see Figure 3-10). This would provide a connection to the existing path along the western boundary of the Oaks Business Park and eventually to the Arroyo Mocho Trail. The proposed path would be similar to the existing path along the Oaks Business Park site.

Landscaping

Landscaping improvements would be implemented throughout the project site. All landscaping improvements would be consistent with the City's Design Standards and Guidelines and the City's Water Efficient Landscape Ordinance.

Site Plan for SMP 40

SMP 40 would be developed with two light industrial buildings totaling up to 759,275 sf of new building area (see Figure 3-11). Each building would have a maximum height of 50 feet or 55 feet with a Conditional Use Permit. The approximately 470,530-sf Building 1 would be located on the western portion of the SMP 40 site and include a total of 68 loading dock doors along the western and eastern sides of the building (34 on each side).

The approximately 288,750-sf Building 2 would be located on the eastern portion of the SMP 40 site and include a total of 62 loading dock doors along the northern and southern sides of the building (34 on the north and 28 on the south). A total of 633 vehicle parking stalls and 164 trailer parking stalls would be provided at the SMP 40 site.

Access, Circulation, and Parking

Access to SMP 40 would be provided through new internal roadway connections to Atlantis Street and Challenger Street to the north, which currently serve the existing Oaks Business Park. The new roadway connections would be located between Buildings 1 and 2. The new roadway connections would provide access to the internal drive aisles around each building.

As noted above, a total of 633 auto parking stalls would be provided for the SMP 40 site. A total of 17 of the 633 spaces would be Americans with Disabilities Act (ADA) accessible. A total of 127 electrical vehicle spaces and 63 electric vehicle supply equipment spaces of the 633 spaces would be provided on SMP 40. The 633 parking stalls would be located throughout the site, including along the northern and southern sides of Building 1, and northeast of Building 2.

Figure 3-10
Existing and Proposed Trails

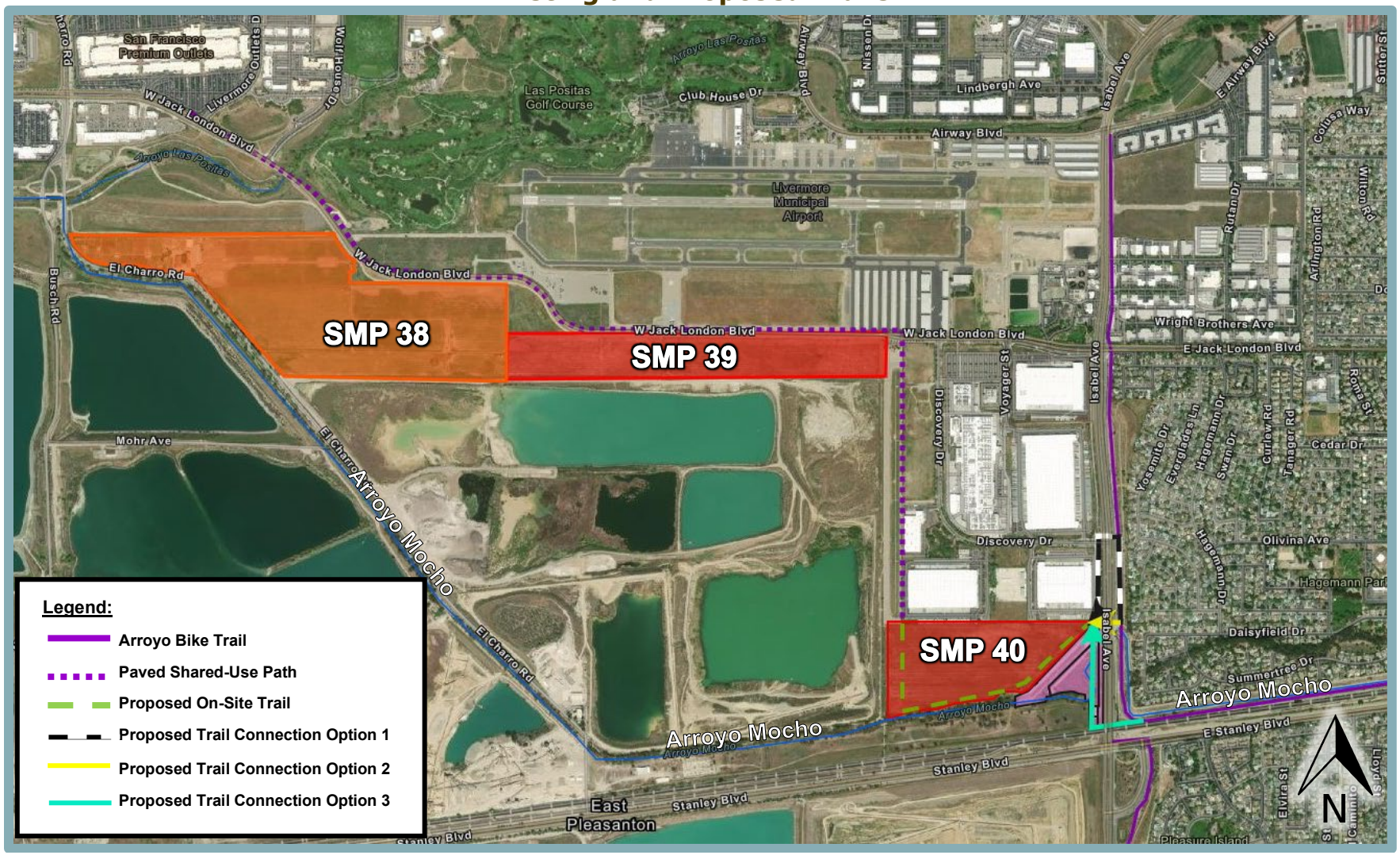
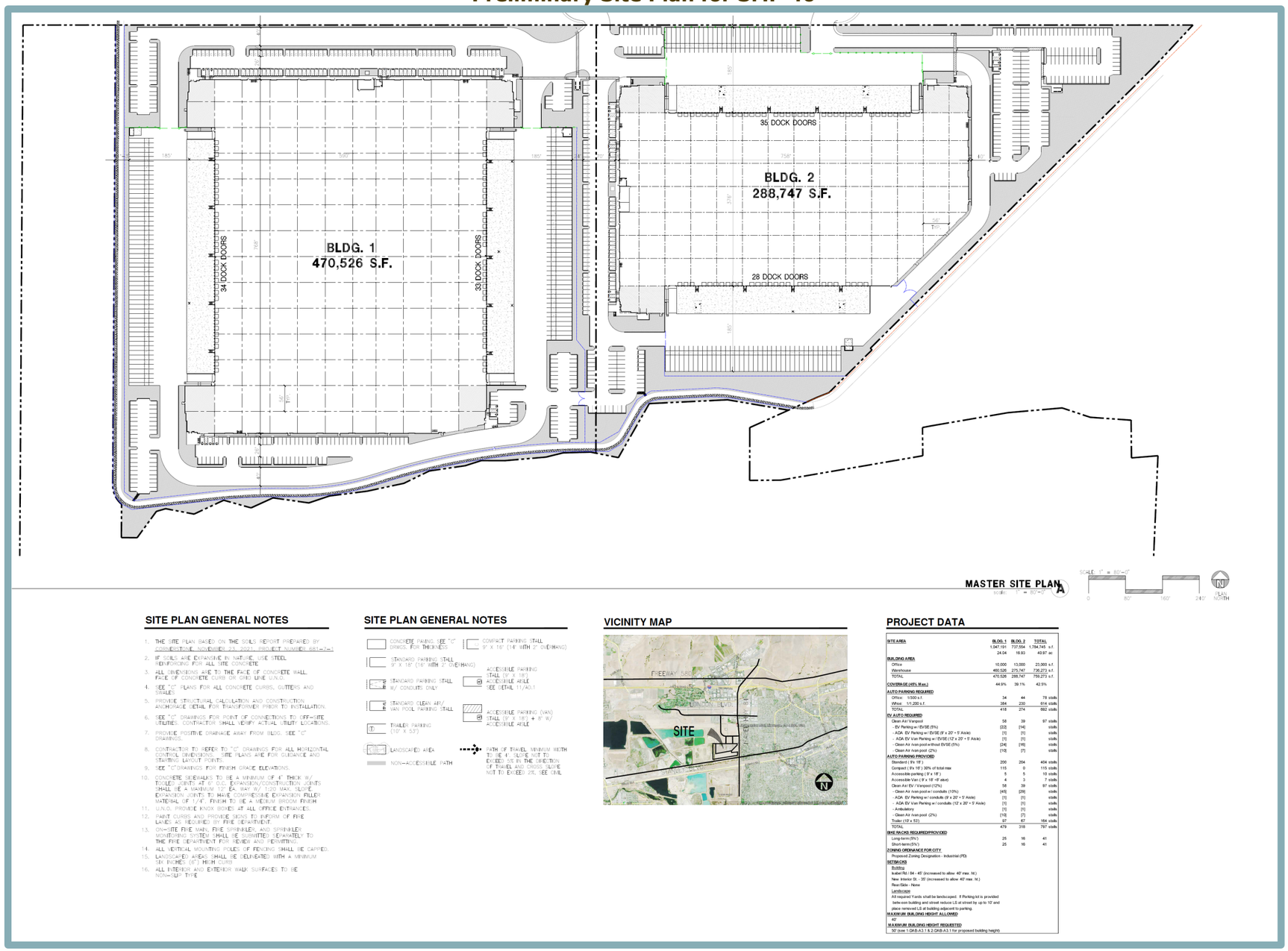


Figure 3-11
Preliminary Site Plan for SMP 40



The 164 trailer parking stalls would be located opposite the internal drive aisles from each loading dock area.

The proposed project would include a paved at-grade, on-site trail along the boundaries of the SMP 40 site, consistent with the City's ATP (see Figure 3-10). Specifically, the on-site trail would extend from the northeastern corner of the site, along the project site's eastern, southern, and western boundaries, before connecting to an off-site existing paved shared-use path at the northwestern corner of site, which extends along the west side of the Oaks Business Park to the north and connects to West Jack London Boulevard.

The portion of the on-site trail located along the site's eastern and southern boundaries would be located within a Zone 7 easement north of the Arroyo Mocho, and the portion of the trail along the western boundary of the site would be within the Zone 7 channel. In addition, the proposed project would include a new off-site trail connection to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. For the purposes of this analysis, three alternatives for the proposed off-site Isabel Avenue/SR 84 crossing to the existing Arroyo Mocho Trail are being considered and evaluated in the EIR, including the following, as shown in Figure 3-12:

- Trail Connection Option 1 – At-Grade Crossing at Discovery Drive;
- Trail Connection Option 2 – Undercrossing at Isabel Bridge; and
- Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84.

Each of the three alternatives are described in further detail below.

Trail Connection Option 1 – At Grade Crossing at Discovery Drive

Off-site trail connection Option 1 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and north along the western side of Isabel Avenue/SR 84 to Discovery Drive, where a new pedestrian crossing would be added across Isabel Avenue/SR 84 to connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. Off-site trail connection Option 1 would require either the relocation an existing 18-inch recycled water line or the use of retaining walls on either side of the trail near the connection point to existing Arroyo Mocho Trail on the east side of the crossing.

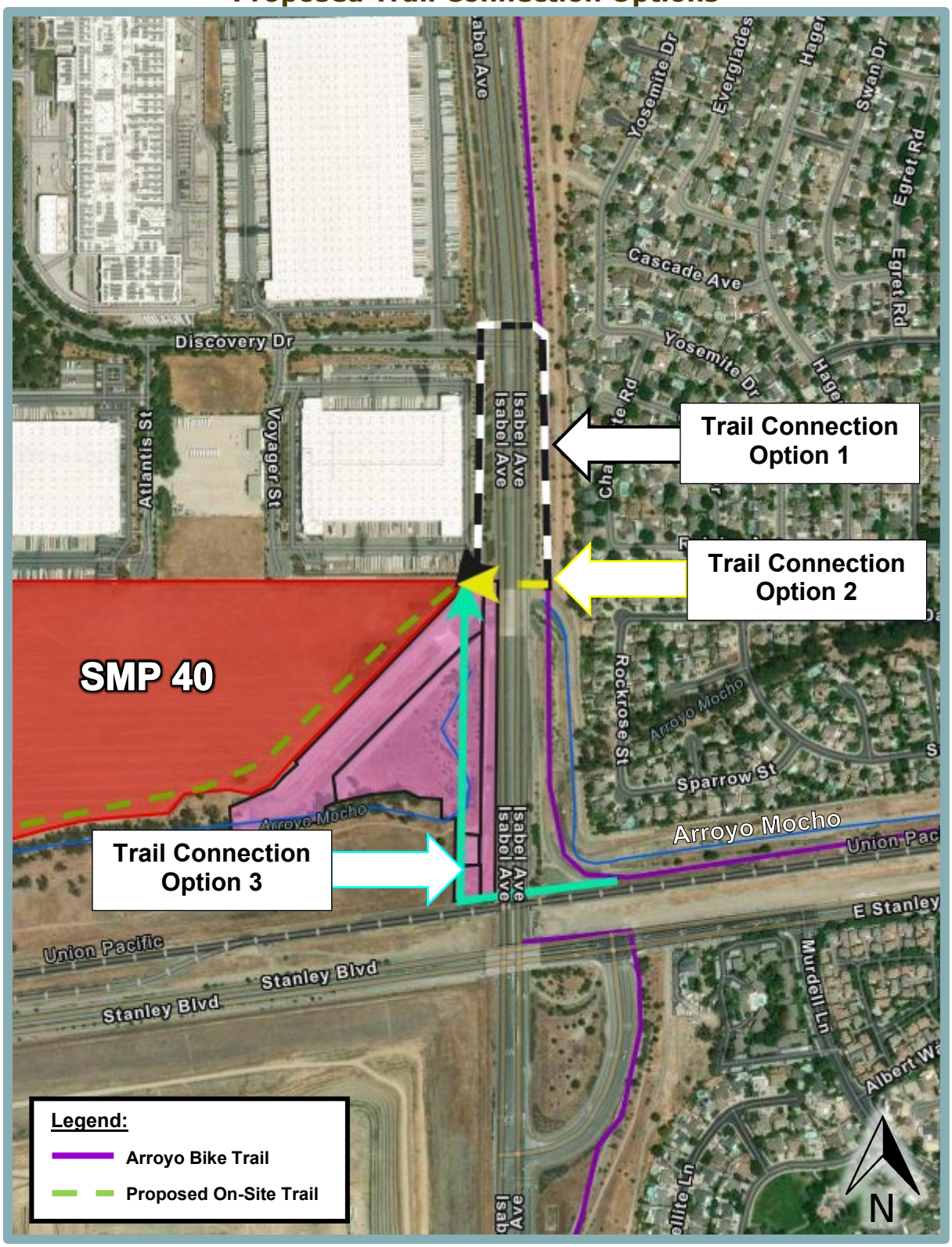
In addition to City approval, off-site trail connection Option 1 would require coordination with, easements from, and/or approvals by Zone 7, Caltrans, and property owner(s) along the proposed trail alignment north of SMP 40.

Trail Connection Option 2 – Undercrossing at Isabel Bridge

Off-site trail connection Option 2 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site to a grade-separated undercrossing of Isabel Avenue/SR 84 at the existing Isabel Bridge, where the trail would connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84.

The trail undercrossing is anticipated to be above the ordinary high-water mark (OHWM) of the Arroyo Mocho, would be approximately 14 feet wide, and provide a minimum of seven feet of clearance under the bridge. An existing PG&E 20-inch gas main located west of the bridge may require relocation under off-site trail connection Option 2. It should be noted that the City's ATP identifies an undercrossing as the preferred crossing of Isabel Avenue/SR 84.

Figure 3-12
Proposed Trail Connection Options



In addition to City approval, off-site trail connection Option 2 would require coordination with, easements from, and/or approvals by Zone 7, Caltrans, PG&E, the State Water Resources Control Board (SWRCB), and California Department of Fish and Wildlife (CDFW), as well as potentially the U.S. Army Corps of Engineers (USACE) if work below the OHWM cannot be avoided.

Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84

Off-site trail connection Option 3 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and south through the Additional Annexation Only Parcels to just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard), where a new above-grade crossing over Isabel Avenue/SR 84 is proposed to connect to the existing Arroyo Mocho Trail at the northeast corner of Stanley Boulevard and Isabel Avenue/SR 84. The trail overcrossing is anticipated to be an approximately 170-foot bike/pedestrian metal fabricated clear span bridge that would run parallel to the existing bridge for the railroad tracks.

In addition to City approval, off-site trail connection Option 3 would require coordination with, easements from, and/or approvals by Zone 7, Caltrans, and PG&E.

Internal Connections to the Public Trail System

City staff and the project applicant will look into the feasibility that on-site employees have pedestrian/bicycle access to the public trail system proposed along the exterior of the two sites, while ensuring on-site security. For SMP 39, the primary employee access to the public trail system would be from the frontages of the respective parcels. For SMP 40, primary access to the trail system would be from the northeast portion of the property and/or the northwest portion. This will be further refined once the final trail design and alignment is selected by the City.

Landscaping

Landscaping improvements would be implemented throughout the SMP 40 project site (see Figure 3-13).

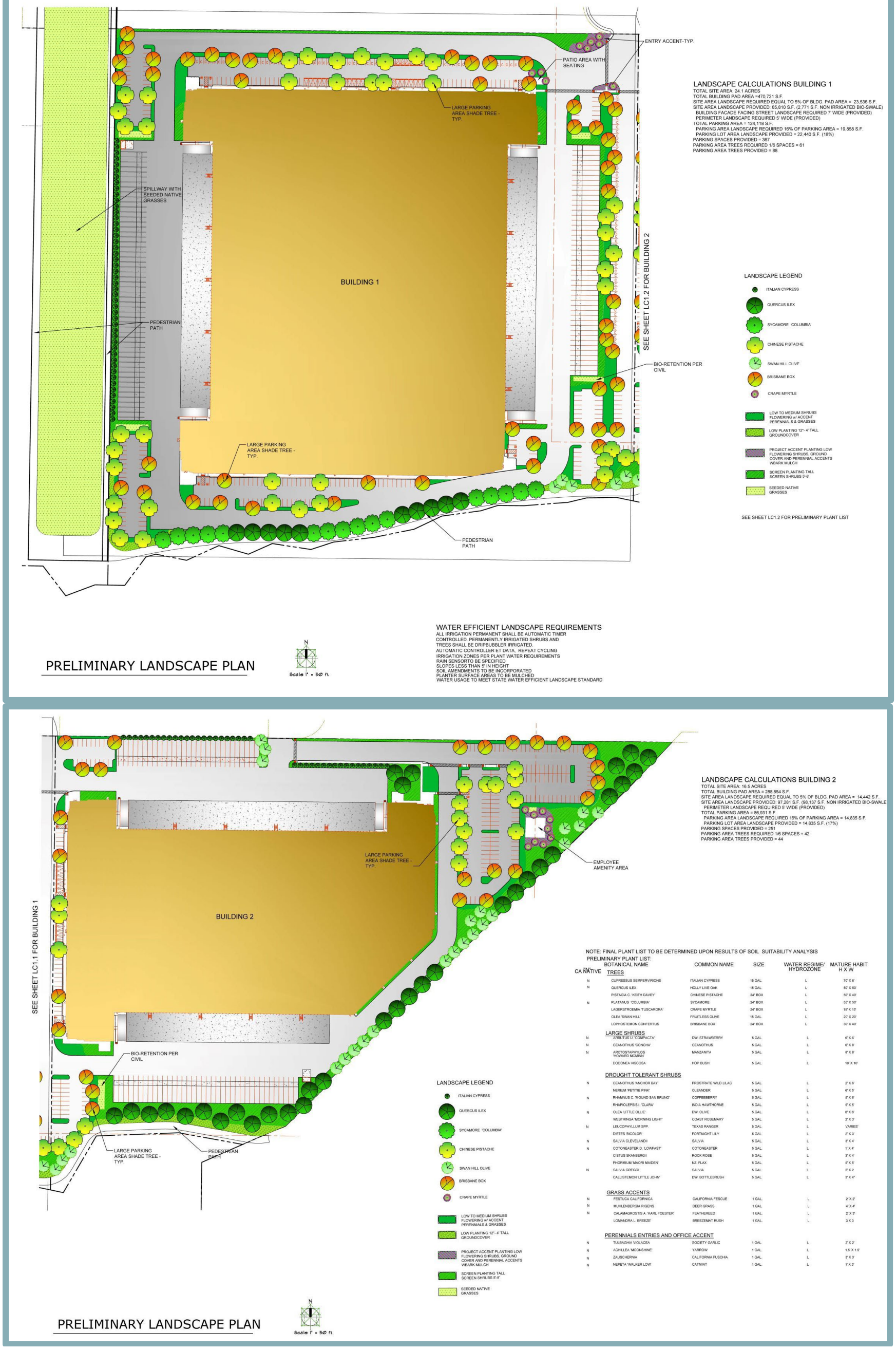
The proposed project would use reclaimed water from existing lines in Challenger Street and Atlantis Street for irrigation. All landscaping improvements would be consistent with the City's Design Standards and Guidelines and the City's Water Efficient Landscape Ordinance.

Development Agreement

The proposed project would include a Development Agreement for SMP 39 and SMP 40, which would allow the City and the applicant to enter into an agreement to assure the City that the proposed project would be completed in compliance with the plans submitted by the applicant and assure the applicant of vested rights to develop the project. The proposed project would provide an off-site trail connection and an annual financial contribution for two years as the public amenities.

The financial contribution would support the City's Office of Innovation and Economic Development efforts to market the properties such that the properties meet Citywide goals for an innovation driven economy, generate high wage jobs, and/or generate substantial sales tax revenues.

Figure 3-13
Preliminary Landscaping Plan for SMP 40



CA NATIVE	BOTANICAL NAME	COMMON NAME	SIZE	WATER REGIME/ HYDROZONE	MATURE HABIT H X W
	TREES				
N	CUPRESSUS SEMPERVIRIONS	ITALIAN CYPRESS	15 GAL	L	70' X 6'
N	QUERCUS ILEX	HOLLY LIVE OAK	15 GAL	L	50' X 50'
	PISTACIA C. 'KEITH DAVEY'	CHINESE PISTACHE	24" BOX	L	50' X 40'
N	PLATANUS 'COLUMBIA'	SYCAMORE	24" BOX	L	55' X 50'
	LAGERSTROEMIA 'TUSCARORA'	CRAPE MYRTLE	24" BOX	L	15' X 15'
	OLEA 'SWAN HILL'	FRUITLESS OLIVE	15 GAL	L	20' X 20'
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24" BOX	L	30' X 40'
	LARGE SHRUBS				
N	ARBUTUS U. 'COMPACTA'	DW. STRAWBERRY	5 GAL	L	6' X 6'
N	CEANOTHUS 'CONCHA'	CEANOTHUS	5 GAL	L	6' X 8'
N	ARCTOSTAPHYLOS 'HOWARD MCMINN'	MANZANITA	5 GAL	L	8' X 8'
	DODONEA VISCOSA	HOP BUSH	5 GAL	L	10' X 10'
	DROUGHT TOLERANT SHRUBS				
N	CEANOTHUS 'ANCHOR BAY'	PROSTRATE WILD LILAC	5 GAL	L	2' X 6'
	NERIUM 'PETITIE PINK'	OLEANDER	5 GAL	L	6' X 5'
N	RHAMNUS C. 'MOUND SAN BRUNO'	COFFEEBERRY	5 GAL	L	5' X 6'
	RHAPIOLEPSIS I. 'CLARA'	INDIA HAWTHORNE	5 GAL	L	5' X 5'
N	OLEA 'LITTLE OLLIE'	DW. OLIVE	5 GAL	L	6' X 6'
	WESTRINGA 'MORNING LIGHT'	COAST ROSEMARY	5 GAL	L	2' X 3'
N	LEUCOPHYLLUM SPP.	TEXAS RANGER	5 GAL	L	VARIES'
	DIETES 'BICOLOR'	FORTNIGHT LILY	5 GAL	L	2' X 3'
N	SALVIA CLEVELANDII	SALVIA	5 GAL	L	3' X 4'
N	COTONEASTER D. 'LOWFAST'	COTONEASTER	5 GAL	L	1' X 4'
	CISTUS SKANBERGII	ROCK ROSE	5 GAL	L	3' X 4'
	PHORMIUM 'MAORI MAIDEN'	NZ. FLAX	5 GAL	L	5' X 5'
N	SALVIA GREGGI	SALVIA	5 GAL	L	2' X 2
	CALLISTEMON 'LITTLE JOHN'	DW. BOTTLEBRUSH	5 GAL	L	3' X 4'
	GRASS ACCENTS				
N	FESTUCA CALIFORNICA	CALIFORNIA FESCUE	1 GAL	L	2' X 2'
N	MUHLENBERGIA RIGENS	DEER GRASS	1 GAL	L	4' X 4'
N	CALAMAGROSTIS A. 'KARL FOESTER'	FEATHEREED	1 GAL	L	2' X 3'
	LOMANDRA L. 'BREEZE'	BREEZEMAT RUSH	1 GAL	L	3 X 3
	PERENNIALS ENTRIES AND OFFICE ACCENT				
N	TULBAGHIA VIOLACEA	SOCIETY GARLIC	1 GAL	L	2' X 2'
N	ACHILLEA 'MOONSHINE'	YARROW	1 GAL	L	1.5' X 1.5'
N	ZAUSCHERNIA	CALIFORNIA FUSCHIA	1 GAL	L	3' X 3'
N	NEPETA 'WALKER LOW'	CATMINT	1 GAL	L	1' X 3'

Proposed Operations

The exact users or operations for the proposed project sites are unknown at this time; however, the uses are anticipated to be industrial uses consistent with the City's Low Intensity Industrial General Plan designation, including research and development, professional and administrative offices, experimental and testing laboratories, and manufacturing of electronic and other high-end complex products. Exclusive warehouse/distribution uses would be a permitted use for SMP 40 only.

3.6 REQUIRED PUBLIC APPROVALS

The City of Livermore has discretionary authority, and is the lead agency for the proposed project. In addition to certification of this EIR and the associated Mitigation Monitoring and Reporting Program, the proposed project requires approval of the following entitlements and agreements by the City of Livermore and Responsible Agencies, including Alameda County and the City of Pleasanton:

SMP 38

- Resolution authorizing submittal of a SOI Amendment application to the Alameda County LAFCo.

SMP 39

- Resolution authorizing submittal of an annexation and SOI Amendment application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 39 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as PDI-22-001;
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Development Agreement; and
- Pre-Annexation Agreement.

SMP 40

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;
- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation for SMP 40 from Open Space/Sand and Gravel to Low Intensity Industrial (LII);
- Pre-zone the site as PDI-22-001;
- Zoning Map Amendment;
- Vesting Tentative Subdivision Map;
- Site Plan and Design Review;
- Development Agreement; and
- Pre-Annexation Agreement.

Additional Annexation Only Parcels (APNs 904-10-2-3, -5, -7, and -8)

- Resolution authorizing submittal of an annexation application to the Alameda County LAFCo;

- Property tax exchange agreement between Alameda County and the City of Livermore;
- General Plan Amendment to modify the City's land use designation from Open Space/Sand and Gravel to Parks, Trailways and Recreation Areas (OSP); and
- Pre-zone the sites to Open Space Flood Plain (OS-F).

Review or Approvals by Other Agencies

A number of other agencies will serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. In addition, although not subject to California law, and, thus, outside the definitions of responsible or trustee agencies, approvals or permits would also be required from federal or other agencies. This EIR will provide environmental information to these agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation. These agencies could include, but may not be limited to, the following:

- Alameda County LAFCo;
- Alameda County Airport Land Use Commission (ALUC);
- Alameda County;
- City of Pleasanton;
- Pacific Gas and Electric Company (PG&E);
- Federal Aviation Administration (FAA);
- Federal Emergency Management Agency (FEMA);
- Bay Area Air Quality Management District (BAAQMD);
- California State Water Resources Control Board (SWRCB);
- San Francisco Regional Water Quality Control Board (RWQCB);
- Zone 7 Water Agency;
- Caltrans;
- California Department of Fish and Wildlife (CDFW); and
- U.S. Army Corps of Engineers (USACE).

4.0 Introduction to the Analysis

4.0 INTRODUCTION TO THE ANALYSIS

4.0.1 INTRODUCTION

The technical chapters of this EIR include the analysis of the potential impacts of buildout of the proposed project on a range of environmental issue areas. Chapters 4.1 through 4.8 describe the focus of the analysis, references and other data sources for the analysis, the environmental setting related to each specific issue area, project-specific impacts and mitigation measures, and the cumulative impacts of the project in combination with other development within the cumulative setting for each issue area. The format of each of the technical chapters is described at the end of this chapter. It should be noted that all technical reports are either attached to this EIR or available at the City by request.

4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code Section 21068). The CEQA Guidelines require that the determination of significance be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within each technical chapter and are consistent with significance criteria set forth in the CEQA Guidelines or as based on the professional judgment of the EIR preparers.

Significance Criteria

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." In addition, the Guidelines state, "An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (CEQA Guidelines Section 15382).

As presented in Section 4.0.5 below, the level of significance of an impact prior to mitigation is included at the end of each impact discussion throughout the technical chapters of this EIR. The following levels of significance prior to mitigation are used in this EIR:

1) Less than Significant: Impacts that may be adverse, but that do not exceed the specified thresholds of significance;
2) Significant: Impacts that exceed the defined standards of significance and require mitigation;
3) Less than Cumulatively Considerable: Where cumulative impacts have been identified, but the project's incremental contribution towards the cumulative impacts would not be considered significant; and
4) Cumulatively Considerable: Where cumulative impacts have been identified and the project's incremental contribution towards the cumulative impact would be considered significant.

If an impact is determined to be significant or cumulatively considerable, mitigation is included, if available, in order to reduce the specific impact to the maximum extent feasible. A statement of the level of significance of an impact after mitigation is also included in each impact discussion throughout the technical chapters of this EIR. The following levels of significance after implementation of mitigation are used in the EIR:

1) Less than Significant: Impacts that exceed the defined standards of significance but can be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures;
2) Less than Cumulatively Considerable: Where the project's incremental contribution towards cumulative impacts would be eliminated or reduced to a less than cumulatively considerable level through the implementation of feasible mitigation measures; and
3) Significant and Unavoidable Impact: An impact (project-level or cumulative) that cannot be eliminated or reduced to a less-than-significant or less than cumulatively considerable level through the implementation of feasible mitigations measures.

Each environmental area of analysis uses a distinct set of significance criteria. The significance criteria are identified at the beginning of the Impacts and Mitigation Measures section in each of the technical chapters of this EIR. Although significance criteria are necessarily different for each resource considered, the provided significance levels ensure consistent evaluation of impacts for all resource areas evaluated.

4.0.3 ENVIRONMENTAL ISSUES DISMISSED IN THE INITIAL STUDY

The Initial Study prepared for the proposed project (Appendix A to this EIR) includes a detailed environmental checklist addressing a range of technical environmental issues. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as "no impact," "less than significant," "less than significant with mitigation incorporated," and "potentially significant."

Impacts identified in the Initial Study as less than significant with mitigation incorporated, less than significant, or no impact are summarized below. All remaining issues identified in the Initial Study as potentially significant are discussed in the subsequent technical chapters of this EIR.

- *Aesthetics (All Checklist Questions):* Although the proposed project site is not located within the vicinity of a designated scenic vista, Isabel Avenue is designated by the City as a scenic route. If Trail Connection Option 3 is chosen, the proposed overcrossing could be partially visible from Isabel Avenue. As such, the proposed trail option would have the potential to substantially alter the scenic nature of views from Isabel Avenue if the bridge is not constructed with similar materials of the existing roadway and overcrossings, and a potentially substantial adverse effect could occur. However, the Initial Study includes mitigation to reduce the impact to a less-than-significant level. In addition, the Initial Study concluded that impacts related to conflicts with applicable zoning and other regulations governing scenic quality, as well as the introduction of new sources of light and glare would be less than significant. Overall, the proposed project would result in impacts that are *less than significant,* or *less than significant with mitigation incorporated*, related to aesthetics.

- *Agriculture and Forest Resources (Checklist Questions a, c, and d):* The majority of the project site is identified by the California Department of Conservation Farmland Mapping

and Monitoring Program as Grazing Land. In addition, the off-site trail connection options are all located within lands designated as "Urban and Built-up Land." While a portion of SMP 38 is designated as Prime Farmland, development of SMP 38 is not proposed as part of the proposed project. Therefore, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, or otherwise result in the loss of Farmland to non-agricultural use. Furthermore, the project site is not considered forest land or timberland, and is not zoned for Timberland Production. Therefore, the proposed project would have *no impact* or a *less-than-significant* impact with regard to the aforementioned impacts related to agricultural and forest resources.

- *Geology and Soils (Checklist Questions a and c-f):* Conformance with the appropriate engineering standards set forth by the California Building Standards Code (CBSC) and design standards enforced through the City of Livermore Building Division would ensure that impacts related to seismic surface rupture or strong seismic ground shaking would be less than significant. In addition, the development of SMP 39 and SMP 40 would not result in adverse impacts related to liquefaction, landslides, lateral spreading, expansive soils, or subsidence/settlement. However, the undocumented fill identified within both SMP 39 and SMP 40 has the potential to directly or indirectly cause potential substantial adverse effects due to geologic and soil conditions. In addition, given that a geotechnical engineering report has not been prepared for the trail crossings associated with Trail Connection Options 2 and 3, in the event that either Trail Connection Option 2 or Trail Connection Option 3 is the selected option, the potential exists for the new crossings to create substantial direct or indirect risks to life or property related to liquefaction, landslides, lateral spreading, subsidence/settlement, and expansive soils. However, the Initial Study includes mitigation sufficient to ensure that such impacts would be reduced to less-than-significant levels. Furthermore, while the potential exists for the proposed project to result in the uncovering of previously unknown paleontological resources, the Initial Study includes mitigation sufficient to ensure that, in the event that any such resources are encountered during construction, significant impacts would not occur. Finally, because the proposed project would connect to existing City sewer lines in the project vicinity, the construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the proposed project, and no impact would occur regarding the capability of soil to adequately support the use of such systems. Overall, the proposed project would have *no impact,* or result in impacts that are *less than significant,* or *less than significant with mitigation incorporated* with regard to the aforementioned impacts related to geology and soils.

- *Hazards and Hazardous Materials (All Checklist Questions):* Although the proposed structures are intended for light industrial uses, specific tenants have not been identified at this time. In the event that future operations involve the routine use, transport, or disposal of hazardous materials, such materials would be safely managed in accordance with applicable regulations and would be subject to City review. The potential exists for ground-disturbing activities related to the proposed project to encounter the existing groundwater well located along the western boundary of SMP 39, as well as currently unknown hazardous materials located in the potential development footprints of Trail Connection Options 2 and 3. However, the Initial Study includes mitigation to ensure any related impacts associated with hazardous materials would be reduced to less-than-significant levels. The project site is not located within a quarter mile of any existing or proposed schools. In addition, the project site is not identified on a list of hazardous

materials sites compiled pursuant to Government Code Section 65962.5. Although the Livermore Municipal Airport is located approximately 100 feet north of SMP 38 and SMP 39, the portions of the project site planned for development would be industrial in nature, which is a permitted use for the project site under the Airport's Land Use Compatibility Plan (ALUCP); thus, the proposed project would not result in a safety hazard for people working in the project area. Furthermore, development of the proposed project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or expose people or structures to the risk of loss, injury, or death involving wildland fires. Overall, the proposed project would result in *no impact*, or impacts that are *less than significant* or *less than significant with mitigation incorporated* related to hazards and hazardous materials.

It should be noted that since the Initial Study was prepared for the proposed project, a Zone 7 supply well was identified in the south-central portion of the SMP 39 site. As a result, the project applicant would be required to contact Zone 7 regarding the supply well and either obtain an abandonment permit to properly abandon the well, or, if required by Zone 7, implement other measures identified by Zone 7, such as providing any necessary upgrades or adjustments to the well and/or well box elevation to match the final grade. Mitigation Measure IX-1 included in Table 2-1 of this EIR has been revised to reflect these changes.

In addition, it should be further noted that, while the proposed project was determined not to result in a safety hazard for people working in the project area related to the Livermore Municipal Airport, the proposed project would still be required to comply with all policies of the ALUCP, including policies related to safety and Airspace Protection. ALUCP policies that may be applicable to the proposed project include the following: Policy 3.3.2.5 related to airport safety zones; Policy 3.3.2.6 related to airport protection areas; Policy 3.3.2.8 related to non-residential development criteria; Policy 3.3.2.9 related to land uses of particular concern; Policy 3.3.3.5 related to Federal Aviation Administration (FAA) notification; Policy 3.3.3.7 related to flight hazards due to building design or project operations; Policy 3.3.3.8 related to avigation easement dedication; and Policy 3.3.4.6 related to buyer awareness measures such as the requirement for sellers or leasers of property within an airport influence area (AIA) to provide a notice as part of all real estate transactions within the AIA disclosing such information. The proposed project would be subject to review and any conditions set forth by the ALUCP.

- *Land Use and Planning (Checklist Question a):* The proposed project would not physically divide an established community and would be compatible with existing land uses in the project area. As such, the proposed project would result in a *less-than-significant* impact.

- *Mineral Resources (All Checklist Questions):* The proposed project is located within Mineral Resource Zone 3 (MRZ-3), as defined by the California Geological Survey Mineral Lands Classification Program. MRZ-3 areas are classified as areas considered to contain mineral deposits, but the significance of the deposits could not be determined on the basis of available information. In addition, the project site represents a small fraction of available mineral resources located within the Livermore Quadrangle, and an even smaller fraction of available mineral resources located within the South San Francisco Bay Production-Consumption Region. As such, the proposed project would not result in a significant loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Furthermore, the City's General Plan does not identify the project

site as being a locally-important mineral resource recovery site. Therefore, the proposed project would result in a *less-than-significant* impact related to mineral resources.

- *Population and Housing (All Checklist Questions):* The project site is currently vacant; thus, the proposed project would not result in the displacement of existing housing or residents. Development of the project site for industrial purposes would not result in direct population growth by proposing new homes. Although the project could indirectly attract residents to the area for employment opportunities, new employees would likely be drawn from current residents in the project area. In addition, the increase in jobs would be relatively small compared to the City's existing population. Therefore, the proposed project would result in *no impact* or a *less-than-significant* impact related to population and housing.

- *Public Services (Checklist Questions c-e):* The proposed project is industrial in nature, and, therefore, would not result in direct population growth such that demand for schools, parks, or other public facilities would increase. Nonetheless, the project would be subject to payment of School Impact Mitigation Development Fees to fund local school services, as well as the City's park facility fee in accordance with Section 12.60 of the Livermore Municipal Code, which would help to fund expanded park facilities and services within the City. The proposed project would result in a *less-than-significant* impact with regard to the aforementioned impacts related to public services.

- *Recreation (All Checklist Questions):* The proposed project would include the development of industrial uses, and would not result in population growth that could result in increased demand on existing recreational facilities or cause the construction or expansion of recreational facilities. In addition, the proposed project would include the development of a paved shared-use path and an off-site trail crossing. Furthermore, the proposed project would be subject to payment of the City's park facility fee in accordance with Section 12.60 of the Livermore Municipal Code. Overall, a *less-than-significant* impact would occur related to recreation.

- *Wildfire (All Checklist Questions):* According to the California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, the project site is not located within or adjacent to a State Responsibility Area or a Very High Fire Hazard Severity Zone. Furthermore, the project site is surrounded by urban development, and large industrial ponds are located to the south and west of the project site, which would help prevent the spread of wildfire within the project area. Thus, the proposed project would not be expected to be subject to or result in substantial adverse effects related to wildfires, and a *less-than-significant* impact would occur.

4.0.4 ENVIRONMENTAL ISSUES ADDRESSED IN THIS EIR

The EIR provides the analysis necessary to address the environmental impacts of the proposed project. The following environmental issues are addressed in separate technical chapters of this EIR:

- Agriculture Resources;
- Air Quality, Greenhouse Gas Emissions, and Energy;
- Biological Resources;
- Cultural and Tribal Cultural Resources;

- Hydrology and Water Quality;
- Noise;
- Public Services, Utilities, and Service Systems; and
- Transportation.

See Section 5.3, Cumulative Impacts, of Chapter 5, Statutorily Required Sections, for additional information on the scope of the cumulative impact analysis for each environmental issue addressed in the EIR.

4.0.5 TECHNICAL CHAPTER FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the chapter. The introduction is followed by a description of the project's **existing environmental setting** pertaining to that particular environmental issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion, which contains the **standards of significance**, followed by the **method of analysis**. The standards of significance section includes references to the specific checklist questions consistent with Appendix G of the CEQA Guidelines. The **impacts and mitigation measures** discussion includes impact statements prefaced by a number in bold-faced type (for both project-level and cumulative analyses). An explanation of each impact and an analysis of the impact's significance follow each impact statement (see below), followed by all mitigation measures pertinent to each individual impact. The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance.

4.X-1 Statement of Project-Specific Impact

Discussion of impact for the proposed project in paragraph format. Impacts related to the development of the individual parcels of the project site, such as SMP 39 and SMP 40, may be discussed under separate sub headers or may be combined, as appropriate.

Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR: less than significant, significant, or significant and unavoidable. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-significant level with implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.X-1(a) *Required mitigation measure(s) presented in italics and numbered in consecutive order.*

4.X-1(b) *Required additional mitigation measure, if necessary.*

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on implementation of the proposed project in combination with cumulative development within the applicable area or region.

4.X-2 Statement of Cumulative Impact

Discussion of cumulative impacts for the proposed project in paragraph format.

As discussed in detail in Chapter 5, Statutorily Required Sections, of the EIR, the cumulative setting for the proposed project is generally considered to be development anticipated to occur upon buildout of the proposed project, as well as buildout of a number of approved or reasonably foreseeable projects within the City of Livermore.

Statement of ***level of significance*** of cumulative impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR for cumulative impacts: less than significant, less than cumulatively considerable, cumulatively considerable, or significant and unavoidable. If an impact is determined to be cumulatively considerable, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less than cumulatively considerable level with the implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.X-2(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.X-2(b) *Required additional mitigation measure, if necessary.*

4.1 Agricultural Resources

4.1 AGRICULTURAL RESOURCES

4.1.1 INTRODUCTION

The Agricultural Resources chapter of the EIR summarizes the status of the existing agricultural resources within the boundaries of the project site, using the current State model and data, including, but not limited to, identification of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project boundaries. The analysis addresses any conflicts with existing zoning for agricultural use or right-to-farm ordinances. Further, this chapter outlines the policies and standards set by the Alameda Local Agency Formation Commission (LAFCo) regarding agricultural resources, and analyzes the project's consistency with such policies. Documents referenced to prepare this chapter include the City of Livermore General Plan[1] and associated General Plan EIR,[2] the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey,[3] and the California Department of Conservation's (DOC's) Important Farmland Finder.[4]

4.1.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section describes current farmland and soil productivity classification systems, as well as the extent and quality of the agricultural resources present on the project site.

Farmland Classifications

The NRCS uses two systems to determine a soil's agricultural productivity: the Land Capability Classification System and the Storie Index Rating System. The "prime" soil classification of both systems indicates the presence of few to no soil limitations, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production. The Farmland Mapping and Monitoring Program (FMMP), part of the DOC's Division of Land Resource Protection, uses the information from the NRCS to create maps illustrating the types of farmland in the area.

Land Capability Classification System

The Land Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the rating of the capability classification system increases, yields and profits are more difficult to obtain. The NRCS presents a Land Capability Classification for soils under irrigated conditions and non-irrigated conditions. A general description of soil classification, as defined by the NRCS, is provided in Table 4.1-1.

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1 City of Livermore. *General Plan 2003-2025.* Adopted February 9, 2004.
2 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038).* June 2003.
3 U.S. Department of Agriculture, Natural Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed August 2022.
4 California Department of Conservation. *Farmland Mapping & Monitoring Program.* Available at: https://www.conservation.ca.gov/dlrp/fmmp. Accessed August 2022.

Table 4.1-1
Land Capability Classification

Class	Definition
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, or water supply or to aesthetic purposes.

Source: USDA, Natural Resources Conservation Service. Web Soil Survey, Soil Data Explorer, Irrigated Capability Class Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, Accessed March 2023.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to suitability for agriculture from Grade 1 soils (81 to 100 rating), which have few or no limitations for agricultural production, to Grade 6 soils (less than or equal to 10 rating), which are not suitable for agriculture. Under the Storie Index Rating system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. Unlike the Land Capability Classification outlined above, the Storie Index Rating System does not distinguish between irrigated and non-irrigated soils. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided in Table 4.1-2, Storie Index Rating System.

Table 4.1-2
Storie Index Rating System

Grade	Index Rating	Definition
1 – Excellent	81 through 100	Few limitations that restrict their use for crops
2 – Good	61 through 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3 – Fair	41 through 60	Suited to a few crops, or special crops, and require special management
4 – Poor	21 through 40	If used for crops, severely limited and require special management
5 – Very Poor	11 through 20	Not suited for cultivated crops, but can be used for pasture/range
6 – Non-Agriculture	Less and 10	Soil and land types generally not suited to farming

Source: USDA NRCS, Web Soil Survey, 2023.

Farmland Mapping and Monitoring Program

The intent of the USDA Soil Conservation Service (USDA-SCS) was to produce agriculture maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory

and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the USDA-SCS with completing mapping in the State. The FMMP was created within the DOC to carry on the mapping activity on a continuing basis, and with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilizes the SCS and Storie Index Rating systems, but also considers physical conditions such as dependable water supply for agricultural production, soil temperature range, depth of the groundwater table, flooding potential, rock fragment content and rooting depth.

The California DOC classifies lands into seven agriculture-related categories: Prime Farmland, Farmland of Statewide Importance (Statewide Farmland), Unique Farmland, Farmland of Local Importance (Local Farmland), Grazing Land, Urban and Built-up Land (Urban Land), and Other Land. The first three types listed above are collectively designated by the State as Agricultural Land for the purposes of CEQA (see Public Resources Code [PRC] Section 21060.1). Important Farmland maps for California are compiled using the modified LIM criteria and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into surrounding classifications.

Each of the seven farmland types are summarized below, based on California DOC's *A Guide to the Farmland Mapping and Monitoring Program*.[5]

Prime Farmland

Prime Farmland is land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to two years) prior to the mapping date.

Farmland of Statewide Importance

Farmland of Statewide Importance is land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.

Unique Farmland

Unique Farmland is land of lesser quality soils used for the production of the State's leading agricultural crops. The land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date.

Farmland of Local Importance

Farmland of Local Importance is land of importance to the local agricultural economy, as

[5] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *A Guide to the Farmland Mapping and Monitoring Program*. 2004.

determined by each county's Board of Supervisors and a local advisory committee. However, for Alameda County, in which the proposed project is located, the Board of Supervisors determined that designated Farmland of Local Importance does not exist.

Grazing Land

Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for the Grazing Land category is 40 acres.

Urban Land

Urban and Built-up Land is occupied with structures with a building density of at least one unit to one-half acre. Uses may include but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.

Other Land

Other Land is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

Project Site Land Characteristics

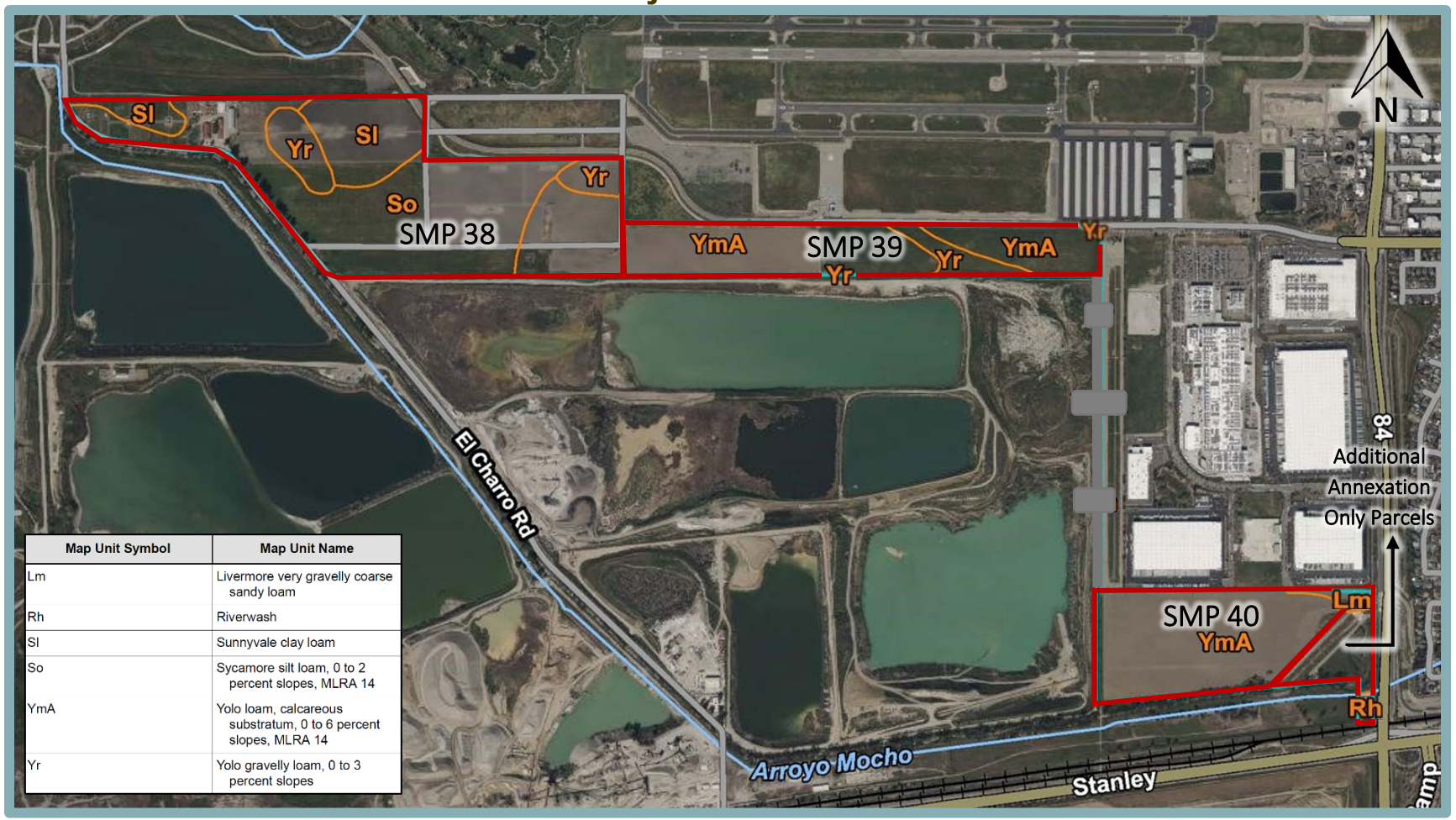
The irrigated and non-irrigated Land Capability Classification and Storie Index Grade for each soil type present in the project site is presented in Table 4.1-3, the locations of which are shown in Figure 4.1-1.

Table 4.1-3
On-Site Land Capability Classification and Storie Index Rating

Soil Map Symbol and Name	Soil Capability Classification (Irrigated)	Soil Capability Classification (Non-Irrigated)	Storie Index Grade	Percentage of the Project Site Area
Livermore very gravelly coarse sandy loam (Map Unit Symbol Lm)	IV	IV	3	1.2
Riverwash (Map Unit Symbol Rh)	Not Rated	VIII	Not Rated	0.4
Sunnyvale clay loam (Map Unit Symbol Sl)	II	IV	4	9.5
Sycamore silt loam, 0 to 2 percent slopes (Map Unit Symbol So)	I	IV	1	30.2
Yolo loam, calcareous substratum, 0 to 6 percent slopes (Map Unit Symbol YmA)	I	IV	1	51.3
Yolo gravelly loam, 0 to 3 percent slopes (Map Unit Symbol Yr)	II	IV	1	7.4

Source: USDA NRCS, Web Soil Survey, 2023.

Figure 4.1-1
Project Site Soils



Map Unit Symbol	Map Unit Name
Lm	Livermore very gravelly coarse sandy loam
Rh	Riverwash
Sl	Sunnyvale clay loam
So	Sycamore silt loam, 0 to 2 percent slopes, MLRA 14
YmA	Yolo loam, calcareous substratum, 0 to 6 percent slopes, MLRA 14
Yr	Yolo gravelly loam, 0 to 3 percent slopes

Note: Project site boundaries are approximate.
Source: USDA NRCS, Web Soil Survey, 2023.

Characteristics associated with each component of the project site are discussed separately below. It should be noted that the entire project site is currently non-irrigated.

SMP 38

As shown in Figure 4.1-2, SMP 38 consists of lands classified as Prime Farmland, Grazing Land, and Other Land. In addition, as presented in Figure 4.1-1, the soil types present on SMP 38 consist of Sunnyvale clay loam, Sycamore silt loam, and Yolo gravelly loam. Sunnyvale clay loam has a Storie Index Grade of 4, which indicates poor soil quality. However, the other on-site soil types (Sycamore silt loam and Yolo gravelly loam) have a Storie Index Grade of 1, which indicates excellent soil quality with limited crop limitations. All on-site soils have a non-irrigated Soil Capability Classification of IV, which indicates that the soil, when not irrigated, has very severe limitations that restrict the choice of plants or that require very careful management.

SMP 39

As shown in Figure 4.1-2, SMP 39 consists entirely of land classified as Grazing Land. In addition, as presented in Figure 4.1-1, the soil types present on SMP 39 consist of Yolo loam calcareous substratum and Yolo gravelly loam. The foregoing soil types have a Storie Index Grade of 1, which indicates excellent soil quality. However, the soils have a non-irrigated Soil Capability Classification of IV, which indicates that the soil, when not irrigated, has very severe limitations.

SMP 40

As shown in Figure 4.1-2, SMP 40 consists entirely of lands classified as Grazing Land. In addition, as presented in Figure 4.1-1, the soil types present on SMP 40 consist of Livermore very gravelly coarse sandy loam and Yolo loam calcareous substratum. Livermore very gravelly coarse sandy loam has a Storie Index Grade of 3, which indicates fair suitability for crops. Both on-site soil types have a non-irrigated Soil Capability Classification of IV, which indicates that the soil, when not irrigated, has very severe limitations.

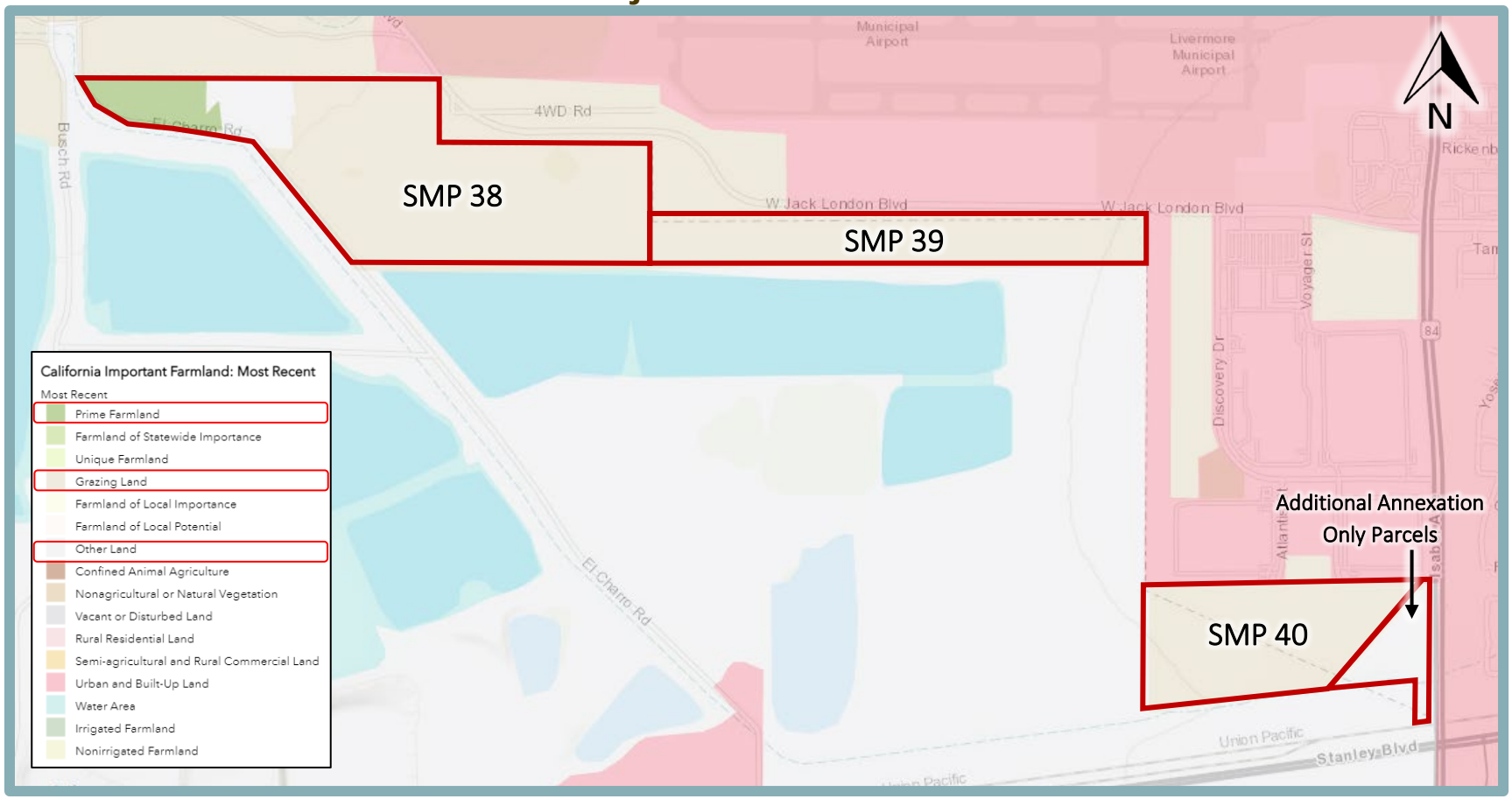
Additional Annexation Only Parcels

As shown in Figure 4.1-2, the Additional Annexation Only Parcels consist entirely of land classified as Other Land. In addition, as presented in Figure 4.1-1, the soil types present on the Additional Annexation Only Parcels include Livermore very gravelly coarse sandy loam and Riverwash. Livermore very gravelly coarse sandy loam has a Storie Index Grade of 3, which indicates fair suitability for crops, and a Soil Capability Classification of IV, which indicates that the soil has very severe limitations that restrict the choice of plants or that require very careful management, or both. However, the Riverwash soil type is not rated by the Storie Index, and has a non-irrigated Soil Capability Classification of VIII, which indicates that the soil, when not irrigated, has limitations that precludes use for commercial plant production.

Existing Agricultural Operations

The entirety of the project site is zoned Agriculture (A) by Alameda County. In addition, the project site is not subject to a Williamson Act contract. Several structures exist in the northwest corner of SMP 38 related to a former horse ranch. The remainder of SMP 38 is vacant and appears to be regularly disked. Both SMP 39 and SMP 40 are currently vacant, undeveloped, disked annually, and periodically dry-land farmed. Historically, SMP 39 was used as pastureland. In October 2021, SMP 39 was being used for dry-land farming and had gone fallow. In June 2019, SMP 40 was under hay production and the hay had been recently cut. By September 2021, the site appeared to have been recently disked; however, the site did not contain clear evidence of recent hay production.

Figure 4.1-2
Project Site Farmlands



Note: Project site boundaries are approximate.
Source: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2023.

The Additional Annexation Only Parcels are currently developed with PG&E infrastructure and a flood control channel, and are otherwise undeveloped and include scattered trees.

4.1.3 REGULATORY CONTEXT

Federal laws or regulations pertaining to agricultural resources are not applicable for this analysis. The existing State and local laws and regulations pertaining to such resources are listed below, as applicable.

State Regulations

The following are applicable State regulations related to agricultural resources.

California Land Conservation Act – Williamson Act

The California Land Conservation Act, better known as the Williamson Act, has been the State's premier agricultural land protection program since the act's enactment in 1965. The California Legislature passed the Williamson Act in 1965 to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Act creates an arrangement whereby private landowners' contract with counties and cities to voluntarily restrict land to agricultural and open-space uses.

The vehicle for these agreements is a rolling term 10-year contract (i.e., unless either party files a "notice of nonrenewal," the contract is automatically renewed annually for an additional year). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their annual use, rather than potential market value.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Act) establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. LAFCos have numerous powers under the Act, but those of primary concern are the power to act on local agency boundary changes and to adopt spheres of influence for local agencies. Additionally, LAFCos are intended to discourage urban sprawl and preserve open-space and prime agricultural lands.[6] Prime agricultural land is defined by Government Code Section 56064, as follows:

> "Prime agricultural land" means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
>
> a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
> b) Land that qualifies for rating 80 through 100 Storie Index Rating.
> c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
> d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial

[6] Assembly Committee on Local Government. *Guide to the Cortese–Knox–Hertzberg Local Government Reorganization Act of 2000*. December 2022.

bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

Local Regulations

The following are the local government environmental goals and policies relevant to the CEQA review process and applicable to the proposed project.

City of Livermore General Plan

The City of Livermore General Plan identifies the following goals, objectives, and policies related to agricultural resources:

Open Space and Conservation Element

Goal OSC-3 Protect agricultural open space in the Planning Area and the City.

Objective OSC-3.1 Preserve agricultural land, a vital part of Livermore's open space network and an irreplaceable natural resource.

Policy P1 Undeveloped lands that are State-designated as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland shall be preserved, to the greatest extent feasible, for open space or agricultural use.

Policy P2 The City shall encourage the County to preserve agricultural activities outside the Urban Growth Boundary.

Policy P3 The City shall take all possible steps to preserve and expand the vineyards.

Policy P4 Expansion of viticulture on lands rated "good and very good" for the production of wine grapes, as defined by the Natural Resources Conservation Service, shall be encouraged.

Policy P5 The City shall encourage agricultural landowners to enter the agricultural preserve program established under the Land Conservation Act, particularly in areas adjacent to patterns of urbanization encouraged by the General Plan.

Objective OSC-3.2 Preserve valuable agricultural soils in the Planning Area.

Policy P2 Encourage soil conservation practices, as recommended by the Natural Resources

Conservation Service (formerly USDA's Soil Conservation Service).

City of Livermore Municipal Code

The following provisions from the City of Livermore Municipal Code relate to agricultural resources and are applicable to the proposed project.

Chapter 8.16: Right to Farm

The intent of Chapter 8.16 of the Municipal Code is to protect agricultural land uses identified on the General Plan and zoning map from conflicts with nonagricultural land uses that may result in conflicts to agricultural operators, and to promote positive relationships between agriculturalists and residents. Chapter 8.16 requires that, as a condition of approval of a development permit relating to property located within 2,000 feet of agricultural land, agricultural operations, or agricultural processing facilities or operations, transferors of such property notify transferees of the property's proximity to agricultural land and of potential discomforts and inconveniences resulting from that location. Chapter 8.16 also states that agricultural operations are not considered a nuisance unless such operations are deemed to be a nuisance under California Civil Code Sections 3482.5 and 3482.6.

City of Livermore Development Code

The following provisions from the City of Livermore Development Code relate to agricultural resources and are applicable to the proposed project.

Section 3.01.050: Zoning - Annexation

Section 3.01.050 of the Development Code states that any area annexed to the city shall be zoned OS-A (Open Space-Agricultural zone), unless, prior to the annexation, such lands were prezoned by the City.

Alameda LAFCo

The Alameda LAFCo is governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, as summarized above. Alameda LAFCo works to protect the quality of life for the citizens of Alameda County by ensuring that government agencies provide efficient municipal services; balancing infrastructure needs for sustainable growth; and conserving the environment and limited resources including prime agricultural and open space lands. As described in Alameda LAFCo's General Proposal Policies, the LAFCo shall discourage city annexations of prime agricultural land, as defined by Government Code Section 56064, if such areas are not needed for urbanization within five years.[7]

4.1.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to agricultural resources. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

[7] Alameda Local Agency Formation Commission. *Volume I, Part III. General Proposal Policies*. Available at: https://alamedalafco.org/wp-content/uploads/2021/11/General_Proposal_Policies.pdf. Accessed March 2023.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to agricultural resources would occur if the proposed project would result in any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact or a less-than-significant impact related to the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]); or
- Result in the loss of forest land or conversion of forest land to non-forest use.

For the reasons cited in the Initial Study (Section II, Agriculture and Forestry Resources), the potential impacts associated with the above are not analyzed further in this EIR.

Method of Analysis

Evaluation of potential impacts of the proposed project on agricultural resources is based on the proposed project's potential changes to or loss of existing local agricultural resources in comparison to the standards of significance listed above. The current use of the site was considered along with the existing and proposed zoning designations to determine whether the project would conflict with existing zoning for agricultural use. In addition, the Alameda LAFCo's policy guidelines, in addition to soil data from the USDA NRCS, were used to evaluate whether the project would result in policy conflicts related to the annexation of "prime agricultural land." Additionally, the City of Livermore General Plan and associated certified General Plan EIR were used to determine the potential for project impacts to occur, and identify appropriate mitigation measures, as feasible.

Project-Specific Impacts and Mitigation Measures

The following discussions of impacts related to agricultural resources are based on implementation of the proposed project in comparison to the baseline conditions and the standards of significance presented above.

4.1-1 Conflict with existing zoning for agricultural use, or a Williamson Act contract. Based on the analysis below, the impact is *less than significant*.

The project site is not under a Williamson Act contract.[8] However, the entirety of the project site is currently zoned for agricultural uses by Alameda County. Table 4.1-4 presents the existing Alameda County and proposed City of Livermore zoning designations for each parcel of the project site. The project site is outside of the current Livermore City limits and, as a result, the parcels do not have a City zoning designation.

Table 4.1-4
Project Site Existing and Proposed Zoning

Parcel Name	APN(s)	Existing Zoning Designation	Proposed Zoning Designation
SMP 38	904-1-7-32, 904-1-2-12 and 904-1-7-21	Agriculture (A)	N/A
SMP 39	904-3-1-4	Agriculture (A)	Planned Development-Industrial (PDI-22-001)
SMP 40	904-10-2-2 (41-acre project portion only)	Agriculture (A)	Planned Development-Industrial (PDI-22-001)
Additional Annexation Only Parcels	904-10-2-3, -5, -7, and -8	Agriculture (A)	Open Space Flood Plain (OS-F)

SMP 38 would not be rezoned as part of the proposed project; therefore, the following analysis focuses on the remaining parcels included in the overall project site.

As part of the proposed project, SMP 39 and SMP 40 would be rezoned from Agriculture (A) to Planned Development – Industrial (PDI-22-001), and the Additional Annexation Only Parcels would be rezoned from A to Open Space Flood Plain (OS-F). Therefore, the proposed project would change the existing zoning for agricultural use. It should be noted that Alameda County has previously approved surface mining permits for each of the SMP sites; thus, the County has anticipated that the sites would be used for mining rather than for agricultural uses.

Similarly, the Additional Annexation Only Parcels are owned by PG&E, Zone 7 Water Agency, Caltrans, and the City of Livermore and, as a result, the parcels are not anticipated for use as agricultural land. Furthermore, it is noted that SMP 39, SMP 40, and the Additional Annexation Only Parcels do not include important farmland, as designated by the California FMMP (see Figure 4.1-2). Therefore, rezoning the parcels to non-agricultural uses would not result in substantial conflicts.

[8] Alameda County Community Development Agency. *Alameda County General Plan Resource Conservation, Open Space, and Agricultural Elements, Figure Solar-5, Parcels Under Williamson Act Contract*. November 2020.

In addition, SMP 39, SMP 40, and the Additional Annexation Only Parcels are all designated as Open Space/Sand and Gravel by the Livermore General Plan, and as Industrial by the Alameda County General Plan. Therefore, none of the foregoing parcels are designated for agricultural use. Rather, the proposed rezone of SMP 39 and SMP 40 to Planned Development – Industrial would bring consistency between the land use and zoning designations for each parcel. In addition, all components of the proposed project are located within the City's Urban Growth Boundary (UGB), and, thus, the proposed project would not conflict with General Plan Policy P2. Furthermore, considering that one of the Additional Annexation Only Parcels is developed with PG&E infrastructure and another is owned by the Zone 7 Water Agency and serves as a flood control channel, the site is not conducive for use as agricultural land and the proposed rezone to OS-F is appropriate.

It should also be noted that the properties immediately adjacent to the west and south of SMP 39, including SMP 38, as well as the properties immediately west of SMP 40, are currently zoned for agricultural use. However, the large majority of such lands are not currently used for agricultural purposes. For example, the parcels located south of SMP 38 and SMP 39, and west of SMP 40 were previously mined and are currently being used as industrial ponds. Nonetheless, if the A-zoned properties within the project vicinity are to be used for agricultural purposes in the future, the City of Livermore's right-to-farm ordinance (Chapter 8.16 of the City's Municipal Code) would ensure that such agricultural uses would be protected from conflicts with non-agricultural land uses within the project vicinity. When fully operational, the proposed project would include development of a total of 755,500 square feet (sf) of new industrial warehouse space on SMP 39, and up to 759,275 sf of new industrial warehouse space on SMP 40. Development of the proposed project would not preclude the use of the surrounding parcels for agricultural purposes. Additionally, given the industrial nature of the proposed project, the proposed project would not result in any land use conflicts with current or future agricultural uses within the project vicinity. Therefore, the proposed project would not conflict with the City's right-to-farm ordinance or existing zoning for agricultural use.

Based on the above, while the proposed project would involve a change in existing zoning for agricultural use, the impact related to conflicts with existing zoning for agricultural use or a Williamson Act contract would be ***less than significant***.

Mitigation Measure(s)

None required.

4.1-2 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. Based on the analysis below, due to the lack of feasible mitigation, the impact is *significant and unavoidable*.

As stated above, according to the FMMP, SMP 38 is designated as Prime Farmland, Grazing Land, and Other Land, and the Additional Annexation Only Parcels is designated as either Grazing Land or Other Land. As noted in Chapter 3, Project

Description, of this EIR, development is not proposed on SMP 38, and SMP 38 would not require annexation. SMP 38 is included in the proposed project because a Sphere of Influence (SOI) Amendment for SMP 38 and SMP 39 is proposed in order to modify SOI, align the SOI and South Livermore UGB boundaries to be consistent with one another, and provide a contiguous division of land between the cities of Livermore and Pleasanton. Although the proposed project includes the annexation of the Additional Annexation Only Parcels, the parcels are not currently planned for development, and are unlikely to be developed in the future; as such, the Additional Annexation Only Parcels would not be converted to a non-agricultural use. Therefore, the following discussion focuses only on SMP 39 and SMP 40.

While the remainder of the project site is not considered Farmland pursuant to the FMMP, the proposed annexation and SOI amendments would be subject to approval by Alameda LAFCo.

As noted previously, the Alameda LAFCo has specific policies related to agricultural land, including related to the loss of important agricultural, open space, or resource land and conversion of areas containing prime soils or productive agricultural operations to uses that are not conducive to agricultural production. Because SMP 39 and SMP 40 are proposed to be annexed into the City of Livermore and developed, the foregoing parcels are evaluated in comparison to the Alameda LAFCo's definition of Prime Agricultural Land in Table 4.1-5, pursuant to Government Code Section 56064. Should on-site soils meet any one criterion, such land would be considered prime agricultural land by Alameda LAFCo.

Based on the evaluation presented in Table 4.1-5, SMP 39 and SMP 40 have on-site soils that meet criteria (a), (b), and likely (e), and, as a result, are considered prime agricultural land by Alameda LAFCo. As discussed above, according to the Alameda LAFCo's General Proposal Policies, the LAFCo shall discourage city annexations of prime agricultural land, as defined by Government Code Section 56064, if such areas are not needed for urbanization within five years. The City has identified a need for additional industrial uses within the City of Livermore, and vacant land that would be viable for development of industrial uses similar to the proposed project does not exist within current Livermore city limits. Further, given the existing surrounding land uses, the project site is generally a suitable location for the proposed project, and a reasonable assumption can be made that other properties within the City may not be as well suited for the proposed project as the project site. Therefore, urbanization of the project site within the next five years would be needed to allow for the development of additional light industrial uses within the City. It should, however, be noted that annexation is ultimately subject to approval by Alameda LAFCo.

Therefore, implementation of the proposed project would result in the conversion of prime agricultural land, pursuant to Alameda LAFCo, to non-agricultural use, and the impact would be ***significant***.

Table 4.1-5
"Prime Agricultural Land" Determination

Criteria	Discussion
(a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.	**SMP 39:** Approximately 89 percent of the soil within SMP 39 consists of Yolo loam calcareous substratum and approximately 11 percent consists of Yolo gravelly loam, which, as presented in Table 4.1-3, have a Soil Capability Classification of I and II, respectively, if irrigated. As such, all soils within SMP 39 meet criteria (a). **SMP 40:** Approximately 4.3 percent of the soils within SMP 40 consists of Livermore very gravelly coarse sandy loam and approximately 95.7 percent consists of Yolo loam calcareous substratum, which have a Soil Capability Classification of IV and I, respectively, if irrigated. As such, 95.7 percent of the soils within SMP 40 meet criteria (a).
(b) Land that qualifies for rating 80 through 100 Storie Index Rating.[9]	**SMP 39:** The on-site soil types (Yolo loam calcareous substratum and Yolo gravelly loam) carry a Storie Index Rating of 1 (81 through 100). As such, all soils within SMP 39 meet criteria (b). **SMP 40:** The on-site soil types (Livermore very gravelly coarse sandy loam and Yolo loam calcareous substratum) carry a Storie Index Rating of 3 (41 through 60) and 1 (81 through 100), respectively. As such, 95.7 percent of the soils within SMP 40 meet criteria (b).
(c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.	**SMP 39:** SMP 39 is vacant and undeveloped, and livestock is not supported for commercial purposes within the site. As such, the land within SMP 39 does not meet criteria (c). **SMP 40:** SMP 40 is vacant and undeveloped, and livestock is not supported for commercial purposes within the site. As such, the land within SMP 40 does not meet criteria (c).
(d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed	**SMP 39:** SMP 39 is vacant and undeveloped, and is not planted with fruit or nut-bearing trees, vines, bushes, or crops. As such, the land within SMP 39 does not meet criteria (d). **SMP 40:** SMP 40 is vacant and undeveloped, and is not planted with fruit or nut-bearing trees, vines, bushes, or

[9] According to CEQA Appendix G Guidelines, in determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment (LESA) Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agricultural and farmland. Similar to Government Code Section 56064, defining prime agricultural land, the LESA takes into consideration land capability classification and Storie Index rating. It is noted, however, that a site's LESA score also considers other factors such as the project site size, water resource availability, surrounding agricultural land use, and surrounding protected resource land. A full LESA has not been prepared for the proposed project.

Table 4.1-5
"Prime Agricultural Land" Determination

Criteria	Discussion
agricultural plant production not less than four hundred dollars ($400) per acre.	crops. As such, the land within SMP 40 does not meet criteria (d).
(e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.	**SMP 39:** Historically, SMP 39 was used as pasturelands. In addition, beginning in 2019, SMP 39 was used for dry-land farming until October 2021, when SMP 39 had gone fallow. As a result, it is assumed that the land in SMP 39 has generated products with an annual gross value of $400 or more per acre for three of the previous five years. Therefore, the land within SMP 39 is assumed to meet criteria (e). **SMP 40:** In June 2019, SMP 40 was under hay production and the hay had been recently cut. By September 2021, the site appeared to have been recently disked; however, the site did not contain clear evidence of recent hay production. As a result, the land in SMP 40 has not generated products with an annual gross value of $400 or more per acre for three of the previous five years. Therefore, the land within SMP 40 is assumed to not meet criteria (e).

Source: Assembly Committee on Local Government. Guide to the Cortese–Knox–Hertzberg Local Government Reorganization Act of 2000. December 2022.

Mitigation Measure(s)

Potential mitigation for impacts related to the conversion prime agricultural land to non-agricultural uses could include purchasing agricultural conservation easements outside the project area. However, it should be noted that this mitigation would not create new agricultural land; rather, the mitigation would simply preserve existing agricultural land elsewhere. Feasible mitigation measures do not exist to reduce the above impact to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. For further details related to the cumulative setting of the proposed project, see Chapter 5, Statutorily Required Sections, of this EIR.

4.1-3 Impacts related to the cumulative loss of agricultural land. Based on the analysis below, due to the lack of feasible mitigation, the cumulative impact is *significant and unavoidable*.

According to the City of Livermore General Plan EIR, buildout of the General Plan would result in less-than-significant impacts related to the conversion of agricultural land.[10] As noted therein, implementation of General Plan policies under Goal OSC-3 would ensure that agricultural lands are preserved to the greatest extent feasible. In addition, the General Plan EIR notes that implementation of the General Plan would not result in any development beyond the City's UGB and, as a result, would not result in the conversion of farmland in the greater vicinity of the City to non-agricultural use. However, although the entire project site is located within the South Livermore UGB, the project site was designated by the City as Open Space Sand and Gravel and was, therefore, not anticipated or analyzed for development.

As discussed in the Initial Study prepared for the proposed project (see Appendix A), development of the proposed project would not convert any important farmland, as designated by the FMMP, into non-agricultural uses. In addition, as discussed under Impact 4.1-1, implementation of the proposed rezones would not result in any adverse conflicts related to existing zoning for agricultural use, as the rezones would result in greater consistency with the existing land use designation for each parcel. Furthermore, Alameda County has previously approved surface mining permits for each of the SMP sites and, thus, the County has anticipated that the sites would be used for mining rather than for agricultural uses.

Nonetheless, as discussed under Impact 4.1-2, SMP 39 and SMP 40 have on-site soils that are considered prime agricultural land by Alameda LAFCo. Therefore, implementation of the proposed project would result in the conversion of prime agricultural land, pursuant to Alameda LAFCo, to non-agricultural use and would conflict with Alameda LAFCo policies related to prime agricultural land. Accordingly, the proposed project would permanently convert prime agricultural land to other uses, preventing further use of the site for agricultural uses, and the project-specific impact would be considered significant and unavoidable, as feasible mitigation measures do not exist to reduce the impact to a less-than-significant level.

Overall, implementation of the proposed project would represent a ***significant*** cumulative impact related to the loss of agricultural land when viewed in conjunction with other development in the region.

Mitigation Measure(s)

As discussed above, feasible mitigation measures do not exist to reduce the above impact to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

[10] City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038)* [pg. 73]. June 2003.

4.2 Air Quality, Greenhouse Gas Emissions, and Energy

4.2. AIR QUALITY, GREENHOUSE GAS EMISSIONS, AND ENERGY

4.2.1 INTRODUCTION

The Air Quality, Greenhouse Gas Emissions, and Energy chapter of the EIR describes the potential impacts of the proposed project on local and regional air quality emissions, potential impacts related to greenhouse gas (GHG) emissions and climate change, and potential impacts related to energy. The chapter includes a discussion of the existing air quality, GHG, and energy setting, the existing regulatory setting, as well as potential local and regional air quality, GHG, and energy impacts resulting from construction and operation of the project. In addition, the chapter includes mitigation measures warranted to reduce or eliminate any identified significant impacts. The chapter is primarily based on information and guidance within the Bay Area Air Quality Management District's (BAAQMD's) CEQA Air Quality Guidelines (Air Quality Guidelines),[1] as well as the City of Livermore General Plan,[2] the associated General Plan EIR,[3] the City of Livermore 2022 Climate Action Plan (CAP),[4] and a technical analysis performed by Raney Planning and Management, Inc. (see Appendix C).

4.2.2 EXISTING ENVIRONMENTAL SETTING

The following information provides an overview of the existing environmental setting in relation to air quality within the proposed project area. Air basin characteristics, ambient air quality standards (AAQS), attainment status and regional air quality plans, local air quality monitoring, odors, and sensitive receptors are discussed. In addition to the information pertaining to air quality, information related to climate change and GHGs, as well as energy, is provided.

Air Basin Characteristics

The project site is located in the eastern portion of the nine-county San Francisco Bay Area Air Basin (SFBAAB), and is within the jurisdictional boundaries of the BAAQMD. The SFBAAB consists of coastal mountain ranges, inland valleys, and bays.

The project site is located within the Livermore Valley, which is a sheltered inland valley bordered by hills to the north, south, east, and west. During the summer months, a strong inversion with a low ceiling causes air movement to be weak, and pollutants can become trapped and concentrated. At other times in the summer, however, strong Pacific high-pressure cells from the west, coupled with hot inland temperatures can cause a strong on-shore pressure gradient, which produces a strong, afternoon wind. With a weak temperature inversion, air moves over the hills with ease, dispersing pollutants. In the winter, with the exception of an occasional storm moving through the area, air movement is often dictated by local conditions. At night and early morning, especially under clear, calm and cold conditions, gravity drives cold air downward, and pollutants are pushed upward, over the hills. However, during the winter, strong, surface-based temperature inversions can occur within the valley, and pollutants can become concentrated.

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1 Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines.* April 2023.
2 City of Livermore. *General Plan 2003-2025.* Adopted February 9, 2004.
3 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038).* June 2003.
4 City of Livermore. *2022 Climate Action Plan.* Adopted November 28, 2022.

The prevailing wind direction within the project region is most often from the west. The general westerly flow of the winds tends to move pollutants east. Thus, the winds dilute pollutants and transport them away from the area, so that emissions released in the project area have more influence on air quality in the Sacramento and San Joaquin Valleys than locally. However, stationary sources located in upwind cities and the City's location downwind of the greater Bay Area also means that pollutants from other areas are transported to the City.

Average daily maximum temperatures (in degrees Fahrenheit) can reach the high 80s to low 90s in summer, with summer extremes in the 100s. During the winter months, average maximum temperatures range from the high 50s to the low 60s, while minimum temperatures are from the mid-to-high-30s, with extremes in the high teens and low-20s. Rainfall amounts in the region vary, with an average of 15 inches annually in Livermore.

Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established AAQS for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The AAQS for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which AAQS have been established are called "criteria" pollutants. Table 4.2-1 identifies the major pollutants, characteristics, health effects and typical sources. The national and California AAQS (NAAQS and CAAQS, respectively) are summarized in Table 4.2-2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the national and State standards differ in some cases. In general, the State of California standards are more stringent than the federal standards, particularly for ozone and particulate matter (PM). A description of each criteria pollutant and its potential health effects is provided in the following section.

Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gas (ROG) and oxides of nitrogen (NO_X) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation. The primary source of ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment. Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months. Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

Reactive Organic Gas

ROG is a reactive chemical gas composed of hydrocarbon compounds typically found in paints and solvents that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.

Table 4.2-1
Summary of Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog.	• Eye irritation • Wheezing, chest pain, dry throat, headache, or nausea • Aggravated respiratory disease such as emphysema, bronchitis, and asthma	Combustion sources such as factories, automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels.	• Impairment of oxygen transport in the bloodstream • Impaired vision, reduced alertness, chest pain, and headaches • Can be fatal in the case of very high concentrations	Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure.	• Lung irrigation and damage • Increased risk of acute and chronic respiratory disease	Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants.
Sulfur Dioxide	A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels.	• Aggravation of chronic obstruction lung disease • Increased risk of acute and chronic respiratory disease	Diesel vehicle exhaust, oil-powered power plants, and industrial processes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs.	• Aggravation of chronic respiratory disease • Heart and lung disease • Coughing • Bronchitis • Chronic respiratory disease in children • Irregular heartbeat • Nonfatal heart attacks	Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust.
Lead	A metal found naturally in the environment as well as in manufactured products.	• Loss of appetite, weakness, apathy, and miscarriage • Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract	Industrial sources and combustion of leaded aviation gasoline.

Sources:

- ***California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed April 2023.***
- ***Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: sparetheair.com. Accessed June 2022.***
- ***California Air Resources Board. Glossary of Air Pollution Terms. Available at: https://ww2.arb.ca.gov/glossary. Accessed April 2023.***

Table 4.2-2
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS	NAAQS	
			Primary	Secondary
Ozone	1 Hour	0.09 ppm	-	Same as primary
	8 Hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	8 Hour	9 ppm	9 ppm	-
	1 Hour	20 ppm	35 ppm	
Nitrogen Dioxide	Annual Mean	0.030 ppm	53 ppb	Same as primary
	1 Hour	0.18 ppm	100 ppb	-
Sulfur Dioxide	24 Hour	0.04 ppm	-	-
	3 Hour	-	-	0.5 ppm
	1 Hour	0.25 ppm	75 ppb	-
Respirable Particulate Matter (PM_{10})	Annual Mean	20 ug/m^3	-	Same as primary
	24 Hour	50 ug/m^3	150 ug/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	12 ug/m^3	12 ug/m^3	15 ug/m^3
	24 Hour	-	35 ug/m^3	Same as primary
Lead	30 Day Average	1.5 ug/m^3	-	-
	Calendar Quarter	-	1.5 ug/m^3	Same as primary
Sulfates	24 Hour	25 ug/m^3	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm	-	-
Vinyl Chloride	24 Hour	0.010 ppm	-	-
Visibility Reducing Particles	8 Hour	see note below	-	-

ppm = parts per million
ppb = parts per billion
µg/m^3 = micrograms per cubic meter

Note: Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed April 2023.

Oxides of Nitrogen

NO_X are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown gas that discolors the air and is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of NO_X. NO_X reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, NO_X emissions are a major component of acid rain. Health effects related to NO_X include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

Nitrogen Dioxide

A particular oxide of nitrogen that is of concern to human health is NO_2. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of

NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas.

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the AAQS for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, several epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.

Carbon Monoxide

CO is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne NO_X, suspended sulfur oxide particles contribute to poor visibility. Sulfur oxide particles are also a component of PM_{10} (discussed below).

Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations, especially in enclosed spaces (800 parts per million [ppm] can cause death).

Particulate Matter

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of several components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about particles that are 10 micrometers in diameter or smaller (PM_{10}) because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5-10}$)," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic[5] region of the lungs.
- "Fine particles ($PM_{2.5}$)," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. $PM_{2.5}$ particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health impacts relative to their mass. UFP is not currently regulated separately but is analyzed as part of $PM_{2.5}$.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants, which are emitted directly to the atmosphere and secondary pollutants, which are formed in the atmosphere by chemical reactions among precursors. Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include the same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, and, thus, essentially persists forever. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California

[5] The thoracic region of the lungs includes the trachea and main bronchi.

include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) as a result of airborne dispersion and could become re-suspended into the air.

Because lead is only slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead above the level of the ambient air quality standard may include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

Vinyl Chloride

Vinyl chloride (C_2H_3Cl, also known as VCM) is a colorless gas that does not occur naturally, but is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Visibility Reducing Particles

Visibility Reducing Particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Common stationary sources of TACs include gasoline stations, dry cleaners, and diesel backup generators, which are subject to BCAQMD stationary source permit requirements. The other, often more significant, common source type is on-road motor vehicles, such as cars and trucks, on freeways and roads, and off-road sources such as construction equipment, ships, and trains.

Fossil fueled combustion engines, including those used in cars, trucks, and some pieces of construction equipment, release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene, toluene, xylenes, and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust, DPM, is composed of carbon particles and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of such chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including ROG and NO_X. Due to the published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects, the CARB has identified DPM from diesel-fueled engines as a TAC. Although a variety of TACs are emitted by

fossil fueled combustion engines, the cancer risk due to DPM exposure represents a more significant risk than the other TACs discussed above.[6]

More than 90 percent of DPM is less than one micrometer in diameter, and, thus, DPM is a subset of $PM_{2.5}$. As a California statewide average, DPM comprises about eight percent of $PM_{2.5}$ in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the State. Most major sources of diesel emissions, such as ships, trains, and trucks, operate in and around ports, rail yards, and heavily-traveled roadways. Such areas are often located near highly populated areas. Thus, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas.

Due to the high levels of diesel activity, high volume freeways, stationary diesel engines, rail yards and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Construction-related activities also have the potential to generate concentrations of DPM from on-road haul trucks and off-road equipment exhaust emissions.

The size of diesel particulates that are of the greatest health concern are fine particles (i.e., $PM_{2.5}$) and UFPs. The small diameter of UFPs imparts the particulates with unique attributes, such as high surface areas and the ability to penetrate deeply into lungs. Once UFPs have been deposited in lungs, the small diameter allows the UFPs to be transferred to the bloodstream. The high surface area of the UFPs also allows for a greater adsorption of other chemicals, which are transported along with the UFPs into the bloodstream of the inhaler, where the chemicals can eventually reach critical organs.[7] The penetration capability of UFPs may contribute to adverse health effects related to heart, lung, and other organ health.[8] UFPs are a subset of DPM and activities that create large amounts of DPM, such as the operations involving heavy diesel-powered engines, also release UFPs. Considering that UFPs are a subset of DPM, and DPM represents a subset of $PM_{2.5}$, estimations of either concentrations or emissions of $PM_{2.5}$ or DPM include UFPs.

Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer can include birth defects, neurological damage, and death. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to criteria air pollutants that have established AAQS. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an AAQS or emission-based threshold.

Naturally Occurring Asbestos

Another concern related to air quality is naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer,

6 California Air Resources Board. *Reducing Toxic Air Pollutants in California's Communities*. February 6, 2002.
7 Health Effects Institute. *Understanding the Health Effects of Ambient Ultrafine Particles*. January 2013.
8 South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.

mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Because asbestos is a known carcinogen, NOA is considered a TAC. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock; construction activities in ultramafic rock deposits; or rock quarrying activities where ultramafic rock is present.

NOA is typically associated with fault zones, and areas containing serpentinite or contacts between serpentinite and other types of rocks. According to mapping prepared by the California Geological Survey, the project site is not in an area likely to contain serpentinite or other ultramafic rocks.[9] Consequently, NOA is not expected to be present at the project site.

Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the NAAQS and/or CAAQS. Areas not meeting the NAAQS presented in Table 4.2-2 above are designated by the USEPA as nonattainment. Further classifications of nonattainment areas are based on the severity of the nonattainment problem, with marginal, moderate, serious, severe, and extreme nonattainment classifications for ozone. Nonattainment classifications for PM range from marginal to serious. Because of the differences between the national and State standards, the designation of nonattainment areas is different under the federal and State legislation. The FCAA requires areas violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures for states to use to attain the NAAQS. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, rules, and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA reviews SIPs to determine if they conform to the mandates of the FCAA amendments and would achieve air quality goals when implemented. The CCAA requires local air pollution control districts with air quality that is in violation of CAAQS to prepare air quality attainment plans that demonstrate district-wide emission reductions of five percent per year averaged over consecutive three-year periods, unless an approved alternative measure of progress is developed.

Table 4.2-3 presents the current attainment status of the SFBAAB, including Alameda County. As shown in the table, the area is currently designated as a nonattainment area for the State and federal ozone, State and federal $PM_{2.5}$, and State PM_{10} standards. The SFBAAB is designated attainment or unclassified for all other AAQS.

In compliance with the FCAA and CCAA, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans were prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

[9] California Department of Conservation, Division of Mines and Geology. *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*. August 2000.

Table 4.2-3
Alameda County Attainment Status Designations

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1 Hour	**Nonattainment**	Revoked in 2005
	8 Hour	**Nonattainment**	**Nonattainment**
Carbon Monoxide	8 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Nitrogen Dioxide	Annual Mean	-	Attainment
	1 Hour	Attainment	Unclassified
Sulfur Dioxide	Annual Mean	Attainment	Attainment
	24 Hour	Attainment	Attainment
	3 Hour	-	Unclassified
	1 Hour	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Annual Mean	**Nonattainment**	-
	24 Hour	**Nonattainment**	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	**Nonattainment**	Attainment
	24 Hour	-	**Nonattainment**
Lead	30 Day Average	-	-
	Calendar Quarter	-	Attainment
	Rolling 3-Month Average	-	Attainment
Sulfates	24 Hour	Attainment	-
Hydrogen Sulfide	1 Hour	Unclassified	-
Visibility Reducing Particles	8 Hour	Unclassified	-

Source: Bay Area Air Quality Management District. Air Quality Standards and Attainment Status. Available at: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed April 2023.

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which is a proposed revision to the Bay Area part of the SIP to achieve the federal ozone standard.[10] The plan was adopted on October 24, 2001 and approved by the CARB on November 1, 2001.

The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017.[11] The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, TACs, and GHGs. The control strategies included in the 2017 Clean Air Plan serve as the backbone of the 2017 Clean Air Plan, and build upon existing regional, state, and national programs for emissions reductions. The 2017 Clean Air Plan includes 85 control measures, which provide an integrative approach to reducing ozone, PM, TAC, and GHG emissions. Although a plan for achieving the State PM_{10} standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control measures for the 2017 Clean Air Plan.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal standards within the SFBAAB. The plans are based on population and employment

[10] Bay Area Air Quality Management District. *Air Quality Plans*. Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans.aspx. Accessed April 2023.
[11] *Ibid.*

projections provided by local governments, usually developed as part of the General Plan update process.

Local Air Quality Monitoring

Air quality is monitored by CARB at various locations to determine which air quality standards are being violated, and to direct emission reduction efforts, such as developing attainment plans and rules, incentive programs, etc. The nearest local air quality monitoring station to the project site is the Livermore station, which is located at 793 Rincon Avenue, approximately 1.5 miles east of the project site. Based on the data available from the applicable monitoring station, Table 4.2-4 presents the number of days that the NAAQS and CAAQS were exceeded for the three-year period from 2019 to 2021.

Table 4.2-4
Air Quality Data Summary for the (2019-2021)

Pollutant	Standard	Days Standard Was Exceeded		
		2019	2020	2021
1-Hour Ozone	State	4	1	3
	Federal	0	0	0
8-Hour Ozone	State	7	2	9
	Federal	7	2	9
24-Hour PM_{10}*	State	0	1	0
	Federal	0	1	0
24-Hour $PM_{2.5}$	Federal	0	17	2
1-Hour Nitrogen Dioxide	State	0	0	0
	Federal	0	0	0

* PM_{10} data not available for the Livermore Station. The nearest station with PM_{10} data, the Concord Station, was used.

***Source:** California Air Resources Board, Aerometric Data Analysis and Management (iADAM) System, http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 2023.*

Odors

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster).

An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Meteorological conditions also affect the dispersion of odor emissions, which determines the exposure concentration of odiferous compounds at receptors. The predominant wind direction in an area influences which receptors are exposed to the odiferous compounds generated by a nearby source. Receptors located upwind from a large odor source may not be affected due to the produced odiferous compounds being dispersed away from the receptors. Wind speed also influences the degree to which odor emissions are dispersed

away from any area. As mentioned previously, the prevailing wind direction in the City of Livermore is from the west.

Odiferous compounds could be generated from a variety of source types including both construction and operational activities. Examples of common land use types that typically generate significant odor impacts include, but are not limited to, wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. The project site is not located near any of the aforementioned odor-generating uses.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities.

The closest sensitive receptors to SMP 39 are the single-family residences located approximately 2,745 feet east of the site, across Isabel Avenue/State Route (SR) 84. The closest sensitive receptors to SMP 40 are the single-family residences located east of the project site, across Isabel Avenue/SR 84, which would be approximately 1,785 feet and 884 feet east from proposed Buildings 1 and 2 on the SMP 40 site, respectively. The nearest single-family residences would be located approximately 500 feet to the east of the closest construction area associated with SMP 40.

GHG Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the Earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.

The primary GHG emitted by human activities is CO_2, with the next largest components being CH_4 and N_2O. A wide variety of human activities result in the emission of CO_2. Some of the largest sources of CO_2 include the burning of fossil fuels for transportation and electricity, industrial processes including fertilizer production, agricultural processing, and cement production. The primary sources of CH_4 emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing N_2O are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that transportation-related activities account for the majority of U.S. emissions. Transportation is the largest single-source of GHG emissions, and electricity generation is the second largest source, followed by industrial activities. The

agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[12]

Emissions of GHG are partially offset by uptake of carbon and sequestration in trees, agricultural soils, landfilled yard trimmings and food scraps, and absorption of CO_2 by the Earth's oceans. Additional emission reduction measures for GHG could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation, and project design features. Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global warming potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the GWP of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is CO_2. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of CO_2, as well as the decay rate of each gas relative to that of CO_2. Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of CO_2, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of CO_2, as shown in Table 4.2-5.

Table 4.2-5
GWPs and Atmospheric Lifetimes of Select GHGs

Gas	Atmospheric Lifetime (years)	GWP (100 year time horizon)
Carbon Dioxide (CO_2)	50-200[1]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
Hydrofluorocarbon (HFC)-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

1. For a given amount of CO_2 emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

Source: U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 [Table 1-2]. April 14, 2021.

As shown in the table, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of CO_2. The atmospheric lifetimes of such GHGs are estimated by the USEPA to vary from 50 to 200 years for CO_2, to 50,000 years for CF_4. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes

[12] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed February 2023.

correlate with the GWP of a gas. The common indicator for GHG is expressed in terms of metric tons of CO_2 equivalents ($MTCO_2e$), which is calculated based on the GWP for each pollutant.

Effects of Global Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The Intergovernmental Panel on Climate Change's (IPCC) Climate Change 2021: The Physical Science Basis report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.[13] Signs that global climate change has occurred include:

- Warming of the atmosphere and ocean;
- Diminished amounts of snow and ice;
- Rising sea levels; and
- Ocean acidification.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment (OEHHA) identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring in California and is having significant, measurable impacts in the State. Changes in the State's climate have been observed, including:

- An increase in annual average air temperature with record warmth occurring in recent years;
- More frequent extreme heat events;
- More extreme drought;
- A decline in winter chill; and
- An increase in variability of statewide precipitation.

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the State depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the State's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters. Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems.

In the City of Livermore, specifically, the number of extreme heat days (defined as days where temperatures exceed 101.6 F) could reach an average of 40 days per year, as compared to the four days per year that occur now. While California could not see the average annual precipitation

[13] Intergovernmental Panel on Climate Change. *Climate Change 2021: The Physical Science Basis Summary for Policymakers*. Available at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf. Accessed December 2022.

changing significantly in the next 50 to 75 years, precipitation could likely be delivered in more intense storms and within a shorter wet season. For example, the 30-year average length of dry spell in the City is 121 days. By the end of the century, the average dry spell could be up to 136 days.[14]

According to the City of Livermore 2022 Climate Action Plan (CAP), climate hazards caused by climate change such as extreme heat events, worsened air quality problems, extreme weather events, and increased drought can result in direct impacts to the residents of the City including heat-related death or illness, power outages, asthma and respiratory impacts, water shortages, increased utility rates, property loss and damage, and school/business disruptions.

Energy

California is one of the highest energy demanding states within the nation. In the year 2020, the entire State consumed approximately 279,510 gigawatt-hours (GWh) of electricity. Activities such as heating and cooling structures, lighting, the movement of goods, agricultural production, and other facets of daily life consume a variety of energy sources. However, despite California's high rate of energy use, the State has one of the lowest per capita energy consumption levels in the U.S.

Energy within the State is provided primarily to consumers through a mix of sources including natural gas, hydroelectric, non-hydroelectric renewable sources, nuclear, coal, and petroleum. California is the nation's top producer of electricity from solar, geothermal, and biomass energy. In 2021, California was the nation's top producer of electricity from solar, geothermal, and biomass energy. The state was fourth in the nation in conventional hydroelectric power generation, down from second in 2019, in part because of drought and increased water demand. Renewable resources, including hydropower and small-scale (less than 1-megawatt [MW]), customer-sited solar photovoltaic (PV) systems, supplied more than half of California's in-state electricity generation, and natural gas-fired power plants provided two-fifths.

Figure 4.2-1 presents the sources that are used to produce energy in the State. As presented therein, energy is mostly generated from natural gas combustion, followed by non-hydroelectric renewables (such as wind and solar) and hydroelectric. Figure 4.2-2 presents energy consumption within California for the most recent year for which data is available (2020). As shown in the figure, transportation-related activity consumes the largest single share of energy within the State. The second largest consumer is the industrial sector.

Of the total electricity supplied to the State in 2021, Alameda County consumed approximately 10,237 GWh, which constitutes approximately 3.7 percent of the total energy consumed within the State.[15]

Energy Consumption at the Project Site

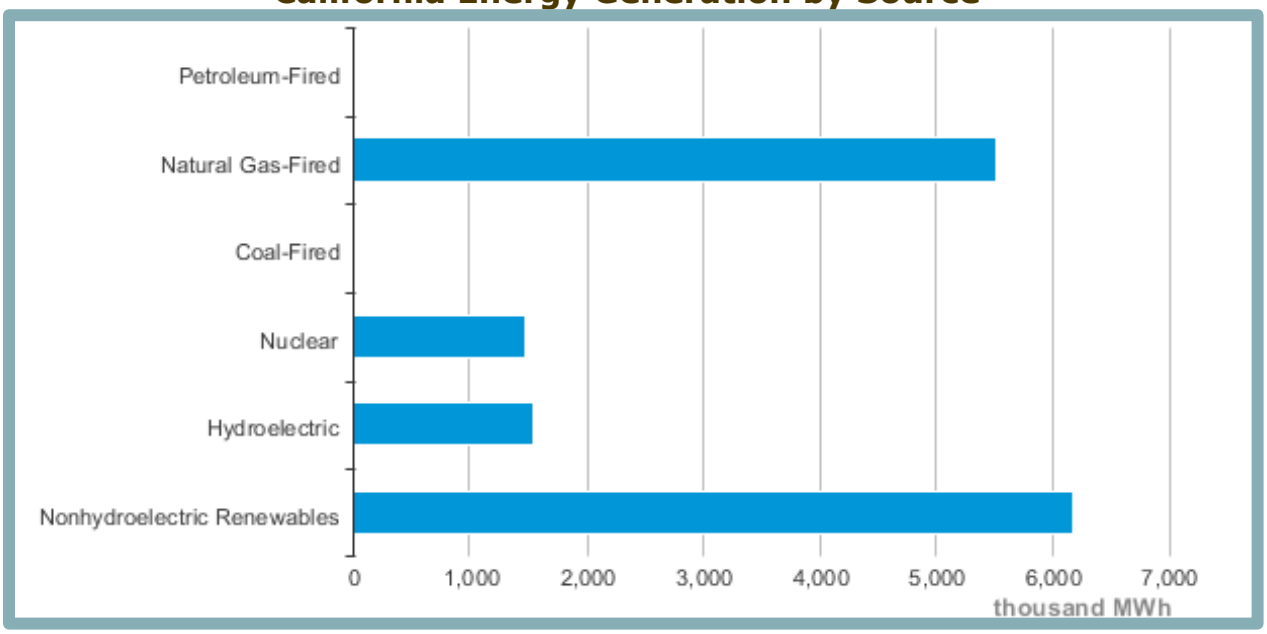
PG&E currently provides service to the project area. However, currently, SMP 39, SMP 40, and the majority of SMP 38 are vacant and undeveloped. Although several structures exist in the northwest corner of SMP 38 related to a former horse ranch, the structures are vacant. In addition, only minor structures associated with on-site infrastructure are located within a portion of the

[14] Cal-Adapt. *Local Climate Change Snapshot for Livermore, California*. Available at: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed February 2023.

[15] California Energy Commission. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed April 2023.

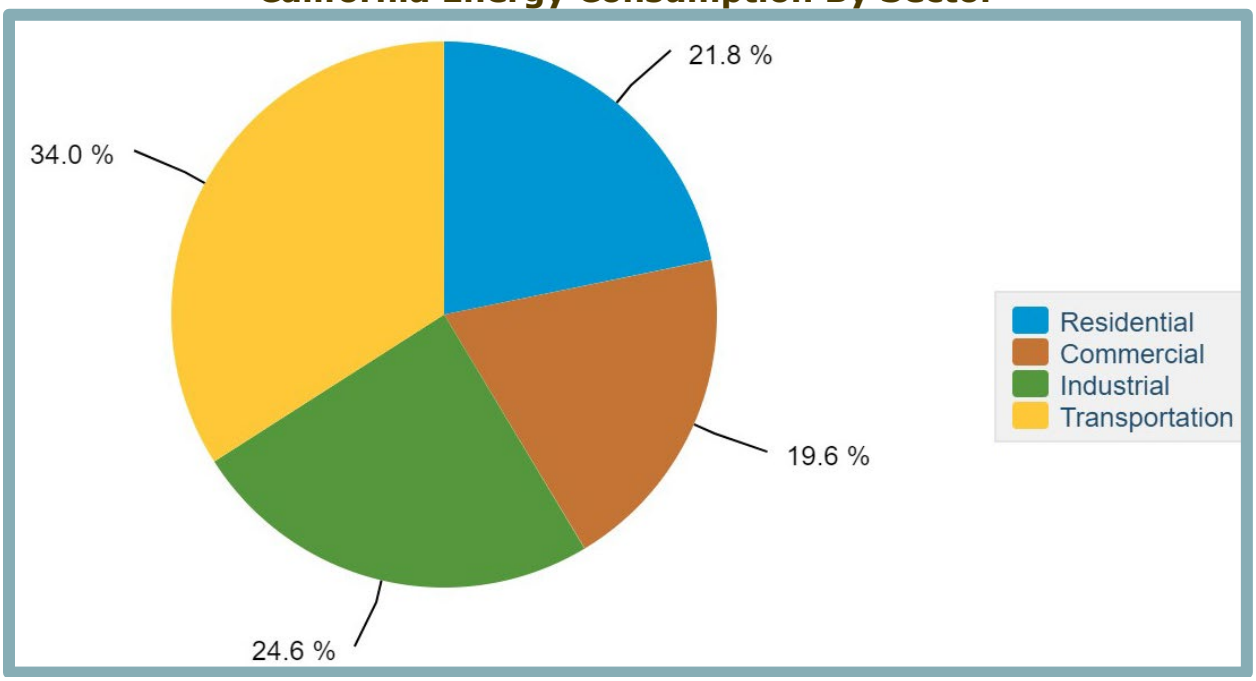
Additional Annexation Only Parcels. Thus, the existing energy demand associated with the project site is little to null.

Figure 4.2-1
California Energy Generation by Source



Source: U.S. Energy Information Administration. California: State Profile and Energy Estimates. Accessible at: https://www.eia.gov/state/index.php?sid=CA. Accessed February 2023.

Figure 4.2-2
California Energy Consumption By Sector



Source: U.S. Energy Information Administration. California: State Profile and Energy Estimates. Accessible at: https://www.eia.gov/state/index.php?sid=CA. Accessed February 2023.

Public Safety Power Shutoffs

In an effort to prevent fires, PG&E initiated public safety power shutoffs (PSPS) in 2019, which may continue in subsequent years until fire risks associated with power lines are decreased. PSPS events involve PG&E turning off electrical service during times when the weather is predicted to have a heightened fire risk from gusty winds and dry conditions. Depending on the fire risks, the power outage events may occur in specific areas or for all PG&E customers across the City. Based on the project site's location, the site is not located within an area that is more likely to be affected by a PSPS event.[16]

4.2.3 REGULATORY CONTEXT

Air quality, GHG emissions, and energy consumption are monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area and monitoring or reducing GHG emissions and energy consumption are discussed below.

Federal Regulations Related to Air Quality

The following discussion provides a summary of the federal regulations relevant to air quality, organized by pollutant type.

Criteria Pollutants

The FCAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The USEPA is responsible for implementing most aspects of the FCAA, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone protection measures, and enforcement provisions. Under the FCAA, NAAQS are established for the following criteria pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The FCAA requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants/Toxic Air Contaminants

The 1977 FCAA amendments required the USEPA to identify national emission standards for hazardous air pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under

[16] Pacific Gas & Electric Co. *Interactive PSPS Planning Map.* Available at: https://vizmap.ss.pge.com/?_ga=2.94997403.624386528.1664230975-1068345172.1664230975. Accessed May 2023.

the 1990 FCAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

Federal Regulations Related to GHG Emissions

The following are the federal regulations relevant to GHG emissions.

Federal Vehicle Standards

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, USEPA, and National Highway Traffic Safety Administration (NHTSA) to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards were projected to achieve emission rates as low as 163 grams of CO_2 per mile by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if the foregoing emissions level was achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200), and NHTSA intended to set standards for model years 2022 through 2025 in future rulemaking.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program would have applied to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards were expected to lower CO_2 emissions by approximately 1.1 billion MT, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In August 2018, the USEPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new, less-stringent standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards that were previously in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day, and would impact the global climate by 3/1000th of one degree Celsius by 2100. California and other states stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the USEPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51,310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission-vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued the Part Two Rule, which sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, an Executive Order (EO) was issued on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to the Part One Rule, in December 2021, the U.S. Department of Transportation withdrew its portions of the "SAFE I" rule. As a result, states are now allowed to

issue their own GHG emissions standards and zero-emissions vehicle mandates.[17] In addition, the Part Two Rule was adopted to revise the existing national GHG emission standards for passenger cars and light trucks through model year 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and will result in avoiding more than three billion tons of GHG emissions through 2050.[18]

Federal Regulations Related to Energy

The following are the federal regulations relevant to energy.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act was originally enacted in 1975 with the intention of ensuring that all vehicles sold in the U.S. meet established fuel economy standards. Following congressional establishment of the original set of fuel economy standards the U.S. Department of Transportation was tasked with establishing additional on-road vehicle standards and making revisions to standards as necessary. Compliance with established standards is based on manufacturer fleet average fuel economy, which originally applied to both passenger cars and light trucks but did not apply to heavy-duty vehicles exceeding 8,500 pounds in gross vehicle weight. The fuel economy program implemented under the Energy Policy and Conservation Act is known as the Corporate Average Fuel Economy (CAFE) Standards. Updates to the CAFE standards since original implementation have increased fuel economy requirements and begun regulation of medium- and heavy-duty vehicles.

Energy Policy Act of 2005

The Energy Policy Act of 2005 addressed energy production in the U.S. from various sources. In particular, the Energy Policy Act of 2005 included tax credits, loans, and grants for the implementation of energy systems that would reduce GHG emissions related to energy production.

State Regulations Related to Air Quality

The following discussion summarizes applicable State regulations related to air quality, organized by pollutant type. Only the most prominent and applicable California air quality-related legislation is included below; however, an exhaustive list and extensive details of California air quality legislation can be found at the CARB website (http://www.arb.ca.gov/html/lawsregs.htm).

Criteria Air Pollutants

The FCAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the CCAA of 1988, responding to the FCAA, and regulating emissions from motor vehicles and consumer products.

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[17] National Highway Traffic Safety Administration. *In Removing Major Roadblock to State Action on Emissions Standards, U.S. Department of Transportation Advances Biden-Harris Administration's Climate and Jobs Goals.* Available at: https://www.nhtsa.gov/press-releases/cafe-preemption-final-rule. Accessed February 2023.

[18] U.S. Environmental Protection Agency. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed February 2023.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and do not violate the standards more than once each year. The CAAQS for ozone, CO, SO_2 (one-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.2-2.

Hazardous Air Pollutants/Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner), and involved definition of a list of TACs. The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. The State list of TACs includes the federally-designated hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and, if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

CARB Air Quality and Land Use Handbook

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities.[19] The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate-405 and Interstate-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day".[20]

Importantly, the Introduction chapter of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The Air Resources Board Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations,

[19] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
[20] *Ibid.*

including housing and transportation needs, economic development priorities, and other quality of life issues".[21]

Diesel Particulate Matter

In 2000, CARB approved a comprehensive diesel risk reduction plan to reduce diesel emissions, including DPM, from new and existing diesel-fueled vehicles and engines. The regulation was anticipated to result in an 80 percent decrease in statewide diesel health risk by 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. The aforementioned regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures (ATCMs) exist that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Heavy-Duty Diesel Truck and Bus Regulation

CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce DPM and NO_X emissions from heavy-duty diesel vehicles. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an ATCM to limit idling of diesel-fueled commercial vehicles on December 12, 2013. The rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than five minutes at any location (13 CCR 2485).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person must not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. Section 41700 also applies to sources of objectionable odors.

Heavy-Duty Vehicle Idling Emission Reduction Program

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.[22] The regulation established new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent NO_X emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired

[21] *Ibid.*

[22] California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. October 24, 2013. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling. Accessed February 2023.

heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.[23] Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the CCR. In addition, as of 2015, vehicles with Tier 0 and Tier 1 engines are prohibited from being added to equipment fleets. Fleets with a total horsepower over 2,501, excluding non-profit training centers, may not add any Tier 2 engines and, starting January 1, 2023, all engines must be Tier 3 or higher.

State Regulations Related to GHG Emissions

The statewide GHG emissions regulatory framework is summarized below. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues. The following discussion does not include an exhaustive list of applicable regulations; rather, only the most prominent and applicable California legislation related to GHG emissions and climate change is included below.

State Climate Change Targets

California has taken a number of actions to address climate change, including EOs, legislation, and CARB plans and requirements, which are summarized below.

Executive Order S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the State agencies for implementing the EO and for reporting on progress toward the targets. The EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also directed the California Environmental Protection Agency (CalEPA) to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issues yearly GHG reduction report cards to track the progress of emission reduction strategies. Each report card documents the effectiveness of measures to reduce GHG in California, presents GHG emissions from State agencies' operations, and shows reductions that have occurred in the two years prior to publication.

[23] California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed February 2023.

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multi-year program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the State's long-range climate objectives. AB 32 also required that the CARB prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020. The CARB's Scoping Plan is described in further detail below.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for an update to the CARB's Climate Change Scoping Plan: A Framework for Change (Scoping Plan) to express the 2030 target in terms of million metric tons (MMT) CO_2e. The CARB's Scoping Plan is discussed in further detail below. The EO also called for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill 32 and Assembly Bill 197

Senate Bill (SB) 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the State's climate policies. AB 197 also added two members of the Legislature to the Board as non-voting members; requires CARB to make available and update (at least annually via the CARB's website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every five years. In 2008, CARB approved the first Scoping Plan. The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The key elements of the Scoping Plan include the following:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33 percent;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;

4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.); and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from 2008 levels by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the State's GHG emission reduction priorities for the next five years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuation of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the State's 1990 emissions level using more recent GWPs identified by the IPCC, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on a trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, the Scoping Plan was once again updated. The 2017 Scoping Plan built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that would serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the State's climate change priorities to 2030 and beyond. For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15 percent reduction goal with a recommendation to aim for a communitywide goal of no more than six $MTCO_2e$ per capita by 2030, and no more than two $MTCO_2e$ per capita by 2050, which are consistent with the State's long-term goals. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans [CAPs]) and provided more information regarding tools to support those efforts. The 2017 Scoping Plan also recognized the CEQA streamlining provisions for project-level review where a legally adequate CAP exists.

When discussing project-level GHG emissions reduction actions and thresholds in the context of CEQA, the 2017 Scoping Plan stated that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognized that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provided that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

The most recent update to the Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) was adopted by the CARB in December 2022.[24] The 2022 Scoping Plan Update builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. The 2022 Scoping Plan Update, the most comprehensive and far-reaching Scoping Plan developed to date, identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan. The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the Scoping Plan also includes discussion for the first time of the Natural and Working Lands (NWL) sectors as both sources of emissions and carbon sinks.

The 2022 Scoping Plan Update lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels by 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

CARB's Regulations for the Mandatory Reporting of GHG Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that the USEPA promulgated in its Final Rule on Mandatory Reporting of GHGs (40 Code of Federal Regulations [CFR] Part 98). In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 $MTCO_2e$ per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 $MTCO_2e$ per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

Senate Bill 1383

SB 1383 establishes specific targets for the reduction of short-lived climate pollutants (SLCPs) (40 percent below 2013 levels by 2030 for CH_4 and hydrofluorocarbons (HFCs), and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its SLCP Reduction

[24] California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. November 16, 2022. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed December 2022.

Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

Executive Order B-55-18/Assembly Bill 1279

EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. CARB intends to work with relevant State agencies to ensure that future scoping plan updates identify and recommend measures to achieve the carbon neutrality goal. On September 16, 2022, AB 1279, also known as the California Climate Crisis Act, codified the carbon neutrality goal established by EO B-55-18.

Mobile Sources

The following regulations relate to the control of GHG emissions from mobile sources. Mobile sources include both on-road vehicles and off-road equipment.

Assembly Bill 1493

AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles that are primarily used for non-commercial personal transportation in the State. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of approximately 22 percent of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards would result in a reduction of approximately 30 percent.

Senate Bill 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every eight years. SB 375 requires the State's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their Regional Transportation Plans that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land, (2) supersede the land use authority of cities and counties, or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with the sustainable community strategy. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the State-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. By 2025, implementation of the rule is anticipated to reduce emissions of smog-forming pollution from cars by 75 percent compared to the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, adopted GHG standards for model year 2017 to 2025 vehicles; the standards were estimated to reduce GHG emissions by 34 percent by 2025. The zero-emissions vehicle program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

Executive Order B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Assembly Bill 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and a feasible method to satisfactorily mitigate or avoid the specific, adverse impact does not exist. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 required electric-vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric-vehicle charging stations. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt the ordinance by September 30, 2017.

Water

The following regulations relate to the conservation of water, which reduces GHG emissions related to electricity demands from the treatment and transportation of water.

Executive Order B-29-15

In response to a drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives subsequently became permanent water-efficiency standards and requirements. The EO includes specific

directives that set strict limits on water usage in the State. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance (MWELO) that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens the applicability of the ordinance to include new development projects with smaller landscape areas.

Solid Waste

The following regulations relate to the generation of solid waste and means to reduce GHG emissions from solid waste produced within the State.

Assembly Bill 939 and Assembly Bill 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code [PRC] Sections 40000 et seq.), was passed because of the observed increase in waste stream and the decrease in landfill capacity.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that the policy goal of the State is that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the State's policy goal.

Other State Actions

The following State regulations are broadly related to GHG emissions.

Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities. The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resource Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, and the amended CEQA Guidelines became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply the lead agency's own thresholds of significance or those developed by other agencies or experts. CNRA acknowledges that a lead

agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs State agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the State's vulnerability, the report summarizes key climate change impacts to the State for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that the State government should take to build climate change resiliency.

State Regulations Related to Energy

The primary State regulatory agencies governing energy consumption are the CEC and the CPUC.

The CEC, created by the Legislature in 1974, has seven major responsibilities: forecasting future energy needs; promoting energy efficiency and conservation by setting the State's appliance and building energy efficiency standards; supporting energy research that advances energy science and technology through research, development, and demonstration projects; developing renewable energy resources; advancing alternative and renewable transportation fuels and technologies; certifying thermal power plants 50 MW and larger; and planning for and directing State response to energy emergencies.[25]

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC is responsible for ensuring that customers have safe, reliable utility service and infrastructure at reasonable rates, regulating utility services, stimulating innovation, and promoting competitive markets.[26]

[25] California Energy Commission. *About the California Energy Commission*. Available at: http://www.energy.ca.gov/about. Accessed February 2023.

[26] California Public Utilities Commission. *California Public Utilities Commission*. Available at: https://www.cpuc.ca.gov/about-cpuc. Accessed February 2023.

The State has adopted various regulations aimed at reducing energy consumption, increasing energy efficiency, and mandating sourcing requirements for electricity production. The following regulations are applicable to the proposed project.

Building Energy

The following regulations relate to energy efficiency and energy use reductions in the built environment.

Title 24, Part 6

Title 24 of the CCR, which is known as the California Building Standards Code (CBSC), was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed periodically, and revised, if necessary, by the Building Standards Commission and CEC (PRC Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). The regulations are scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, the standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2022 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2023. Compliance with the 2022 Title 24 Building Energy Efficiency Standards will reduce energy use and associated GHG emissions compared to structures built in compliance with the previous 2019 Title 24 standards.

Title 24, Part 11

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, industrial, low-rise residential and State-owned buildings and schools and hospitals. The original CALGreen standards have been updated several times. The CALGreen 2022 standards, which are the current standards, improved upon the 2019 CALGreen standards, and went into effect on January 1, 2023. The 2022 CALGreen Code focuses on four key areas in newly constructed homes and businesses:[27]

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.

[27] California Energy Commission. *Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions From Homes and Businesses.* Available at: https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0. Accessed February 2023.

- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar PV system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

Title 20

Title 20 of the CCR requires manufacturers of appliances to meet State and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and State standards for federally regulated appliances, State standards for federally regulated appliances, and State standards for non-federally regulated appliances.

Senate Bill 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the State to install rooftop solar energy systems with a generation capacity of 3,000 MW through 2016. SB 1 added sections to the PRC, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for PV systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the State to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption, and placing solar energy systems on 50 percent of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

Assembly Bill 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50 percent for indoor residential lighting and by 25 percent for indoor commercial lighting.

Climate Change Scoping Plan

Expanding and strengthening existing energy efficiency programs as well as building and appliance standards is the key element of the Scoping Plan, as introduced above, related to building energy.

Transportation/Fuel Energy

The following regulations relate to fuel efficiency and energy use reductions in the transportation and motorized vehicle sector.

Assembly Bill 1493

In 2002 California adopted AB 1493, also known as the Pavley I standards, which required new passenger vehicles with model years 2009 to 2016 to meet more stringent fuel efficiency standards. Additional laws have extended these rules to cover vehicles from future model years.

Executive Order S-1-07

EO S-1-07, otherwise known as the LCFS, was adopted in 2009 and requires transportation fuels such as gasoline and diesel sold within the state to be less carbon intensive. These policies reduce emissions from on-road transportation and off-road equipment use in the City of Livermore.

Executive Order B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Assembly Bill 1346

AB 1346 (October 2021) prohibits non-electric small off-road engines. Small off-road engines, which are used primarily in lawn and garden equipment, emit high levels of air pollutants and, in 2020, California daily criteria pollutant emissions from small off-road engines were higher than emissions from light-duty passenger cars. Thus, by January 1, 2024, regulations shall prohibit engine exhaust and evaporative emissions from new small off-road engines.

Senate Bill 500

SB 500 (September 2021) requires that, beginning January 1, 2030, to the extent allowed by federal law, any autonomous vehicle that is model year 2031 or later, has a gross vehicle weight rating of less than 8,501 pounds, and is equipped with Level 3, 4, or 5 automation (as defined by the International Society of Automotive Engineers) to be a zero-emission vehicle to be operated on California public roads.

Climate Change Scoping Plan

The key elements of the Scoping Plan, as introduced above, related to transportation energy include the following:

1. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
2. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the LCFS (17 CCR, Section 95480 et seq.).

Renewable Energy and Energy Procurement

The following regulation relates to the source of electricity provided to consumers within the State, as well as standards related to the generation of electricity within the State.

Renewable Portfolio Standard (RPS), Senate Bill 350, and Senate Bill 100

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Since the inception of the RPS program, the program has been extended and enhanced multiple times. In 2015, SB 350 extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030. The requirements of SB 350 were expanded and intensified in 2018 through the adoption of SB 100, which mandated that all electricity generated within the State by publicly owned utilities be generated through carbon-free sources by 2045. In addition, SB 100 increased the previous renewable energy requirement for the year 2030 by 10 percent; thus, requiring that 60 percent of electricity generated by publicly owned utilities originate from renewable sources by the year 2030.

Local Regulations

The following are the regulatory agencies and regulations pertinent to the proposed project on a local level.

Plan Bay Area 2050

Plan Bay Area 2050 (PBA 50) is a long-range transportation and land use/housing strategy through 2050 for the San Francisco Bay Area, designed to reduce GHG emissions from the mobile sector.[28] PBA 50 was approved by the Metropolitan Transportation Commission (MTC) and ABAG on October 21, 2021. PBA 50 also meets all State and federal requirements for a Regional Transportation Plan and Sustainable Communities Strategy.

Plan Bay Area 2050 provides an outline for growth in four focus areas: Priority Development Areas (PDA); Transit-Rich Areas; Priority Production Areas; and High-Resource Areas. The project site is not located within a PDA. According to the PBA 50 Forecasting and Modeling Appendix, by 2050, housing in Alameda County is projected to increase by 296,000 households, or 55 percent, and jobs are projected to increase by 315,000, or 37 percent.[29]

Local jurisdictions seeking to implement development projects consistent with PBA 50 are eligible for funding for PDA planning and transportation projects. In addition, jurisdictions have the option

[28] Association of Bay Area Governments and Metropolitan Transportation Commission. *Plan Bay Area 2050: Final.* October 2021.

[29] Association of Bay Area Governments and Metropolitan Transportation Commission. *Forecasting and Modeling Report, Appendix 1: Growth Pattern*. October 2021.

to streamline the development process for projects consistent with PBA 50 and meet the other criteria included in SB 375.

Bay Area Air Quality Management District

The BAAQMD is the public agency entrusted with regulating air pollution in the nine counties that surround San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties.

The BAAQMD has prepared Air Quality Guidelines, which are intended to be used for assistance with CEQA review. The BAAQMD Air Quality Guidelines include thresholds of significance and project screening levels for criteria air pollutants (ROG, NO_X, PM_{10}, and $PM_{2.5}$), GHGs, TACs, CO, and odors, as well as methods to assess and mitigate project-level and plan-level impacts. The most recent BAAQMD Air Quality Guidelines were released in April 2023.

Regional Air Quality Plans

As discussed above, the 2001 Ozone Attainment Plan was prepared as a revision to the Bay Area part of the SIP to achieve the federal ozone standard. The plan was adopted on October 24, 2001, approved by the CARB on November 1, 2001, and was submitted to the USEPA on November 30, 2001 for review and approval as a revision to the SIP. In addition, in order to fulfill federal air quality planning requirements, the BAAQMD adopted a $PM_{2.5}$ emissions inventory for the year 2010, which was submitted to the USEPA on January 14, 2013 for inclusion in the SIP.

The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, TACs, and GHGs. Although the CCAA does not require the region to submit a plan for achieving the State PM_{10} standard, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. It should be noted that on January 9, 2013, the USEPA issued a final rule to determine that the San Francisco Bay Area has attained the 24-hour $PM_{2.5}$ federal standard, which suspends federal SIP planning requirements for the Bay Area.

The aforementioned applicable air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal standards within the SFBAAB. The plans are based on population and employment projections provided by local governments, usually developed as part of the General Plan update process.

Rules and Regulations

All projects under the jurisdiction of the BAAQMD are required to comply with all applicable BAAQMD rules and regulations. Applicable BAAQMD's regulations and rules include, but are not limited to, the following:

- Regulation 2: Permits
  - Rule 5: New Source Review of Toxic Air Contaminates
- Regulation 6: Particulate Matter and Visible Emissions
  - Rule 2: Commercial Cooking Equipment
  - Rule 3: Wood-burning Devices
- Regulation 7: Odorous Substances
- Regulation 8: Organic Compounds
  - Rule 3: Architectural Coatings

- Regulation 11: Hazardous Pollutants
    - Rule 2: Asbestos Demolition, Renovation and Manufacturing

Additionally, all projects within BAAQMD jurisdiction are required to implement the Basic Construction Mitigation Measures (BCMMs), which include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a six- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

In addition to the BCMMs, projects are strongly encouraged to implement enhanced best management practices to control fugitive dust emissions. The enhanced measures are especially important when schools, residential areas, or other sensitive land uses are located near the construction site. BAAQMD recommended enhanced best management practices include the following:

1. Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
2. Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
3. Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.
4. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
5. Minimize the amount of excavated material or waste materials stored at the site.
6. Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

City of Livermore General Plan

Applicable goals, objectives, and policies from the City's General Plan related to air quality, GHGs, and energy are presented below.

Open Space and Conservation Element

Goal OSC-6 Protect and improve Livermore's air quality.

Objective OSC-6.1 Minimize air pollution emissions.

Policy P1 The City shall require project developers to develop and implement a construction-period air pollution control plan, consistent with dust and emission-abatement actions outlined in the CEQA handbook of the Bay Area Air Quality Management District.

Policy P2 The City shall prohibit the location of sensitive receptors (e.g., residential uses, schools, hospitals) in the vicinity of industries that generate toxic emissions; conversely, prohibit the location of industries that generate toxic emissions in the vicinity of sensitive receptors.

Policy P4 All industrial uses within Livermore shall meet regional, State and federal air pollution standards.

Policy P5 The City shall attempt to increase the employment to population ratio to reduce commuting rates and associated vehicle-related pollution emissions. The City shall approve only those development proposals, which are designed and located to minimize energy consumption and adverse impacts on air, land and water resources. High-density, transit oriented developments shall be strongly encouraged and promoted through the use of specific planning, density transfer, the planned development concept, and zoning designations.

Goal OSC-7 Minimize Livermore's energy consumption.

Objective OSC-7.1 Promote a variety of approaches to energy conservation in the public and private realms.

Policy P2 The City shall approve only those development proposals which are designed and located to minimize energy consumption and adverse impacts on air, land, and water resources.

Climate Change Element

Goal CLI-1 By 2020, the City of Livermore shall seek to reduce greenhouse gas emissions under the control of the City to a level 15% less than 2008 levels in order to support State implementation of the Global Warming Solution Act of 2006 (AB 32).

Objective CLI-1.1 Adopt a Climate Action Plan by 2010 that will help the City address climate change.

Policy P4 DEVELOPMENT PROJECT FRAMEWORK - Evaluate the GHG emissions impacts of proposed developments through the CEQA process. Require preparation of project level GHG emissions inventories. Establish requirements for tiered significance thresholds for the evaluation of projects and identification and application of mitigation.

Objective CLI-1.3 Support measures that encourage alternative modes of transportation and alternative fuels in order to reduce emissions associated with vehicle travel.

Policy P10 ANTI-IDLING REQUIREMENTS - Limit idling of municipal, community, and/or commercial vehicles for new development through the CEQA process. Support CARB anti-idling requirements and provide signage in key areas where idling that is not consistent with CARB requirements might occur.

Policy P11 NEW ROAD WIDTHS - To reduce heat gain from pavement, consider reducing street pavement in new developments.

Objective CLI-1.5 Expand and adopt new policies and programs that will help to provide energy efficiency alternatives to fossil fuel use and reduce consumption in order to reduce greenhouse gas emissions.

Policy P7 ALTERNATIVE BUILDING MATERIALS - Encourage the use of cement substitutes and recycled building materials for new construction.

City of Livermore Climate Action Plan

The City of Livermore adopted its first CAP in 2012, which established a GHG emissions reduction goal of reducing emissions by 15 percent by 2020. The City exceeded the 2020 GHG reduction goal identified in the 2012 CAP by achieving a 17 percent reduction three years early in 2017.

On November 28, 2022, the City adopted the updated 2022 CAP. The 2022 CAP is intended to create a roadmap to achieve emissions reductions of 40 percent below 1990 levels by 2030, and carbon neutrality (i.e., net zero carbon emissions) by 2045. The CAP contains mitigation strategies and actions, as well as adaptation measures, consistent with State climate mitigation targets (SB 32 and EO B-55-18) and new legislation that requires cities to plan for the impacts of climate change.

The mitigation strategies and actions included within the CAP were developed to reduce the City's GHG emissions to reach its adopted reduction targets for 2030 and 2045. Adaptation measures were developed to increase resiliency throughout the community and prepare vulnerable populations for the impacts of climate-related hazards, such as drought and wildfire. The CAP includes both quantifiable actions and measures that directly demonstrate how Livermore will reach its adopted 2030 and 2045 targets in the CAP, as well as non-quantifiable measures and actions that support the CAP's general goal of GHG emission reductions.

Overall, the CAP identifies four key ways to reduce carbon emissions: changing buildings from natural gas to electricity; increasing use of electric vehicles and alternative modes of transportation, such as public transit, biking and walking; decreasing the amount of organic waste that creates methane in landfills; and sequestering carbon through tree planting, carbon farming, and open space preservation. As a qualified GHG Reduction Plan, new development projects can use the 2022 CAP to streamline their GHG analysis by ensuring consistency with the mitigation strategies and actions included within the CAP. Streamlining new development projects that meet the City's climate goals through CAP consistency allows the City to decrease costs of development and effectively incentivize climate smart development.

City of Livermore Reach Code

Local governments may adopt "reach codes," which are more restrictive local amendments to the Building Energy Efficiency Standards or the CALGreen Code. The City of Livermore has adopted an amended CBSC Reach code, provided in Chapter 15.26 of the City's Municipal Code, which provides a more stringent version of the 2022 CBSC.

Under the City's Reach code, all newly constructed residential and non-residential buildings would be required to be built all-electric, meaning that electricity would be the sole source of energy, and natural gas infrastructure would be prohibited. The Reach code also provides more stringent requirements for residential and non-residential EV charging equipment.

4.2.4 IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used to analyze and determine the potential impacts related to air quality, GHG emissions, and energy are described below. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact related to air quality, GHG emissions, or energy would occur if the proposed project would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State AAQS;

- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs;
- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources; or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Pursuant to CEQA Guidelines Section 15064.4(b)(2), the lead agency is charged with determining a threshold of significance that is applicable to the project. For the analysis within this EIR, the City has elected to use the BAAQMD's thresholds of significance and the City's 2022 CAP. The air quality and GHG emissions analysis in this EIR uses the thresholds for criteria pollutants, localized CO, TAC emissions, and GHG emissions, as discussed below.

Criteria Pollutant Emissions

The BAAQMD thresholds of significance for ozone precursor and PM emissions are presented in Table 4.2-6 and are expressed in pounds per day (lbs/day) for construction and operational average daily emissions and tons per year (tons/yr) for maximum annual operational emissions.

Table 4.2-6
BAAQMD Thresholds of Significance

Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/yr)
ROG	54	54	10
NO_X	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10

Source: BAAQMD, CEQA Guidelines, April 2023.

Emissions of PM can be split into two categories: fugitive emissions and exhaust emissions. The BAAQMD thresholds of significance for exhaust PM emissions are presented in Table 4.2-6. The BAAQMD does not maintain quantitative thresholds for fugitive emissions of PM_{10} or $PM_{2.5}$; rather, BAAQMD requires all projects within the district's jurisdiction to implement BCMMs related to dust suppression.

Localized CO Emissions

If a project would cause localized CO emissions to exceed the 1-hour and 8-hour CAAQS of 20.0 parts per million (ppm) and 9.0 ppm, respectively, BAAQMD would consider the project to result in a significant impact to air quality. In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a project would result in a less-than-significant impact related to localized CO emission concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, natural or urban street canyon, below-grade roadway).

TAC Emissions

According to BAAQMD, a significant impact related to TACs would occur if a new source would cause any of the following:

- An increase in cancer risk levels of more than 10 persons in one million;
- A non-cancer (chronic or acute) hazard index greater than 1.0; or
- An annual average $PM_{2.5}$ concentration of 0.3 micrograms per cubic meter ($\mu g/m^3$) or greater.

An impact associated with TACs would also occur if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source, or from the location of a receptor, plus the contribution from the project, would exceed the following:

- An increase in cancer risk levels (from all local sources) of more than 100 persons in one million;
- A chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- An annual average $PM_{2.5}$ concentration (from all local sources) of 0.8 $\mu g/m^3$ or greater.

The foregoing risk thresholds are intended for use in analyzing potential impacts related to the siting of a new source of emissions. The proposed project involves development of the project site for industrial uses. The proposed uses are not anticipated to involve any substantial stationary sources of TACs. Thus, the BAAQMD thresholds presented above would not directly apply to the proposed uses. Nonetheless, as discussed in further detail below, in order to assess the health risk impacts of DPM emissions from heavy-duty trucks travelling to and from the project site on nearby sensitive receptors, an operational HRA was prepared and is included in the analysis herein. An aggregate total HRA was also conducted to assess the impact associated with all identified sources within a 1,000-foot radius of the project site, in combination with the heavy-duty trucks associated with the proposed project.

GHG Emissions

As noted previously, in April 2023 the BAAQMD adopted updated Air Quality Guidelines. The updated guidelines included new GHG thresholds, which are qualitative and consist of two distinct categories of criteria that must be met: Buildings and Transportation.

The BAAQMD's Buildings criteria require that a project must meet the following minimum project design elements:

a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

The BAAQMD's Transportation criteria require that a project must meet the following:

a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
    i. Residential projects: 15 percent below the existing VMT per capita;
    ii. Office projects: 15 percent below the existing VMT per employee; or
    iii. Retail projects: no net increase in existing VMT.
b. Achieve compliance with off-street EV requirements in the most recently adopted version of CALGreen Tier 2.

Alternatively, a project is not required to implement the foregoing design elements if the project shows consistency with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). As discussed previously, on November 28, 2022, the City of Livermore adopted the updated 2022 CAP, which meets the criteria to be a GHG reduction strategy under CEQA Guidelines Section 15183.5(b). Therefore, the analysis included herein is based on the proposed project's consistency with City's 2022 CAP. According to the CAP, new development projects can use the 2022 CAP to streamline their GHG analysis by ensuring consistency with the mitigation strategies and actions included within the CAP. If the project is determined to meet the requirements of the mitigation strategies and actions included within the CAP, then the project would result in a less-than-significant impact related to GHG emissions.

Energy

Quantitative thresholds for the analysis of potential impacts related to energy consumption have not been adopted by any local, regional, or statewide entities. Consequently, potential impacts of the project related to energy are determined based on whether the project would result in wasteful, inefficient, or unnecessary use of energy. In addition, the potential for the project to conflict with or obstruct a State or local plan for renewable energy generation or energy efficiency is considered. The analysis of energy consumption includes consideration of energy demand during project construction and operations.

Method of Analysis

A comparison of project-related emissions to the thresholds discussed above shall determine the significance of the potential impacts to air quality and climate change resulting from the proposed project. Emissions attributable to the proposed project which exceed the significance thresholds could have a significant effect on regional air quality and the attainment of the federal and State AAQS. Where potentially significant air quality impacts are identified, mitigation measures are described that would reduce or eliminate the impact.

It should be noted that development of SMP 38, as well as the four Additional Annexation Only Parcels, is not proposed as part of the project. Therefore, the analysis included within this chapter is focused on the potential impacts associated with the development of SMP 39 and SMP 40, as

well as the off-site trail connection options, which would connect to the existing Arroyo Mocho Trail located on the east side of Isabel Avenue/SR 84. The three trail connection options being considered and evaluated herein include Trail Connection Option 1 – At-Grade Crossing at Discovery Drive; Trail Connection Option 2 – Undercrossing at Isabel Bridge; and Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84. Further detail of the trail connection options is provided in Chapter 3, Project Description, of this EIR.

Construction Criteria Pollutant and GHG Emissions

The proposed project's construction emissions have been estimated using two modeling tools: California Emissions Estimator Model (CalEEMod) Version 2020.4.0 and the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) RoadMod, Version 9.0.0. While the project site is not located within the jurisdiction of SMAQMD, RoadMod is an industry standard tool for evaluating emissions associated with linear construction projects (i.e., new roadway construction, road widening, utility installations, etc.) throughout the State.

CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data was input into the model.

The following inherent design features and project-specific information were included in the modeling conducted for SMP 39:

- Construction would begin in September of 2024;
- Construction would occur over approximately two years;
- 24,000 cubic yards (CY) of soil import would be required; and
- Tier 3 engines would be used for all off-road heavy-duty equipment over 150 horsepower.

Similarly, the following inherent design features and project-specific information were included in the modeling conducted for SMP 40:

- Construction would begin in September of 2023;[30]
- Construction would occur over approximately two years;
- 7,000 CY of soil import would be required; and
- Tier 3 engines would be used for all off-road heavy-duty equipment over 150 horsepower.

RoadMod was used to model construction of the three off-site trail connection options. RoadMod requires the user to input information related to the area of disturbance and the length of time a project would occur. Construction of the proposed three off-site trail connection options was assumed to begin in 2023. Trail Connection Option 1 was assumed to be approximately 2,126 feet long and 10 feet wide, and was assumed to be constructed over a two-month period. Trail

[30] It is noted that when the air quality analysis was conducted for the propsoed project, construction was anticipated to commence in September 2023. While this is no longer the case, the analysis conducted for this EIR is considered conservative, as construction fleets and electricity generation are becoming more efficient over time due to State regulations. Thus, modeling construction at an earlier start date results in higher associated emissions, which provides a worst-case or conservative analysis.

Connection Option 2 was assumed to be approximately 171 feet long and 14 feet wide, and improvements were assumed to occur over a one-month period. Trail Connection Option 3 was assumed to be approximately 1,354 feet long (including a 1,184-foot trail and 170-foot bridge over Isabel Avenue/SR 84) and 10 feet wide, and was assumed to be constructed over a four-month period. It should be noted that while it was assumed that Tier 3 engines would be used for all off-road heavy-duty equipment over 150 horsepower used for construction of SMP 39 and SMP 40, based on applicant provided information, because such information was not provided for the equipment used during construction of the off-site trail connection options, default engine tiers were assumed within the RoadMod modeling.

The results of the construction emissions modeling were compared to the standards of significance discussed above in order to determine the associated level of impact. Results of the modeling are expressed in lbs/day for criteria air pollutant emissions and $MTCO_2e$/yr for GHG emissions, which allows for comparison between the model results and the thresholds of significance. All CalEEMod modeling results are included in Appendix C to this EIR. It is noted that the estimated construction GHG emissions are presented for disclosure purposes only, as the BAAQMD does not have a threshold of significance for construction GHG emissions.

Operational Criteria Pollutant and GHG Emissions

The proposed project's operational emissions were estimated using CalEEMod. Based on applicant-provided information, SMP 39 was assumed to be fully operational by the year 2026, and SMP 40 was assumed to be fully operational by the year 2025. The modeling performed for the proposed project included compliance with BAAQMD rules and regulations, as well as with the MWELO and the Building Energy Efficiency Standards Code. The proposed project's compliance with such would be verified as part of the City's building permit application review process. TJKM provided project-specific trip generation rates and VMT for both SMP 39 and SMP 40, which were applied to the project modeling. In addition, both SMP 39 and SMP 40 were assumed to include the use of 30 forklifts during project operations, and a total of three diesel generators for SMP 39 and two diesel generators for SMP 40 were included in the model.

The results of the operational emissions modeling were compared to the standards of significance discussed above in order to determine the associated level of impact. Results of the modeling are expressed in lbs/day for project-level emissions, tons/yr for cumulative emissions, and $MTCO_2e$/yr for GHG emissions, which allows for comparison between the model results and the thresholds of significance. All CalEEMod modeling results are included in Appendix C to this EIR. Similar to construction GHG emissions, the estimated operational GHG emissions are presented for disclosure purposes only, as the BAAQMD's applicable thresholds of significance for operational GHG emissions, as well as the CAP mitigation strategies and actions, are qualitative only.

Operational Health Risk Assessment

In order to assess the health risk impacts associated with DPM emissions from heavy-duty trucks travelling to and from the project site during operations on nearby sensitive receptors, first, the number of estimated diesel-fueled vehicles associated with both SMP 39 and SMP 40 was determined using truck volumes provided by TJKM. According to TJKM, a total of 185 individual trucks, including 110 trucks associated with SMP 39 and 75 trucks associated with SMP 40, would travel along local roadways each day.[31] The rate of DPM emissions for heavy-duty trucks travelling at the speed limit of the local roadway segments was obtained through the CARB's

[31] TJKM. *Traffic Impact Analysis Report – SMP 39 & 40 Development*. May 2023.

EMission FACtors (EMFAC2021 v1.0.2) database.[32] EMFAC provides the rate of $PM_{2.5}$ emissions, in grams per mile, for each vehicle category. By applying the foregoing data, the total grams of DPM that would be emitted by diesel-fueled vehicles traveling along the roadway segments closest to the project site was calculated.

Next, dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency (AMS/EPA) Regulatory Model (AERMOD) Version 21112, which is the model that the USEPA has approved and recommends. Heavy-duty vehicle traffic associated with the proposed project was modeled as a "roadway source", which the model interprets as a series of volume sources. The roadway segments that were evaluated include a segment of West Jack London Boulevard, north of SMP 39 to the intersection with Isabel Avenue/SR 84, a segment of Isabel Avenue/SR 84 from the West Jack London Boulevard intersection to the Stanley Boulevard intersection, and the ingress/egress route associated within SMP 40. The aforementioned roadway segments were chosen to represent a worst-case analysis, as the segments are the most heavily used in the project area, and are located adjacent to the nearest sensitive receptors to the project site. The emission rate of the roadway source was established using the rate of $PM_{2.5}$ emissions as calculated per the above. The roadway widths were assumed to be 21 meters, 31 meters, and 11 meters, respectfully. In addition, to account for turbulence from vehicles traveling along the roadway segments, an additional three meters were added to either side of the roadway, consistent with the methodology used in the USEPA's Haul Road Workgroup Report.[33]

Additionally, loading dock information associated with the proposed project was included in the HRA. A point source representing the nearest loading dock to sensitive receptors, located at the southwest corner of SMP 40, was also included in the dispersion modeling. The AERMOD analysis relied on meteorological data from the nearest monitoring station to the project site, which is located at the Livermore Municipal Airport, just north of the project site.

The associated cancer risk and non-cancer hazard index were calculated using the CARB's Hotspot Analysis Reporting Program Version 2 (HARP 2) Risk Assessment Standalone Tool (RAST), which calculates the cancer and non-cancer health impacts using the risk assessment guidelines of the 2015 OEHHA Guidance Manual for Preparation of Health Risk Assessments.[34] The modeling was performed in accordance with the USEPA's User's Guide for the AERMOD[35] and the 2015 OEHHA Guidance Manual. The exposure period in HARP 2 RAST was set to a 30-year exposure period.

Although pollutant concentrations at all nearby receptors were estimated, for the purpose of determining potential health risks, only the highest estimated pollutant concentrations were used in calculating cancer risk and hazard indices. The receptor experiencing the highest estimated pollutant concentrations was considered to be the maximally exposed receptor, and would experience the highest potential health risks. Health risks to all other receptors would be lower than the health risks to the maximally exposed receptor, because all other receptors would be

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32 California Air Resources Board. *EMFAC Emissions Inventory*. Available at https://arb.ca.gov/emfac/emissions-inventory/84f774a613b49d07f7fe9d750d9d00c86d945fb5. Accessed March 2023.

33 SMAQMD. *Board-Adopted Methodology (Technical Appendix) for the Mobile Sources Air Toxics Protocol V1*. July 2018.

34 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments* [pg. 8-18]. February 2015.

35 U.S. Environmental Protection Agency. *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*. December 2016.

exposed to lower concentrations of DPM as compared to the maximally exposed receptor. In the case of the proposed project, the maximally exposed receptor was determined to be a single-family residence located southeast of the West Jack London/Isabel Avenue/SR 84 intersection.

In accordance with the BAAQMD Air Quality Guidelines, an analysis of all known sources of TACs within a 1,000-foot radius of the project site boundary, in conjunction with the proposed project, was conducted and compared to the applicable BAAQMD thresholds of significance. Sources evaluated in the aggregate total HRA included BAAQMD permitted stationary sources, roadways with over 5,000 vehicles per day, and any other known major sources of TACs within the 1,000-foot zone of influence. Sources were identified using the BAAQMD Stationary Source Screening Map and the BAAQMD Mobile Source Screening Map. Overall, the only sources identified that meet the aforementioned criteria included an emergency generator located north of SMP 40, within the existing Oaks Business Park, and the segment of Isabel Avenue/SR 84 located east of the site. It should be noted that the traffic counts assumed in the BAAQMD Mobile Source Screening Map are based on 2022 data. Given that the Oaks Business Park located north of SMP 40 was in operation in 2022, heavy duty truck traffic associated with the existing industrial use was included within the BAAQMD Mobile Source Screening Map.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above. It should be noted that GHG emissions are inherently cumulative; thus, the discussion of GHG impacts is included under the Cumulative Impacts and Mitigation Measures section below. The discussions and mitigation measures presented below apply to both SMP 39 and SMP 40, as well as the off-site trail connection options, unless otherwise stated.

4.2-1 Conflict with or obstruct implementation of the applicable air quality plan during project construction. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction-related emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes $PM_{2.5}$ emissions. As construction of the proposed project would generate emissions of criteria air pollutants, including ROG, NO_X, PM_{10}, and $PM_{2.5}$ intermittently within the site and in the vicinity of the site, until all construction has been completed, construction is a potential concern, as the proposed project is located in a nonattainment area for ozone and PM.

The proposed project is required to comply with all BAAQMD rules and regulations including Regulation 8, Rule 3 related to architectural coatings. In addition, all projects under the jurisdiction of the BAAQMD are recommended to implement all of the BCMMs provided in the BAAQMD Air Quality Guidelines. Although BAAQMD recommends that all construction activity within the SFBAAB implement the above listed BCMMs, the proposed project was modeled without the inclusion of such

measures to provide a conservative, worst-case emissions scenario. Even under the conservative assumptions used for this analysis, emissions of $PM_{2.5}$ and PM_{10} would remain below the BAAQMD's thresholds of significance.

Using CalEEMod, the maximum construction-related emissions were estimated for development of both SMP 39 and SMP 40. In addition, RoadMod was used to estimate construction emissions associated with each of the three off-site trail connection options. Construction emissions associated with each of the aforementioned components of the proposed project are presented in Table 4.2-7.

Table 4.2-7
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
SMP 39			
ROG	28.85	54	**NO**
NO_x	34.05	54	**NO**
PM_{10}*	1.23	82	**NO**
$PM_{2.5}$*	5.08	54	**NO**
SMP 40			
ROG	36.61	54	**NO**
NO_x	29.62	54	**NO**
PM_{10}*	1.21	82	**NO**
$PM_{2.5}$*	1.20	54	**NO**
Off-Site Trail Connection Option 1			
ROG	4.71	54	**NO**
NO_x	48.17	54	**NO**
PM_{10}*	2.04	82	**NO**
$PM_{2.5}$*	1.84	54	**NO**
Off-Site Trail Connection Option 2			
ROG	4.81	54	**NO**
NO_x	45.31	54	**NO**
PM_{10}*	2.41	82	**NO**
$PM_{2.5}$*	2.00	54	**NO**
Off-Site Trail Connection Option 3			
ROG	7.20	54	**NO**
NO_x	72.12	54	**YES**
PM_{10}*	3.15	82	**NO**
$PM_{2.5}$*	2.79	54	**NO**
Total Worst-Case Emissions**			
ROG	*72.66*	*54*	***YES***
NO_x	*135.79*	*54*	***YES***
*PM_{10}**	*5.59*	*82*	***NO***
*$PM_{2.5}$**	*9.07*	*54*	***NO***

* Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

** Because only one of the three trail connection options would be constructed as part of the proposed project, total worst-case emissions include emissions generated from concurrent buildout of SMP 39, SMP 40, and Trail Connection Option 3 (the worst-case trail connection option).

Source: CalEEMod, April 2023; RoadMod, April 2023; RoadMod, June 2023 (see Appendix C).

SMP 39

As presented in Table 4.2-7, implementation of SMP 39 would result in construction-related emissions below the applicable thresholds of significance. Therefore, construction of SMP 39 would not conflict with or obstruct implementation of the applicable air quality plan during project construction.

SMP 40 and Off-Site Trail Connection Options

As presented in Table 4.2-7, implementation of SMP 40, as well as off-site Trail Connection Options 1 and 2, would result in construction-related emissions below the applicable thresholds of significance. However, implementation of off-site Trail Connection Option 3 would result in construction-related emissions that exceed the applicable threshold of significance for NO_X emissions. Additionally, construction of SMP 40 in conjunction with any of the three off-site trail connection options would result in NO_X emissions above the applicable BAAQMD threshold. Therefore, construction of Trail Connection Option 3 on its own, as well as concurrent construction of SMP 40 and any of the off-site trail connection options could conflict with or obstruct implementation of the applicable air quality plan during project construction.

Combined SMP 39 and SMP 40

Concurrent buildout of SMP 39 and SMP 40, without construction of an off-site trail connection option, would result in construction-related emissions below the applicable thresholds for PM_{10} and $PM_{2.5}$, while emissions of ROG and NO_X resulting from concurrent buildout of SMP 39 and SMP 40 without construction of an off-site trail connection option would be above the applicable thresholds of significance. Therefore, concurrent buildout of SMP 39 and SMP 40 could conflict with or obstruct implementation of the applicable air quality plan during project construction.

Total Combined SMP 39, SMP 40, and Off-Site Trail Connection Options

As presented in Table 4.2-7, because only one of the three trail connection options would be constructed as part of the proposed project, the total worst-case emissions would include emissions generated from concurrent buildout of SMP 39, SMP 40, and Trail Connection Option 3 (the worst-case trail connection option). As shown in the table, emissions of PM_{10} and $PM_{2.5}$ would be below the applicable BAAQMD thresholds; however, concurrent buildout of SMP 39, SMP 40, and Trail Connection Option 3 would result in construction-related emissions above the applicable thresholds of significance for ROG and NO_X. Therefore, concurrent buildout of SMP 39, SMP 40, and Trail Connection Option 3 could conflict with or obstruct implementation of the applicable air quality plan during project construction.

Conclusion

Based on the above, construction of Trail Connection Option 3 on its own, as well as concurrent construction of SMP 40 and any of the off-site trail connection options would result in NO_X emissions above the applicable BAAQMD threshold of significance. In addition, if SMP 39 is constructed concurrently with SMP 40, or if SMP 39, SMP 40, and the off-site Trail Connection Option 3 are constructed concurrently, the combined construction emissions would exceed the applicable thresholds of significance for ROG and NO_X emissions. Therefore, construction of the proposed

project could significantly contribute to the region's nonattainment status for ozone or PM and, as a result, could obstruct implementation of an applicable air quality plan. Therefore, a ***significant*** impact associated with construction-related emissions could occur.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.2-1(a) would require the use of a combination of engine Tier 3 or Tier 4 off-road construction equipment, or hybrid, electric, or alternatively fueled equipment (or any combination of the above), during construction of the proposed project, including SMP 39, SMP 40, and the chosen trail connection option, to reduce the project's construction-related ROG and NO_X to the maximum extent practicable. Because the mix of equipment that would be used during project construction is currently unknown, sufficient information to ensure the emissions are reduced to below the applicable BAAQMD thresholds of significance is not currently available. As an example, the emissions presented in Table 4.2-8 assume the use of all Tier 4 equipment. As shown in the table, use of all Tier 4 equipment would reduce NO_X emissions to below the applicable threshold of significance during simultaneous construction of the project components; however, ROG emissions would still exceed the applicable BAAQMD threshold of significance.

Based on the air quality modeling conducted for the proposed project, architectural coating, which is anticipated to begin shortly after and overlap with the building construction phase, has been determined to be the most ROG-intensive phase of construction for both SMP 39 and SMP 40. Therefore, with implementation of Mitigation Measure 4.2-1(b), building construction and architectural coating for SMP 39 would be restricted from occurring simultaneously with building construction and architectural coating for SMP 40, which would be sufficient to ensure ROG emissions would remain below the applicable BAAQMD threshold of significance during construction of the proposed project. Therefore, implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Table 4.2-8
Maximum Mitigated Construction Emissions (lbs/day) – All Project Components
(with Mitigation Measure 4.2-1, Option b)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
SMP 39			
ROG	27.82	54	**NO**
NO_x	13.96	54	**NO**
PM_{10}*	0.14	82	**NO**
$PM_{2.5}$*	0.14	54	**NO**
SMP 40			
ROG	35.48	54	**NO**
NO_x	11.33	54	**NO**
PM_{10}*	0.11	82	**NO**
$PM_{2.5}$*	0.11	54	**NO**

(Continued on next page)

Table 4.2-8
Maximum Mitigated Construction Emissions (lbs/day) – All Project Components
(with Mitigation Measure 4.2-1, Option b)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
Off-Site Trail Connection Option 1			
ROG	2.93	54	**NO**
NO_x	6.19	54	**NO**
PM_{10}*	0.39	82	**NO**
$PM_{2.5}$*	0.31	54	**NO**
Off-Site Trail Connection Option 2			
ROG	3.03	54	**NO**
NO_x	16.55	54	**NO**
PM_{10}*	0.75	82	**NO**
$PM_{2.5}$*	0.47	54	**NO**
Off-Site Trail Connection Option 3			
ROG	5.96	54	**NO**
NO_x	13.17	54	**NO**
PM_{10}*	0.73	82	**NO**
$PM_{2.5}$*	0.64	54	**NO**
Total Worst-Case Emissions**			
ROG	69.26	54	**YES**
NO_x	38.46	54	**NO**
PM_{10}*	0.98	82	**NO**
$PM_{2.5}$*	0.89	54	**NO**

* Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

** Because only one of the three trail connection options would be constructed as part of the proposed project, total worst-case emissions include emissions generated from concurrent buildout of SMP 39, SMP 40, and Trail Connection Option 3 (the worst-case trail connection option).

Source: CalEEMod, June 2023; RoadMod, June 2023 (see Appendix C).

4.2-1(a) Prior to approval of any Improvement Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Livermore Community Development Department:

The project applicant shall show on the plans via notation that the contractor shall ensure that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction of all project components (i.e., construction of SMP 39, SMP 40, and the chosen off-site trail connection option), including owned, leased, and subcontractor vehicles, shall be a combination of engine Tier 3 or Tier 4 off-road construction equipment, or hybrid, electric, or alternatively fueled equipment (or any combination of the above), sufficient to achieve a fleet-wide average reduction in construction-related ROG and NO_X emissions to below the applicable BAAQMD thresholds of significance (54 lbs/day). For instance, the emissions

presented in Table 4.2-8 were achieved by requiring all equipment used during construction to be engine Tier 4.

In addition, all off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Clear signage regarding idling restrictions shall be placed at the entrances to the construction site.

Portable equipment over 50 horsepower must have either a valid BAAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.

Conformance with the foregoing requirements shall be included as notes and be confirmed through review and approval of grading plans by the City of Livermore Community Development Department.

4.2-1(b) The project applicant shall show on Improvement Plans via notation that the project contractor shall restrict the building construction and architectural coating phases of construction for SMP 39 from occurring simultaneously with the building construction and architectural coating phases of construction for SMP 40. Conformance with this requirement shall be confirmed through review and approval of plans by the City of Livermore Community Development Department.

4.2-2 Conflict with or obstruct implementation of the applicable air quality plan during project operation. Based on the analysis below, and with the implementation of mitigation, the impact is *less than significant*.

Operational emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ would be generated by the proposed project from both mobile and stationary sources. Mobile-source emissions would make up the majority of project-related emissions under unmitigated operations of the proposed project. Emissions would also occur from area sources such as landscape maintenance equipment exhaust and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

Operational emissions resulting from development of SMP 39 and SMP 40 were modeled separately in CalEEMod, and the results are presented in Table 4.2-9. Table 4.2-9 also presents the combined emissions that would occur from the concurrent operation of SMP 39 and SMP 40. The various assumptions included in the modeling are discussed in the Method of Analysis section above. It should be noted that because the off-site trail connection options would provide additional pedestrian and bicycling opportunities within the City, the trail connection options would not inherently result in operational emissions of criteria pollutants, and, as a result, further evaluation of the off-site trail connection options is not presented herein.

SMP 39

As demonstrated in Table 4.2-9, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with operations of SMP 39 independently would be below the BAAQMD's thresholds of significance. Thus, implementation of SMP 39 on its own would not generate long-term operational criteria air pollutant emissions in excess of thresholds, and the project would not contribute to the region's nonattainment status of ozone and/or violate an air quality standard.

Table 4.2-9
Maximum Unmitigated Operational Emissions

Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
SMP 39					
ROG	26.22	4.58	54	10	**NO**
NO_X	35.24	4.86	54	10	**NO**
PM_{10}*	0.68	1.74	82	15	**NO**
$PM_{2.5}$*	0.67	0.53	54	10	**NO**
SMP 40					
ROG	22.57	4.04	54	10	**NO**
NO_X	33.60	4.58	54	10	**NO**
PM_{10}*	0.67	0.09	82	15	**NO**
$PM_{2.5}$*	0.66	0.09	54	10	**NO**
SMP 39 and SMP 40 Combined					
ROG	48.79	8.62	54	10	**NO**
NO_X	68.84	9.44	54	10	**YES**
PM_{10}*	1.35	1.83	82	15	**NO**
$PM_{2.5}$*	1.33	0.62	54	10	**NO**

Note:
* Denotes emissions from exhaust only. BAAQMD has not yet adopted PM thresholds for fugitive emissions.

Source: CalEEMod, April 2023 (see Appendix C).

SMP 40

Similar to SMP 39, as demonstrated in Table 4.2-9, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with operations of SMP 40 independently would be below the BAAQMD's thresholds of significance. Thus, implementation of SMP 40 on its own would not generate long-term operational criteria air pollutant emissions in excess of thresholds, and the project would not contribute to the region's nonattainment status of ozone and/or violate an air quality standard.

SMP 39 and SMP 40 Combined Operations

While operation of SMP 39 and SMP 40 individually would not generate emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ in excess of the BAAQMD's thresholds of significance, SMP 39 and SMP 40 are anticipated to be operational at the same time, and, therefore, the combined emissions generated from operations of both SMP 39 and SMP 40 must be considered within this analysis. As shown in Table 4.2-9, while operational emissions of ROG, PM_{10}, and $PM_{2.5}$ would be below the BAAQMD's thresholds of significance, combined operations would result in emissions of NO_X that would exceed

the BAAQMD's thresholds of significance. Thus, implementation of the proposed project could generate long-term operational criteria air pollutant emissions in excess of thresholds, and the project could contribute to the region's nonattainment status of ozone and/or violate an air quality standard.

Conclusion

Based on the above, combined operations of SMP 39 and SMP 40 would result in emissions of NO_X that would exceed the applicable BAAQMD threshold of significance. Therefore, the proposed project could be considered to conflict with or obstruct implementation of regional air quality plans during project operation, and a ***significant*** impact could occur.

Mitigation Measure(s)

The primary source of project-related operational NO_X emissions would be associated with off-road equipment (i.e., forklifts) used during project operations. Implementation of Mitigation Measure 4.2-2, which requires a portion of the off-road equipment used on-site during project operations to be electric, would reduce the emissions of NO_X to below the applicable BAAQMD threshold of significance, as presented in Table 4.2-10. Therefore, implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Table 4.2-10
Maximum Mitigated Combined Operational Emissions of SMP 39 and SMP 40

Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
ROG	48.47	8.58	54	10	**NO**
NO_X	53.51	7.44	54	10	**NO**
PM_{10}*	1.05	0.14	82	15	**NO**
$PM_{2.5}$*	1.03	0.14	54	10	**NO**

* Denotes emissions from exhaust only. BAAQMD has not yet adopted PM thresholds for fugitive emissions.

Source: CalEEMod, June 2023 (see Appendix C).

4.2-2 Prior to approval of any Improvement Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Livermore Community Development Department:

- *The project applicant shall show on the Improvement Plans via notation that all off-road equipment (i.e., forklifts) to be used during operations of the proposed project shall be a combination of propane and electric, sufficient to achieve a fleet-wide average reduction in operational-related NO_X emissions to below the applicable BAAQMD threshold of significance (54 lbs/day). For instance, the emissions presented in Table 4.2-10 were achieved by requiring that 27 percent of the forklifts used during operations on both SMP 39 and SMP 40 are electric.*

4.2-3 Expose sensitive receptors to substantial pollutant concentrations. Based on the analysis below, the impact is *less than significant*.

The major pollutant concentrations of concern are localized CO emissions, TAC emissions, and criteria pollutant emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Concentrations of CO approaching the AAQS are only expected where background levels are high, and traffic volumes and congestion levels are high. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the project would be expected to increase local CO concentrations.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for determining whether the effect that a project would have on any given intersection would cause a potential CO hotspot. According to BAAQMD, a project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, natural or urban street canyon, below-grade roadway).

While BAAQMD has established the foregoing screening criteria for potential impacts, it should be noted that the SFBAAB has been in attainment of CAAQS and NAAQS for CO for more than 20 years.[36] Due to the continued attainment of CAAQS and NAAQS, and advances in vehicle emissions technologies, the likelihood that any single project would create a CO hotspot is minimal. The Alameda County Transportation Commission is the applicable Congestion Management Agency for the proposed project. The proposed project's increase in traffic levels in the vicinity would not cause a conflict with applicable Alameda County Transportation Commission standards, which are described within Chapter 4.8, Transportation, of this EIR.

[36] Bay Area Air Quality Management District. *Air Quality Summary Reports*. Available at: http://www.baaqmd.gov/about-air-quality/air-quality-summaries. Accessed March 2023.

Based on data provided in the Transportation Impact Analysis prepared for the proposed project,[37] the maximum traffic volume anticipated at any affected intersection would not reach 44,000 vehicles per hour. In addition, development of the proposed project would not result in the increase of traffic volumes beyond 24,000 vehicles per hour at any intersections where vertical and/or horizontal mixing is substantially limited. Therefore, based on the BAAQMD's screening criteria for localized CO emissions, the project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

TAC Emissions

Another category of environmental concern is TACs. The CARB Air Quality and Land Use Handbook: A Community Health Perspective (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, gasoline dispensing facilities, chrome plating operations, distribution centers, and rail yards. The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would involve components that would result in emissions of TACs. In particular, implementation of the proposed project would result in emissions of DPM during project construction and from the use of heavy-duty diesel trucks to transport goods to and from the project sites. Each source of TACs is discussed in further depth in the sections below.

Construction Emissions

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater). As discussed above, construction of SMP 39 would occur over an approximately two-year period, and construction of SMP 40 and the associated off-site trail connection would occur over an approximately three-year period.

All construction equipment and operation thereof would be regulated per the CARB's In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources.

[37] TJKM. *Traffic Impact Analysis Report – SMP 39 & 40 Development*. May 2023.

In addition, construction equipment would operate intermittently throughout the day and only on portions of the sites at a time.

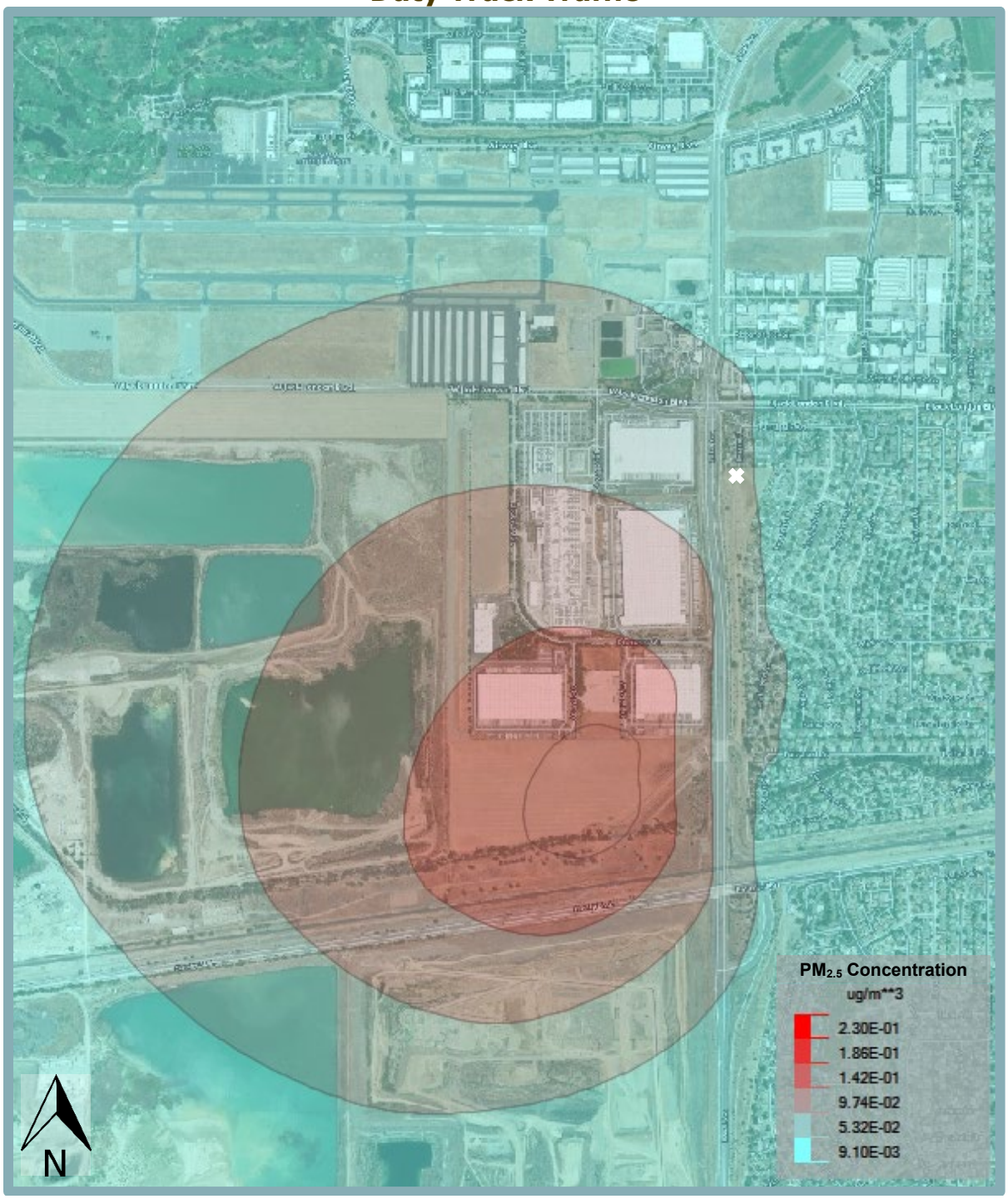
Because construction equipment on-site would not operate for long periods of time and would be used at varying locations within the sites, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for long periods of time. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a substantially extended period of time would be low. In addition, as discussed above, the closest sensitive receptors to SMP 39 are the single-family residences located east of the site, across Isabel Avenue/SR 84. Future development on SMP 39 would be approximately 2,745 feet west of the single-family residences. The closest sensitive receptors to SMP 40 are the single-family residences located east of the project site, across Isabel Avenue/SR 84. Building 1 on the SMP 40 site would be approximately 1,785 feet west of the single-family residences and Building 2 on the SMP 40 site would be approximately 884 feet west of the single-family residences. Given the planned construction area of the proposed project, the single-family residences would be located approximately 500 feet east from the closest construction area associated with the proposed project. Therefore, construction associated with the proposed project would not be expected to expose any sensitive receptors to substantial pollutant concentrations.

Heavy Duty Truck Circulation

The proposed project would include the development of approximately 1,514,775 sf of industrial uses within SMP 39 and SMP 40. While specific tenants of the proposed warehouses have not been identified at this time, industrial uses are anticipated to involve the use of heavy-duty diesel trucks associated with the movement of goods to and from the sites. The operation of heavy-duty diesel-powered trucks would result in an increase in emissions of DPM within the project sites and on the surrounding roadways. To assess the increase in DPM emissions associated with heavy-duty diesel trucks travelling to and from the project site, the anticipated worst-case truck route was mapped, including an idling point at the nearest loading dock to the sensitive receptors within the project area, which is located within SMP 40. The number of estimated diesel-fueled vehicles associated with both SMP 39 and SMP 40 was determined using truck volumes provided by TJKM.

DPM is considered a subset of $PM_{2.5}$ emissions. Thus, the estimated concentration of $PM_{2.5}$ was used as a proxy to represent emissions of DPM. As discussed in the Method of Analysis section above, an HRA was conducted using data obtained through the CARB's mobile source EMFAC 2021 database, the AMS/EPA AERMOD modeling software, and the CARB's HARP 2 RAST. The HRA was prepared using the risk assessment guidelines of the 2015 OEHHA Guidance Manual for Preparation of Health Risk Assessments, as well as the USEPA's User's Guide for the AMS/EPA Regulatory Model – AERMOD. Table 4.2-11 presents the results of the HRA prepared for the proposed project. In addition, Figure 4.2-3 provides a visual representation of the emissions concentration dispersion within the project area due to heavy-duty truck traffic associated with the proposed industrial warehouses. Figure 4.2-3 also presents the maximally exposed receptor, represented by a white X, which is located southeast of the West Jack London/Isabel Avenue/SR 84 intersection.

Figure 4.2-3
Maximum DPM Concentrations Due to Project-Generated Heavy-Duty Truck Traffic



Note: The figure shown above is intended to provide a visual representation of the worst-case, maximum emissions concentration dispersion within the project area due to project-generated heavy-duty truck traffic, as well as present the maximally exposed receptor.

Source: AERMOD, April 2023 (see Appendix C).

Table 4.2-11
Maximum Cancer Risk and Hazard Index Associated with Heavy-Duty Diesel Trucks

	Cancer Risk (per million persons)	Acute Hazard Index	Chronic Hazard Index
At Maximally Exposed Receptor	4.46	0.00	0.00
Thresholds of Significance	*10*	*1.0*	*1.0*
Exceed Thresholds?	**NO**	**NO**	**NO**

Sources: EMFAC, AERMOD, and HARP 2 RAST, April 2023 (see Appendix C).

As shown in Table 4.2-11, operation of heavy-duty diesel-powered trucks on roadways in the vicinity and within the project site would result in cancer risk and hazard index at the maximally exposed receptor below the applicable BAAQMD thresholds of significance. In addition, according to the HRA, the $PM_{2.5}$ concentration would be 0.005 $\mu g/m^3$, which is well below the BAAQMD significance threshold of 0.3 $\mu g/m^3$. Consequently, operation of the proposed project would not expose sensitive receptors to excess concentrations of TAC pollutants, and the proposed project would result in a less-than-significant impact related to DPM.

Aggregate Total Health Risks

As discussed above, in accordance with the BAAQMD Air Quality Guidelines, an analysis of all known sources of TACs within a 1,000-foot radius of the project site boundary, in conjunction with the proposed project, was conducted and compared to the applicable BAAQMD thresholds of significance. Overall, the only sources identified that meet the BAAQMD source criteria included an emergency generator located north of SMP 40, within the existing Oaks Business Park, and the segment of Isabel Avenue/SR 84 located east of the site. It should be noted that the traffic counts assumed in the BAAQMD Mobile Source Screening Map are based on 2022 data. Given that the Oaks Business Park located north of SMP 40 was in operation in 2022, heavy duty truck traffic associated with the existing industrial use was included within the BAAQMD Mobile Source Screening Map.

The cancer risk and non-cancer chronic hazard index associated with each source of TAC emissions, as well as the aggregate total from all sources, are presented in Table 4.2-12.

As shown in the table, the aggregate total cancer risk, as well as chronic hazard index, would be below the applicable thresholds of significance. In addition, according to the HRA, the aggregate total $PM_{2.5}$ concentration would be 0.436 $\mu g/m^3$,[38] which is below the BAAQMD aggregate total significance threshold of 0.8 $\mu g/m^3$. Therefore, the proposed project would not cause an aggregate total increase in cancer risk levels of

[38] The BAAQMD Mobile Source Screening Map provides a range of the potential $PM_{2.5}$ concentrations associated with each mobile source within the City. To provide a conservative analysis, the number presented herein represents the highest $PM_{2.5}$ concentration in the range provided by BAAQMD associated with the segment of Isabel Avenue/SR 84 located within the project vicinity.

more than 100 persons in one million, a chronic non-cancer hazard index greater than 10.0, or result in an annual average $PM_{2.5}$ concentration of 0.8 µg/m^3 or greater, and impacts would be less than significant.

Table 4.2-12
Maximum Unmitigated Aggregate Total Cancer Risk and Hazard Index

	Cancer Risk (per million persons)	Chronic Hazard Index
Proposed Project Heavy-Duty Diesel Truck Operations	4.46	0.00
Emergency Generator	9.73	0.015
Isabel Avenue/SR 84[1]	20.77	0.058
Total Risk at Maximally Exposed Receptor	*23.0*	*0.0040*
Thresholds of Significance	**100.00**	**10.00**
Exceed Thresholds?	**NO**	**NO**

[1] The BAAQMD Mobile Source Screening Map provides a range of the potential cancer risk and chronic hazard risk associated with each mobile source within the City. To provide a conservative analysis, the numbers presented herein represent the highest value in the range provided by BAAQMD associated with the segment of Isabel Avenue/SR 84 located within the project vicinity.

Sources:
- ***EMFAC, AERMOD, and HARP 2 RAST, April 2023 (see Appendix C).***
- ***BAAQMD Stationary Source Screening Map & Mobile Source Screening Map, Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/health-risk-screening-and-modeling. Accessed June 2023.***

Criteria Pollutants

As discussed in the Existing Environmental Setting section and summarized in Table 4.2-1, criteria pollutant emissions can cause negative health effects. With regard to the proposed project, the principal criteria pollutants of concern are localized CO, ozone, and PM. As discussed above, the proposed project is not anticipated to result in impacts related to localized exposure of sensitive receptors to substantial concentrations of CO. Unlike CO and many TACs, due to atmospheric chemistry and dynamics, ozone and atmospheric PM typically act to impact public health on a cumulative and regional level, rather than a localized level. Due to the cumulative and regional nature of effects from criteria pollutants, the analysis of potential health effects of criteria pollutants is further discussed in Impact 4.2-6.

Conclusion

As discussed above, the proposed project would not cause any substantial levels of localized CO concentrations or other TACs. Thus, the proposed project would be expected to result in a ***less-than-significant*** impact associated with exposure of sensitive receptors to substantial levels of pollutant concentrations.

Mitigation Measure(s)

None required.

4.2-4 Result in other emissions (such as those leading to odors) affecting a substantial number of people. Based on the analysis below, the impact is *less than significant*.

Pollutants of principal concern include emissions leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in Impacts 4.2-1 through 4.2-3 above. Therefore, the following discussion focuses on emissions of odors and dust.

Odors

According to the BAAQMD Air Quality Guidelines, the ability to detect odors varies considerably among the population and can be subjective.[39] Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and operation of construction equipment would be restricted to the allowable hours established in Section 9.36.080 of the City's Municipal Code.

Furthermore, considering the large development area, construction equipment would operate at various locations throughout the project site intermittently, and the distances from the nearest sensitive receptors would allow for dispersal of diesel odors. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize air pollutant emissions, as well as any associated odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have been

[39] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 5-16]. April 2023.

received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed, and any potential odor effects are minimized or eliminated.

Dust

As noted previously, all projects under the jurisdiction of BAAQMD are required to implement the BAAQMD's BCMMs, including, but not limited to, the following measures that specifically relate to dust suppression:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a six- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.

In addition to the BCMMs, while not required, projects are strongly encouraged by BAAQMD to implement enhanced best management practices including, but not limited to, the following dust suppression measures:

- Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
- Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Minimize the amount of excavated material or waste materials stored at the site.
- Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.

The aforementioned measures would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, the development area would be paved or landscaped and would not include any exposed

topsoil. Thus, project operations would not generate significant amounts of dust that would adversely affect a substantial number of people.

Conclusion

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.2-5 Result in the inefficient or wasteful use of energy or conflict with a State or local plan for renewable energy or energy efficiency. Based on the analysis below, the impact is *less than significant*.

The following discussion addresses the proposed project's potential effects related to energy demand during construction and operations.

Construction Energy Use

Construction of the proposed project would involve increased energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met through a hookup to the existing electricity grid.

Typically, at construction sites, electricity from the existing grid is used to power portable and temporary lights or office trailers. Because grid electricity would be used primarily for steady sources such as lighting, not sudden, intermittent sources such as welding or other hand-held tools, the increase in electricity usage at the site during construction would not be expected to cause any substantial peaks in demand. Construction of the proposed project, which would result in temporary increases in electricity demand, would not cause a permanent or substantial increase in demand that would exceed PG&E's demand projections or exceed the ability of PG&E's existing infrastructure to handle such an increase. Therefore, project construction would not result in any significant impacts on local or regional electricity supplies, the need for additional capacity, or on peak or base period electricity demands. In addition, standards or regulations specific to construction-related electricity usage do not currently exist.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. In addition, SMP 39 and SMP 40 are both anticipated to be constructed over a two-year period, and construction of the off-site trail connection would occur over an

approximately one- to four-month period. As a result, the increased energy demand associated with construction would take place for a minimal amount of time compared to the operational lifetime of the project.

Based on the estimated number of off-road equipment used during construction activities, as well as the estimated number of hauling trips, worker trips, and vendor trips that would occur during project construction, the proposed project is anticipated to result in the use of approximately 129,293 gallons of diesel and 256,478 gallons of gasoline during construction activities. However, as discussed above, all construction equipment and operation thereof would be regulated pursuant to the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing a five-minute limit on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. Furthermore, as a means of reducing emissions, construction vehicles are required to become cleaner through the use of renewable energy resources. Engine tiers are used to describe the emissions intensity and efficiency of an engine. Construction equipment with Tier 0 or Tier 1 engines are the least efficient, and Tier 4 is the most efficient. In November 2021, the CARB began developing standards for Tier 5 engines. As of 2015, vehicles with Tier 0 and Tier 1 engines are prohibited from being added to equipment fleets. Fleets with a total horsepower over 2,501, excluding non-profit training centers, may not add any Tier 2 engines and, starting January 1, 2023, all engines must be Tier 3 or higher.[40] The In-Use Off-Road Diesel Vehicle Regulation would, therefore, help to improve fuel efficiency for equipment used in construction of the proposed project.

The CARB enforces off-road equipment regulations through their reporting system, Diesel Off-road Online Reporting System (DOORS). Each construction fleet is required to update their DOORS account within 30 days of buying or selling a vehicle, and DOORS automatically calculates the fleet average index for each fleet. The fleet average index is an indicator of a fleet's overall emission rate, and is based on each vehicle's engine horsepower and model year, and whether it is equipped with a Verified Diesel Emission Control Strategy (VDECS). If a fleet cannot, or does not want to, meet the fleet average target in a given year, the fleet may instead choose to comply with the Best Available Control Technology (BACT) requirements. A fleet may meet the BACT requirements each year by turning over or installing VDECS on a certain percentage of its total fleet horsepower. 'Turnover' means retiring a vehicle, designating a vehicle as permanent low-use (a vehicle used less than 200 hours per year), repowering a vehicle with a higher tier engine, or rebuilding the engine to a more stringent emission standard. By each compliance date (annually on January 1st), the fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the BACT requirements.[41] The project would be required to comply with such regulations, which would ensure that construction equipment meets all State efficiency requirements.

[40] California Air Resources Board. *In-Use Off Road Diesel-Fueled Fleets Regulation Overview*, *Revised October 2016*. 2016.

[41] California Air Resources Board. *Frequently Asked Questions, Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Regulation)*. August 2014.

Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to further reduce demand on oil and limit emissions associated with construction. Over time, as technology progresses and more stringent emissions standards are put in place, construction equipment engines become increasingly efficient. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, which are indirectly related to energy efficiency, which would help to further reduce energy use associated with the proposed project.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Building Energy Demand

The proposed project would include the development of approximately 1,514,775 sf of industrial uses within SMP 39 and SMP 40. Energy use associated with operation of the proposed project would be typical of such uses, requiring electricity for interior and exterior building lighting, HVAC systems, electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment.

The proposed project is required to comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, including the CBSC and CARB standards, which would ensure that the proposed project would be designed to be energy efficient to the maximum extent practicable. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed development on-site would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. In addition, pursuant to 2022 CBSC, new non-residential buildings are required to be solar ready. State regulations also promote the generation of renewable energy and encourage energy efficiency through requirements placed on utility providers and strict development standards. For instance, the RPS requires utilities, including the PG&E, to procure an increasing proportion of electricity from renewable sources. Ultimately the RPS requirements mandate that all electricity produced within the State be renewably sourced by the year 2045. Further, in compliance with the City's Reach code, provided in Chapter 15.26 of the City's Municipal Code, the proposed project would be required to be built all-electric, meaning that electricity would be the sole source of energy, and natural gas infrastructure would be prohibited with a few limited exceptions.

Based on the air quality modeling prepared for the proposed project, the proposed project is anticipated to result in increased electricity consumption of approximately 2.64 GWh annually during operations. In addition, as noted above, Mitigation Measure 4.2-2 requires a portion of the off-road equipment used on-site during project operations to be electric, which would further increase energy usage on-site to a total

of 2.66 GWh per year. It is noted that, compared to the electricity consumption for all of Alameda County, the proposed project's contribution would represent a 0.02 percent increase in annual electricity demand, which would not be considered substantial. Although the project would increase electricity demand in the project area, given the relatively small increase as compared to energy usage in the region, the increased demand is not anticipated to conflict with PG&E's ability to meet the RPS requirements, or exceed PG&E's capacity such that the proposed project's energy demands would not be met.

With regard to landscaping and maintenance equipment, AB 1346 would require that all small off-road engines are all-electric by the time that the proposed project is operational. Given that approximately 85 percent of the electricity from PG&E is generated from clean energy sources,[42] the use of electric maintenance equipment would be considered more energy efficient than diesel- or gas-powered maintenance equipment.

Transportation Energy Demand

In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed industrial uses.

The average fuel economy for the U.S. passenger vehicle fleet was 25 miles per gallon (mpg) in 2021, the most recent year such data is available.[43] In addition, petroleum refineries in the U.S. typically produce approximately 20 gallons of gasoline and 12 gallons of diesel from one 42-gallon barrel of crude oil. Using an average of 25 mpg and an annual VMT of approximately 8,622,395[44] for the proposed project, the proposed project is estimated to result in the consumption of approximately 17,245 barrels of petroleum a year related to gasoline. In addition, based on the estimated number of heavy-duty truck trips associated with the proposed project, the project is anticipated to result in the consumption of approximately 31,601 gallons of diesel per year, which would equate to approximately 2,633 barrels of petroleum a year related to diesel.

California is estimated to consume approximately 662 million barrels of petroleum per year.[45] Based on the annual consumption within the State, vehicle trips generated by the proposed project would result in a 0.0026 percent increase in the State's current consumption of gasoline and a 0.0004 percent increase in the State's current consumption of diesel.

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42 Pacific Gas and Electric Company. *2020 Power Mix*. Available at: https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2021/1021-PowerContent.pdf. Accessed February 2023.

43 U.S. Energy Information Administration. *Total Energy, Table 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy*. Accessible at: https://www.eia.gov/totalenergy/data/browser/?tbl=T01.08#/?f=A&start=200001. Accessed June 2023.

44 The annual VMT estimate presented herein is based on the Transportation Impact Analysis prepared for the proposed project by TJKM.

45 U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Accessible at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA. Accessed April 2023.

The calculation above is likely an overestimate, as the estimate does not account for the increasing ownership of electric vehicles. California leads the nation in registered alternatively-fueled and hybrid vehicles. In fact, under SB 500, the State has required that, starting in the year 2030, all cars sold shall be zero-emission/electric vehicles. In addition, the State's Advanced Clean Fleet Program, requires that by 2045 all new heavy-duty truck sales within California be zero emission. Additional State-specific regulations further encourage fuel efficiency and reduction of dependence on oil. Improvements in vehicle efficiency and fuel economy standards help to reduce consumption of diesel and gasoline and reduce the State's dependence on petroleum products. For example, the 2022 CBSC, as well as the City's Reach Code amendments to the CBSC, require new developments to include the necessary electrical infrastructure for EV charging stations. A total of 1,543 vehicle parking stalls would be provided at the SMP 39 site, and a total of 633 vehicle parking stalls would be provided at the SMP 40 site. Based on the 2022 CBSC, for non-residential projects that include more than 201 parking spaces, 20 percent of the parking spaces are required to be EV capable, and 25 percent of the EV capable spaces are required to include electric vehicle supply equipment (EVSE), which is installed charging receptacles or permanently installed chargers. However, the City's Reach Code requires that for industrial uses, 10 percent of all parking spaces must be EV Capable, and 10 percent of all parking spaces must provide EVSE. Therefore, under both the 2022 CBSC and the City's Reach Code, a total of 309 EV spaces would be required on SMP 39 and 127 EV spaces would be required on SMP 40. However, while the 2022 CBSC would require that SMP 39 and SMP 40 provide 77 EVSE spaces and 32 EVSE spaces respectively, the City's Reach Code would provide more stringent requirements, requiring a total of 154 EVSE spaces on SMP 39 and 63 EVSE spaces on SMP 40. Therefore, the actual consumption of gasoline associated with the proposed project is anticipated to be lower than the 0.0026 percent statewide contribution noted above. It should be noted that the proposed project would be required to comply with the most recent CBSC or the City's Reach Code standards, whichever is more stringent at the time of project construction.

The proposed project would be required to comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, the proposed project would include several improvements to the Arroyo Mocho trail system within the project area, consistent with the City's Active Transportation Plan (ATP), including the provision of an off-site trail connection (see Figure 3-10 of this EIR). The aforementioned improvements would provide pedestrian and bicycle connectivity within the project site and to existing off-site facilities, thereby helping to discourage employee driving and reduce vehicle trips and associated transportation energy demand.

Conclusion

Based on the above, the proposed project would not be considered to result in a wasteful, inefficient, or unnecessary use of energy, and the proposed project is not anticipated to conflict with a State or local plan for renewable energy or energy efficiency. Thus, impacts would be considered ***less than significant***.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The geographic context for the cumulative air quality analysis includes Alameda County and surrounding areas within the portion of the SFBAAB that is designated nonattainment for ozone and PM_{10}.

As discussed previously, climate change occurs on a global scale, and emissions of GHGs, even from a single project, contribute to the global impact. However, due to the existing regulations within the State, for the purposes of this analysis, the geographic context for the analysis of GHG emissions presented in this EIR is the State of California.

Finally, a project's impacts related to energy use may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The following discussion of energy impacts is based on the implementation of the proposed project in combination with buildout of the adopted City of Livermore General Plan. Additional detail regarding the cumulative project setting can be found in Chapter 5, Statutorily Required Sections, of this EIR.

4.2-6 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable.*

Buildout of the proposed project would lead to the release of emissions that would contribute to the cumulative regional air quality setting. The following section includes a discussion of the proposed project's contribution to the cumulative operational emissions associated with implementation of the project and the cumulative health effects of exposure to criteria pollutants. It should be noted that because construction would occur over a relatively short time period as compared to the operational lifetime of the proposed project, construction emissions are not considered to be cumulative in nature.

Cumulative Operational Emissions from the Proposed Project

The long-term emissions associated with operation of the proposed project in conjunction with other existing or planned development in the area would incrementally contribute to impacts to the region's air quality. According to the BAAQMD's Air Quality Guidelines, if a project were to exceed the identified significance thresholds, the project's emissions would be cumulatively considerable.[46] Operational emissions resulting from development of the project were discussed under Impact 4.2-2, and the results are presented in Table 4.2-9. As shown in the table, the proposed project's operational emissions of ROG, PM_{10}, and $PM_{2.5}$ would be below the applicable BAAQMD thresholds of significance; however, combined operations of SMP 39 and SMP 40 would result in emissions of NO_X that would exceed the BAAQMD's thresholds of significance. Mitigation Measure 4.2-2, which requires the off-road equipment used on-site during project operations to be electric, would reduce the emissions of NO_X to below the applicable BAAQMD threshold of significance, as presented in Table 4.2-10. Therefore, the project's contribution to cumulative emissions of criteria pollutants would be less than cumulatively considerable with implementation of the aforementioned mitigation measures.

Cumulative Health Effects of Criteria Pollutants

As noted in Table 4.2-1, exposure to criteria air pollutants can result in adverse health effects. The AAQS presented in Table 4.2-2 are health-based standards designed to ensure safe levels of criteria pollutants that avoid specific adverse health effects. Because the SFBAAB is designated as nonattainment for State and federal eight-hour ozone and State PM_{10} standards, the BAAQMD, along with other air districts in the SFBAAB region, has adopted federal and state attainment plans to demonstrate progress towards attainment of the AAQS. Full implementation of the attainment plans would ensure that the AAQS are attained and sensitive receptors within the SFBAAB are not exposed to excess concentrations of criteria pollutants. The BAAQMD's thresholds of significance were established with consideration given to the health-based air quality standards established by the AAQS, and are designed to aid the district in implementing the applicable attainment plans to achieve attainment of the AAQS.[47] Thus, if a project's criteria pollutant emissions exceed the BAAQMD's emission thresholds of significance, a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts, thereby delaying attainment of the AAQS. Because the AAQSs are representative of safe levels that avoid specific adverse health effects, a project's hinderance of attainment of the AAQS could be considered to contribute towards regional health effects associated with the existing nonattainment status of ozone and PM_{10} standards.

However, as discussed in Impact 4.2-1 and 4.2-2, and following implementation of Mitigation Measures 4.2-1 and 4.2-2, the proposed project would not result in exceedance of the applicable BAAQMD thresholds of significance. Consequently, implementation of the proposed project would not conflict with the BAAQMD's adopted attainment plans nor would the proposed project inhibit attainment of regional AAQS. Therefore, implementation of the proposed project would not contribute towards

[46] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 5-4]. April 2023.
[47] Bay Area Air Quality Management District. *Air Quality Guidelines* [pg. 5-10]. April 2023.

regional health effects associated with the existing nonattainment status of ozone and PM_{10} standards.

Conclusion

Based on the above, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant emissions for which the region is in nonattainment under an applicable federal and State AAQS. As such, the proposed project's incremental contribution to regional air quality impacts would be ***less than cumulatively considerable***.

Mitigation Measure(s)

None required.

4.2-7 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and, to a lesser extent, other GHG pollutants, such as CH_4 and N_2O. Sources of GHG emissions include area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste.

Based on the modeling conducted for the proposed project, construction of SMP 39 was estimated to generate maximum unmitigated GHG emissions of 1,203.58 $MTCO_2e$/yr. Construction of SMP 40 was estimated to generate maximum unmitigated GHG emissions of 1,443.56 $MTCO_2e$/yr, and construction of off-site Trail Connection Options 1, 2, and 3 was estimated to generate 139.05 $MTCO_2e$/yr, 95.65 $MTCO_2e$/yr, and 426.86 $MTCO_2e$/yr, respectively. Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. Neither the City nor BAAQMD has an adopted threshold of significance for construction-related GHG emissions. Accordingly, construction GHG emissions are presented for disclosure and informational purposes only.

The total unmitigated annual operational GHG emissions for the first year of operation for SMP 39 (assumed to be 2026) and SMP 40 (assumed to be 2025) were estimated as presented in Table 4.2-13 and Table 4.2-14 respectively.

Table 4.2-13
Unmitigated Operational GHG Emissions – SMP 39

Source	Annual GHG Emissions ($MTCO_2e$/yr)
Area	0.05
Energy	408.13
Mobile	1,439.87
Off-Road	689.43
Stationary	0.69
Waste	357.15
Water	326.14
Total Annual Operational GHG Emissions	**3,221.46**
Source: CalEEMod, April 2023 (see Appendix C).	

As noted previously, the applicable BAAQMD thresholds of significance for GHG emissions are qualitative, and the aforementioned information is provided for disclosure purposes only. Potential impacts related to GHG emissions resulting from implementation of the proposed project are considered in comparison with BAAQMD's adopted thresholds of significance below.

Table 4.2-14
Unmitigated Operational GHG Emissions – SMP 40

Source	Annual GHG Emissions ($MTCO_2e$/yr)
Area	0.03
Energy	398.73
Mobile	1,312.00
Off-Road	689.43
Stationary	0.46
Waste	358.71
Water	327.57
Total Annual Operational GHG Emissions	**3,086.94**
Source: CalEEMod, April 2023 (see Appendix C).	

BAAQMD Thresholds of Significance

According to the BAAQMD thresholds of significance, a project must either include specific project design elements related to buildings and transportation or be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

As discussed above, on November 28, 2022, the City of Livermore adopted the updated 2022 CAP, which meets the criteria to be a GHG reduction strategy under CEQA Guidelines Section 15183.5(b). Therefore, the following analysis is based on the proposed project's consistency with City's 2022 CAP.

City of Livermore CAP Consistency

The 2022 CAP is intended to create a roadmap to achieve emissions reductions of 40 percent below 1990 levels by 2030, and carbon neutrality (i.e., net zero carbon emissions) by 2045. The CAP contains mitigation strategies and actions, consistent with State climate mitigation targets, which were developed to reduce the City's GHG emissions to reach its adopted reduction targets for 2030 and 2045. The project's consistency with the applicable mitigation strategies and actions is assessed in Table 4.2-15 below.

Table 4.2-15
Project Consistency with the City of Livermore CAP

Strategies and Actions	Consistency Discussion
Strategy D-1: Improve water conservation and reuse.	All landscaping improvements would be consistent with Section 13.25 of the Municipal Code, Water Efficient Landscape, and would be irrigated by an automatic irrigation system. In addition, recycled water would be used for all site irrigation and may be used for non-potable uses, as determined on a project-by-project basis. Therefore, the proposed project would generally be consistent with Strategy D-1.
Action D-1.3: Continue implementing the Water Efficient Landscape Ordinance.	As discussed above, all landscaping improvements would be consistent with Section 13.25, Water Efficient Landscape, of the City's Municipal Code. Therefore, the proposed project would be consistent with Action D-1.3.
Action F-1.5: Require new hardscape to be permeable.	Page 46 of the Livermore CAP recognizes that for Action F-1.5, the City must first update standards for new development hardscape to be consistent with CALGreen Tier 1 and/or increase the current fee for installation of new impervious surfaces. The City has not yet updated its standards and, thus, consistency with Action F-1.5 is not required.
Strategy B-1: Require new buildings to be all-electric and incentivize electrification retrofits of existing buildings.	According to Section 15.26.200 of the City of Livermore Municipal Code, all newly constructed buildings within the City are required to be all-electric. The project applicant has committed to the prohibition of natural gas infrastructure in the proposed project design, in compliance with Section 15.26.200 of the City of Livermore Municipal Code. Thus, the proposed project would be consistent with Strategy B-1.
Action B-1.1: Require new construction to be all-electric.	See consistency discussion for Strategy B-1.
Action T-1.1: Expand EV infrastructure to support EV adoption.	As discussed above, the proposed project would be required to comply with the 2022 CBSC or the City's Reach Code, whichever is the more stringent standard at the time of construction. As a result, under both the 2022 CBSC and the City's Reach Code, a total of 309 EV spaces would be required on SMP 39 and 127 EV spaces would be required on SMP 40. While the 2022 CBSC would require

(Continued on next page)

Table 4.2-15
Project Consistency with the City of Livermore CAP

Strategies and Actions	Consistency Discussion
	that SMP 39 and SMP 40 provide 77 EVSE spaces and 32 EVSE spaces, respectively, the City's Reach Code would provide more stringent requirements, requiring a total of 154 EVSE spaces on SMP 39 and 63 EVSE spaces on SMP 40. Given the proposed project's required compliance with the 2022 CBSC and/or the City's Reach Code, the proposed project would be consistent with Action T-1.1.
Strategy W-1: Reduce the amount of waste that is landfilled.	The project would be required to comply with all applicable provisions of Chapter 8.08, Solid Waste Management, of the City's Municipal Code. In addition, as discussed below, the proposed project would be required to comply with the CALGreen Code's construction waste diversion standards during construction of the proposed project. Therefore, the proposed project would generally be consistent with Strategy W-1.
Action W-1.5: Reduce construction waste.	The CALGreen Code requires all new construction projects to recycle and/or salvage for reuse a minimum 65 percent of all non-hazardous construction and demolition waste. The proposed project would be required to comply with the CALGreen Code standards, and, therefore, would be consistent with Action W-1.5.
Source: City of Livermore Climate Action Plan, 2022.	

Conclusion

Based on the above, the proposed project would be consistent with all of the applicable strategies and actions of the City's CAP. As a result, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Thus, a ***less-than-cumulatively-considerable*** impact related to GHG emissions would occur.

Mitigation Measure(s)

None required.

4.2-8 Result in a cumulatively considerable inefficient or wasteful use of energy or conflict with a State or local plan for renewable energy or energy efficiency. Based on the analysis below, the impact is *less than cumulatively considerable.*

Impact 4.2-5 discusses the consumption of energy on a project level, within the context of existing State plans and regulations. As discussed previously, the project would involve consumption of diesel, gasoline, natural gas, and electricity throughout

construction and operations. However, all proposed structures would be built in compliance with existing statewide mandatory energy efficiency standards, such as those contained in the California Building Energy Efficiency Standards and the CALGreen Code. Compliance with the energy efficiency standards would reduce the amount of electricity consumed by the proposed development. State regulations would also help to reduce the amount of energy consumed by on-road vehicles over time. For instance, State and federal emissions standards and fuel economy standards result in increased fuel efficiency for on-road vehicles. Overall, as concluded above, the proposed project would result in a less-than-significant impact related to the inefficient or wasteful use of energy or conflicting with a State or local plan for renewable energy or energy efficiency. Furthermore, a minimum of 154 EV charging stations would be required to be implemented on SMP 39, and a minimum of 63 EV charging stations would be required to be implemented on SMP 40, as required by the 2022 CBSC, which would help to further reduce transportation energy use associated with the proposed project.

Similar to the proposed project, all future development within the City of Livermore would be required to comply with applicable State and local regulations related to energy efficiency. Increased efficiency would be ensured in the future as cumulative development occurs due to compliance with the State's robust energy efficiency requirements. For example, pursuant to 2022 CBSC, new non-residential buildings associated with cumulative development would be required to be solar ready. Furthermore, energy efficiency regulations have been getting progressively more stringent over time. Thus, as cumulative development occurs under the increasingly stringent regulations, the energy use associated with such cumulative development is anticipated to be increasingly energy efficient over time as well.

Based on the above, implementation of the project in combination with other cumulative development in the project region would not result in the wasteful or inefficient use of energy. Because the project would not conflict with a local plan to increase energy efficiency and reduce energy consumption, a ***less-than-cumulatively-considerable*** impact would occur.

Mitigation Measure(s)

None required.

4.3 Biological Resources

4.3. BIOLOGICAL RESOURCES

4.3.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the project site and surrounding environs. The chapter describes the proposed project's potential impacts to biological resources and identifies measures to eliminate or substantially reduce impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project region. The information contained in the analysis is primarily based on the Biological Resources Assessments (BRAs) prepared for SMP 39 and SMP 40 by Monk & Associates, Inc. (see Appendix D and Appendix E).[1,2] Further information was sourced from the adopted City of Livermore General Plan[3] and associated EIR.[4] It should be noted that the analysis included in the BRA prepared for SMP 40 also includes an analysis of the off-site trail option areas.

4.3.2 EXISTING ENVIRONMENTAL SETTING

As discussed in the Project Description chapter of this EIR, neither the SMP 38, nor the Additional Annexation Only Parcels located east of SMP 40, would be developed as part of the proposed project. Accordingly, the following sections provide further details regarding the existing environmental setting and biological resources occurring only in relation to SMP 39 and SMP 40.

Regional Setting

The project site is located within Alameda County, California, adjacent to the City of Livermore, in the eastern portion of the San Francisco Bay Area. The project region is characterized by both urban developed and agricultural areas, as well as undeveloped grasslands, and other native habitats. The average annual precipitation for the region is 15.23 inches, with the wettest period during November through March, and average daily temperatures range from 40 degrees Fahrenheit (˚F) in winter to 87˚F in summer.

The topography in the project area is generally described by a lowland area and an upland area. Elevations in the lowland area generally range from about 350 feet above mean sea level (msl) to about 600 feet above msl. The upland area consists of moderate to steeply sloping hills, and elevations typically range from approximately 500 feet above msl to more than 1,200 above msl.

The project region supports several different types of aquatic resources including wetlands; freshwater marsh; vernal pools; creeks and arroyos, including Arroyo Mocho, Arroyo del Valle, Arroyo Las Positas, and Arroyo Seco; and open bodies of water, including the former sand and gravel pits located south and west of the project site.

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1 Monk & Associates. *Biological Resources Analysis – SMP-39 Alameda County, California.* December 16, 2021.
2 Monk & Associates. *Biological Resources Analysis – Oaks Business Park, City of Livermore, California.* February 15, 2023.
3 City of Livermore. *General Plan 2003-2025.* Adopted February 9, 2004.
4 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038).* June 2003.

Project Setting

As discussed above, development of SMP 38, as well as the four Additional Annexation Only Parcels, is not proposed as part of the project. Therefore, the analysis included within this chapter is focused on the potential impacts to biological resources associated with the development of SMP 39 and SMP 40, as well as the off-site trail connection options, which would connect to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. The three trail connection options being considered and evaluated herein include Trail Connection Option 1 – At-Grade Crossing at Discovery Drive; Trail Connection Option 2 – Undercrossing at Isabel Bridge; and Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84. Further detail of the trail connection options is provided in Chapter 3, Project Description, of this EIR.

Both SMP 39 and SMP 40 are currently vacant, undeveloped, disked annually, and periodically dry-land farmed. Historically, SMP 39 was used as pasturelands. In October 2021, SMP 39 was being used for dry-land farming and had gone fallow. In June 2019, SMP 40 was under hay production and the hay had been recently cut. By September 2021, the site appeared to have been recently disked; however, the site did not contain clear evidence of recent hay production. SMP 39 and SMP 40 are both relatively flat and have a gentle downward slope from east to west. Elevation on the sites ranges from 417 to 395 feet above msl.

The off-site trail connection areas include portions of the Isabel Avenue/SR 84 frontage, as well as vacant and undeveloped land. Specifically, Trail Connection Option 1 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and north along the western side of Isabel Avenue/SR 84 to Discovery Drive, where a new pedestrian crossing would be added across Isabel Avenue/SR 84 to connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. Trail Connection Option 2 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site to an existing grade-separated undercrossing of Isabel Avenue/SR 84 at the existing Isabel Bridge, where the trail would connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. Trail Connection Option 3 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and south through the Additional Annexation Only Parcels to just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard), where a new above-grade crossing over Isabel Avenue/SR 84 is proposed to connect to the existing Arroyo Mocho Trail at the northeast corner of Stanley Boulevard and Isabel Avenue/SR 84.

Plant Communities and Associated Wildlife Habitats

Monk & Associates identified three habitat types within the project site, including ruderal herbaceous and eucalyptus grove habitats, as well as habitat associated with Arroyo Mocho. The land cover types in the project site are discussed further below.

Ruderal Herbaceous

Ruderal (weedy) herbaceous communities are assemblages of plants that thrive in waste areas, roadsides and other sites that have been disturbed by human activity. Typically, hard-packed soils of roadsides, parking lots, industrial areas and construction sites support communities of ruderal species. Ruderal vegetation is adapted to high levels of disturbance and persists almost indefinitely in areas with continuous disturbance. Dominant species within the ruderal herbaceous communities on-site include slender wild oats (*Avena barbata*), Russian thistle (*Salsola tragus*), stinkwort (*Dittrichia graveolens*), yellow star thistle (*Centaurea solstitalis*) and wild radish (*Raphanus raphanistrum*).

Animals observed or expected to occur in ruderal habitats are typically those species adapted to human disturbance such as the American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Otospermophilus beechyi*), mourning dove (*Zenaida macroura*), and Eurasian collared dove (*Streptopelia decaocto*).

Ruderal herbaceous communities have been identified on both SMP 39 and SMP 40, as well as within all three off-site trail connection option alignments.

Eucalyptus Grove

Blue gum eucalyptus trees grow along and extend from the Arroyo Mocho's banks at the southern end of the SMP 40 site, and extend out from the arroyo banks south of the SMP 40 site. A few black walnut trees (*Juglans hindsii*) are also mixed in with the eucalyptus. Being in proximity to water, the eucalyptus grove provides foraging and nesting opportunities for a variety of local and migratory passerine bird species. Monk & Associates observed large flocks of European starlings (*Sturnus vulgaris*) and house finches (*Haemorhous mexicanus*) perching in the eucalyptus branches during a June 2019 survey. Other birds observed in the eucalyptus trees included western tanager (*Piranga ludoviciana*), red-winged blackbird (*Agelaius phoeniceus*), nesting Bullock's oriole (*Icterus bullockii*), Pacific-slope flycatcher (*Empidonax difficilis*), Bewick's wren (*Thryomanes bewickii*), brown-headed cowbird (*Molothrus ater*), lesser goldfinch (*Spinus psaltria*), and mourning dove. Eucalyptus trees are typically favored nest trees for larger raptors such as the red-tailed hawk (*Buteo jamaicensis*), which was observed on-site, and the red-shouldered hawk (*Buteo lineatus*). Several stick nests were also observed in the eucalyptus trees during June 2019 and September 2021 site surveys; however, the nests were all inactive. Fox squirrels (*Sciurus niger*) and their leafy nests were also observed in the eucalyptus grove.

It should be noted that blue gum eucalyptus trees do not occur within SMP 39 or any of the proposed off-site trail connection option alignments.

Arroyo Mocho

One aquatic resource, Arroyo Mocho, was identified as being located within the immediate project site vicinity. The Arroyo Mocho is a cobbly, channelized remnant creek that flows east to west along the southern boundary of SMP 40 into an engineered channel connecting to Arroyo de la Laguna. The portion of Arroyo Mocho south of the SMP 40 site boundary is vegetated with tall blue gum eucalyptus trees. The portion of Arroyo Mocho at the eastern boundary of SMP 40, where the proposed trail extends, is dominated by juvenile and mature Fremont cottonwoods (*Populus fremontii fremontii*), red willow (*Salix laevigata*), mule fat (*Baccharis salicifolia salicifolia*), poison hemlock (*Conium maculatum*), and invasive pepperweed (*Lepidium latifolium*). Subdominant species include cocklebur (*Xanthium strumarium*), spearmint (*Mentha spicata*), dog fennel (*Anthemis cotula*), umbrella sedge (*Cyperus eragrostis*) and Himalayan blackberry (*Rubus armeniacus*). The rocky substrate within the off-site location is mixed with blocky, angular rip-rap along the lower channel banks. The arroyo only flows seasonally and during each one of the site visits conducted as part of the BRA, the arroyo was dry.

Wildlife observed in the shrubby willow and cottonwood vegetation included insectivores such as Black Phoebes *(Sayornis nigricans*) and Nuttall's Woodpeckers (*Dryobates nuttallii*). The heavy brush provides habitat for other species such as California Quail (*Callipepla californica*) and cottontail rabbits (*Sylvilagus audubonii*), as well as transient predators such as coyotes (*Canis latrans*).

A wetland delineation was conducted along the segment of Arroyo Mocho located to the south of SMP 40 on June 15, 2022 as part of the proposed on-site trail plan. Though the acreage has not been confirmed by the U.S. Army Corps of Engineers (USACE), Monk & Associates identified 0.073-acre of wetland along Arroyo Mocho just east of the Isabel Avenue overcrossing, which are not within the project site. To the west of the Isabel Avenue overcrossing, south of the SMP 40 site, Arroyo Mocho was identified as unvegetated "other waters."

It should be noted that creeks, drainages, or wetlands are not present on SMP 39, and because the site is relatively flat and regularly disked for farming, noticeable drainage patterns were not observed on-site.

Special-Status Species

Special-status species are species that have been listed as "threatened" or "endangered" under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered special-status due to declining populations, vulnerability to habitat change, or restricted distributions. A general description of the criteria and laws pertaining to special-status classifications is described below. Special-status plant and wildlife species may meet one or more of the following criteria:

1. Listed as threatened or endangered, or proposed or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS);
2. Listed as threatened or endangered and candidates for listing by the California Department of Fish and Wildlife (CDFW);
3. Identified as Fully Protected species or Species of Special Concern by CDFW;
4. Identified as Medium or High priority species by the Western Bat Working Group (WBWG); and
5. Plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS) and CDFW (California Rare Plant Rank [CRPR] 1, 2, and 3):
    a. CRPR 1A: Plants presumed extinct.
    b. CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
    c. CRPR 2A: Plants extirpated in California, but common elsewhere.
    d. CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
    e. CRPR 3: Plants about which the CNPS needs more information – a review list.

The following set of criteria was used to determine the potential for special-status plant and wildlife species to occur within the project area:

- **Present:** Species occurs within the project area based on California Natural Diversity Database (CNDDB) records and/or was observed within the project area during the field surveys;
- **High:** The project area is within the known range of the species and suitable habitat exists within the project area;
- **Moderate:** The project area is within the known range of the species and very limited suitable habitat is within the project area;

- **Low:** The project area is within the known range of the species and marginally suitable habitat exists within the project area or the species was not observed during field surveys conducted within the project area; or
- **None:** The project area does not contain suitable habitat for the species, the species was not observed during field surveys conducted within the project area, or the project area is outside the known range of the species.

Listed and Special-Status Plant Species

According to the records search conducted as part of the BRAs, seven special-status plant species were identified as having the potential to occur in the vicinity of the project area. The seven identified special-status plant species include: congdon's tarplant (*Centromadia parryi congdonii*), caper-fruited tropidocarpum *(Tropidocarpum capparideum*), long-styled sand-spurrey (S*pergularia macrotheca longistyla*), brittlescale *(Atriplex depressa*), San Joaquin spearscale (E*xtriplex joaquinana*), saline clover (*trifolium hydrophilum*), and prostrate vernal pool navarretia (N*avarretia prostrata*). Of the identified plant species, the San Joaquin spearscale is a covered species under the East Alameda County Conservation Strategy (EACCS).

Based on previous plant surveys conducted on the project site, and literature review (detailed further in this chapter under the Method of Analysis subsection), none of the plant species were determined to have the potential to occur within the project site. Further details on each of the plant species is provided in Table 4.3-1.

Listed and Special-Status Wildlife Species

According to the records search conducted as part of the BRA, six special-status wildlife species have the potential to occur within the vicinity of the project area (see Table 4.3-1). The six identified special-status wildlife species include: California tiger salamander (*Ambystoma californiense*), California red-legged frog *(Rana draytonii*), western pond turtle (*Emys marmorata*), western burrowing owl, (*Athene cunicularia hypugaea*), loggerhead shrike (*Lanius ludovicianus*), and tricolored blackbird (*Agelaius tricolor*). Of the identified wildlife species, the California tiger salamander, California red-legged frog, tricolored blackbird, and western burrowing owl are covered species under the EACCS.

Based on field observations and literature review (detailed further in this chapter under the Method of Analysis subsection), three of the six special-status wildlife species were determined to have the potential to occur on-site: loggerhead shrike, western burrowing owl, and tricolored blackbird. While California tiger salamander and California red-legged frog are covered species under the EACCS, as noted in Table 4.3-1, the species were not determined to have the potential to occur on-site. Species with the potential to occur within the project site include the following:

SMP 39

- Western burrowing owl (*low potential*).

SMP 40 and Off-Site Trail Connection Options

- Loggerhead shrike (*low to moderate potential*);
- Western burrowing owl (*low potential*); and
- Tricolored blackbird (*low potential*).

Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
Plants					
Congdon's Tarplant (*Centromadia parryi congdonii)*	CNPS Rank 1.B.2	Valley and foothill grassland (alkaline).	May to November	SMP 39: The closest known occurrence of this species was recorded in 1999 and is located 1.06 miles northwest of the project site.	SMP 39: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
				SMP 40: The closest known occurrence of this species is located 2.0 miles northwest of the project site.	SMP 40: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
Caper-Fruited Tropidocarpum *(Tropidocarpum capparideum)*	CNPS Rank 1.B.1	Valley and foothill grassland (alkaline hills).	March to April	SMP 39: The closest recorded occurrence of this species is located 0.52 mile east of the project site.	SMP 39: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
				SMP 40: The closest recorded occurrence of this species is located 0.1 mile east of the project site.	SMP 40: **None.** No suitable habitat on this site which was previously farmed and that has had its topsoil removed from past quarrying. No impact expected.
Long-styled Sand-Spurrey *(Spergularia macrotheca longistyla)*	CNPS Rank 1.B.2	Alkaline marshes, mud flats, meadows, hot springs. Occurs at elevations less than 200 meters.	February to May	SMP 39: The closest recorded occurrence of this species was recorded in 1943 and is located 1.49 miles east of the project site.	SMP 39: **None.** No alkaline habitat onsite; no marshes, no hot springs, no vernal pool habitats. Not expected to occur. No impacts expected.
				SMP 40: The closest recorded occurrence of	SMP 40: **None**. No alkaline habitat onsite; no marshes, no hot springs,

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
				this species is located 0.9 mile east of the project site.	no vernal pool habitats. Not expected to occur. No impacts expected.
Brittlescale (*Atriplex depressa)*	CNPS Rank 1.B.2	Chenopod scrub; playas; valley and foothill grassland; (alkaline or clay).	May to October	SMP 39: The closest known occurrence of this species was recorded in 1943 and is located 1.49 miles northwest of the project site.	SMP 39: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
				SMP 40: The closest known occurrence of this species is located 2.5 miles northwest of the project site.	SMP 40: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
San Joaquin Spearscale *(Extriplex joaquinana)*	CNPS Rank 1.B.2	Chenopod scrub; meadows; valley and foothill grassland; (alkaline).	April to October	SMP 39: The closest recorded occurrence of this species was recorded in 1993 and is located 1.57 miles northwest of the project site.	SMP 39: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
				SMP 40: The closest known occurrence of this species is located 2.5 miles northwest of the project site.	SMP 40: **None.** Alkaline habitat not present on-site. Species not expected to occur. No impacts expected.
Saline Clover *(Trifolium hydrophilum)*	CNPS Rank 1.B.2	Marshes and swamps; valley and foothill grassland (mesic, alkaline); vernal pools. Occurs at elevations less than 300 meters.	April to June	SMP 39: The closest recorded occurrence of this species was recorded in 2002 and is located 1.5 miles northwest of the project site.	SMP 39: **None.** No alkaline habitat onsite; no vernal pool habitats. Not expected to occur. No impacts expected.
				SMP 40: The closest known occurrence of this	SMP 40: **None**. No alkaline habitat onsite; no

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
				species is located 2.5 miles northwest of the project site.	vernal pool habitats. Not expected to occur. No impacts expected.
Prostrate Vernal Pool Navarretia (*Navarretia prostrata)*	CNPS Rank 1.B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), and vernal pools (mesic). Elevation 15-1210 m.	April to July	SMP 39: The closest recorded occurrence of this species was recorded in 2010 and is located 1.27 miles northwest of the project site.	SMP 39: **None**. No alkaline habitat onsite; no vernal pool habitats. Not expected to occur. No impacts expected.
				SMP 40: The closest known occurrence of this species is located 2.3 miles northwest of the project site.	SMP 40: **None**. No alkaline habitat onsite; no vernal pool habitats. Not expected to occur. No impacts expected.
Amphibians					
California Tiger Salamander (*Ambystoma californiense)*	FT CT	Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose.	N/A	SMP 39: The closest recorded occurrence of this species was recorded in 1992 and is located 0.5 mile north of the project site.	SMP 39: **None.** No suitable breeding habitat or oversummering habitat and previous occurrence was seen north of I-580. No impact expected.
				SMP 40: The closest recorded occurrence of this species was recorded in 1994 and is located 1.0 mile west of the project site.	SMP 40: **None.** No suitable breeding habitat or oversummering habitat and previous occurrence was seen north of I-580. No impact expected.
California Red-Legged Frog (*Rana draytonii)*	FT CSC	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of	N/A	SMP 39: The closest recorded occurrence of this species was recorded in 1997 and is located 0.44 miles north of the project site.	SMP 39: **None.** No suitable aquatic habitat on-site and surrounding farming and development would not support this

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
		permanent water for larval development.			species. No impact expected.
				SMP 40: The closest recorded occurrence of this species was recorded in 1997 and is located 1.3 miles northwest of the project site.	SMP 40: **None.** Because Arroyo Mocho within the project site does not support water through the summer months which is critical to California red-legged frog larval development and metamorphosis, Arroyo Mocho does not provide suitable habitat conditions. Uplands are farmed or separated from known frog records by busy streets. Not expected onsite. No impact expected.
Reptiles					
Western Pond Turtle *(Emys marmorata)*	CSC	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County.	N/A	SMP 39: The closest recorded occurrence of this species was recorded in 2010 and is located 1.37 miles north of the project site.	SMP 39: **None.** No suitable aquatic habitat onsite and surrounding farming and development would not support this species. No impact expected.
				SMP 40: The closest recorded occurrence of this species is located 2.1 miles north of the project site.	SMP 40: **None.** The only aquatic habitat is the Arroyo Mocho which is subject to releases from Zone 7 so flows are high and fast and of short duration. Not expected

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
					onsite. No impact expected.
Birds					
Western Burrowing Owl (*Athene cunicularia hypugaea)*	CSC	Found in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	N/A	SMP 39: The closest recorded occurrence of this species was recorded in 2004 and is located near the west end of the project site.	SMP 39: **Low.** Few burrows on-site; however, no evidence of current or previous use of burrows by burrowing owls. Site is highly disturbed. Preconstruction surveys will be conducted prior to construction activities. No impact expected.
				SMP 40: The closest recorded occurrence of this species is located 1.0 miles northwest of the project site.	SMP 40: **Low.** Few burrows on-site. Most of site is farmed and the other portion has very few burrows and tall vegetation. Preconstruction surveys will be conducted prior to construction activities.
Loggerhead Shrike (*Lanius ludovicianus)*	CSC	Found in broken woodlands, shrubland, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	N/A	SMP 39: Records have not been documented within 3.0 miles of the project site.	SMP 39: **Low to none.** Nesting habitat not present on site. This bird has been seen in the project area, and the site could provide foraging opportunities. Preconstruction nesting surveys will be conducted prior to construction activities.

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence
				SMP 40: Records have not been documented within 3.0 miles of the project site.	SMP 40: **Low to moderate.** Eucalyptus trees provide nesting habitat. This bird has been seen in the project area. Preconstruction nesting surveys will be conducted prior to construction activities.
Tricolored Blackbird (*Agelaius tricolor)*	CT	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	N/A	SMP 39: The closest recorded occurrence of this species was recorded in 1980 and is located near the south end of the project site.	SMP 39: **None.** This species has not been observed near the project location in nearly 40 years and there is no aquatic habitat of any type on the project site. No impact expected.
				SMP 40: The closest recorded occurrence of this species was recorded in 1980 and is located just west of the project site.	SMP 40: **Low to none.** Typically nests in emergent marsh vegetation. Eucalyptus is the only nesting substrate which has low value. No impact expected.

[1] SMP 40, as referenced in the table, includes the off-site trail connection option areas.

Status Codes:

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate
FPD - Federally Proposed for delisting

CNPS:
Rank 1A - Presumed extinct in California
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 1B.1 - Seriously endangered in California (over 80 percent occurrences threatened/high degree and immediacy of threat)
Rank 1B.2 - Fairly endangered in California (20 to 80 percent occurrences threatened)

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Table 4.3-1
Special-Status Species with Potential to Occur within SMP 39 and SMP 40[1]

Common Name *(Scientific Name)*	Status	Habitat Requirements	Flowering Period	Closest Locations	Potential for Occurrence

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CSC - California Species of Special Concern
FP - Fully Protected

Rank 1B.3 - Not very endangered in California (less than 20 percent of occurrences threatened or no current threats known)
Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 2A - Extirpated in California, common elsewhere
Rank 2B.1 - Seriously endangered in California, but more common elsewhere
Rank 2B.2 - Fairly endangered in California, but more common elsewhere
Rank 2B.3 - Not very endangered in California, but more common elsewhere

Sources: Monk & Associates, 2021; Monk & Associates, 2023.

Further details of the three special-status wildlife species with potential to occur within the project site are provided below.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the CESA or FESA, but is considered a bird of conservation concern by the USFWS and a species of special concern by the CDFW. The loggerhead shrike is a small, predaceous bird of open and often arid habitats, and prefers areas with scattered shrubs, trees, posts, fences, utility lines, and other acceptable perching locations. The loggerhead shrike preys mostly upon large insects, as well as small birds, mammals, amphibians, reptiles, fish, carrion, and various invertebrates. The species typically constructs a stick nest on a stable branch in a densely foliated tree or shrub. Blackberry (*Rubus* spp.), rose (*Rosa* spp.) and willows are all typically used by the species for nest sites. However, nesting site selection is based on the degree of protective cover rather than on a particular plant species. Although nest height varies from 1.5 to 30 feet above ground, nests are rarely less than three feet high.

The pastures and ruderal habitats on SMP 40 provide Loggerhead Shrikes with suitable hunting habitat. In addition, loggerhead shrikes were observed hunting in the site vicinity, and the eucalyptus trees along the Arroyo Mocho provide suitable nesting habitat. As such, the BRA determined that loggerhead shrike have a low to moderate potential to occur within SMP 40 and the off-site trail connection areas. Loggerhead shrike was not identified as having the potential to occur within SMP 39.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia hypugaea*) is not listed pursuant to either the CESA or FESA; however, the species is designated as a bird of conservation concern by the USFWS and a species of special concern by the CDFW. Burrowing owl habitat is usually found in annual and perennial grasslands, characterized by low-growing vegetation. Often, the burrowing owl uses rodent burrows, typically California ground squirrel burrows, for nesting and cover. The species may also on occasion dig their own burrows or use man-made objects such as concrete culverts or rip-rap piles for cover. Burrowing owls exhibit high site fidelity, reusing burrows year after year. Occupancy of suitable burrowing owl habitat can be verified at a site by observation of the owls during the spring and summer months or, alternatively, molted feathers, cast pellets, prey remains, eggshell fragments, or excrement (whitewash) at or near a burrow.

Burrowing owls typically are not observed in grasslands with tall vegetation or wooded areas because the vegetation obscures their ability to detect avian and terrestrial predators. Because burrowing owls spend the majority of their time sitting at the entrances of their burrows, grazed grasslands seem to be the species preferred habitat because the low-lying vegetation allows burrowing owl to view the surrounding area without obstructions.

Despite California ground squirrel burrows being present on both the SMP 39 and SMP 40 sites, evidence of current or previous use of California ground squirrel burrows by burrowing owls was not observed during current and past site surveys conducted by Monk & Associates. Areas adjacent to SMP 39 and SMP 40 were also visually surveyed for burrowing owl, and evidence of owls was not present. One documented CNDDB occurrence of burrowing owl exists within one mile of both the SMP 39 and SMP 40 sites. Because the burrowing owl is a highly mobile species, while evidence of burrowing owl is not present within either the SMP 39 or SMP 40 sites, the

species was determined to have low potential to occur within SMP 39 and SMP 40 (including the off-site trail connection areas).

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is listed as threatened pursuant to the CESA. In addition, the species is currently considered a USFWS bird of conservation concern and a CDFW species of special concern. Tricolored blackbird is a colonial nesting species distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California. Tricolored blackbird nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance.

Tricolored blackbird nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation. The species feeds mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields. The nesting season is generally from March through August.

Blue gum eucalyptus trees grow along Arroyo Mocho's banks at the southern end of SMP 40, and extend out from the arroyo banks south of the site. The eucalyptus trees could provide low value nesting habitat for tricolored blackbird. However, tricolored blackbirds were not observed nesting during surveys of SMP 40. Therefore, the BRA determined that the species has low to no potential to occur within SMP 40 (including the off-site trail connection areas). Tricolored blackbird was not identified as having the potential to occur within SMP 39, as the species has not been observed near SMP 39 in nearly 40 years, and aquatic habitat does not exist within SMP 39.

East Alameda County Conservation Strategy Land Cover Types

The project site is within the boundaries of the EACCS. As discussed in further detail below, the EACCS has been approved and accepted by the City of Dublin, Zone 7 Water Agency, and the City of Livermore, and is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects. According to the EACCS, the project site is located in Conservation Zone 2 (CZ-2), which encompasses 37,066 acres of the largely urbanized Livermore Valley. Though the CZ-2 area is largely urbanized, the dominant natural land cover types in the conservation zone are annual grassland (3,409 acres) and mixed riparian forest and woodland (410 acres). According to Figure 2-8 of the EACCS, the entirety of the project site consists of ruderal land.

Wildlife Movement Corridors

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; populations can move in response to environmental changes and natural disasters; and individuals can recolonize habitats from which populations have been locally extirpated. All three functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating,

and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

The project area does not fall within an Essential Habitat Connectivity area mapped by the CDFW. In addition, SMP 39 is bordered on all sides by well-trafficked roads, the Livermore Municipal Airport, the Oaks Business Park and a series of quarry ponds. The quarry ponds were excavated in uplands (i.e., are not associated with a creek or drainage) and have nearly vertical slopes, preventing wildlife from traversing the ponds easily or using the quarry area as a corridor. In addition, the SMP 39 site is isolated from regional open spaces, and, as a result, does not have regional wildlife corridor value to terrestrial mammals and has minimal habitat that could be used by some migrating avian species.

With regard to SMP 40, the site is bordered by an industrial development to the north, a heavily trafficked road to the east, an active railroad track and heavily trafficked road to the south, and quarry lakes to the west. Thus, SMP 40 is isolated from regional open spaces and, as a result, does not have regional wildlife corridor value to terrestrial mammals and has minimal habitat that could be used by some migrating avian species. However, Arroyo Mocho runs along the southern boundary of SMP 40, just outside the site, and is located within the off-site improvement area for Trail Connection Option 2. Arroyo Mocho may serve as a local movement corridor for mammals, amphibians, and reptiles to move unobtrusively through the general geographic area. Animals moving along Arroyo Mocho could leave the Arroyo and enter SMP 40 to move across the landscape. The animals expected to migrate along the Arroyo and possibly enter the upland areas of the project site are common species such as raccoons, skunks, deer, and rodents.

Trees

Existing trees are not located within SMP 39. Trees are located along the southern boundary of SMP 40 and within portions of the Trail Connection Option 2 off-site improvement area associated with Arroyo Mocho. In addition, trees are located along portions of the Isabel Avenue/SR 84 frontage within the Trail Connection Option 1 and 3 off-site improvement areas. According to Monk & Associates, the only protected trees that occur within the project site are a few black walnut trees located along the portion of Arroyo Mocho just south of SMP 40, which are interspersed among blue gum eucalyptus.

4.3.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources.

Federal Endangered Species Act

The U.S. Congress passed the FESA in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 U.S. Code [USC] Section 1533[c]). Two federal agencies oversee the FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, while the NMFS has jurisdiction over anadromous fish and

marine fish and mammals. Section 7 of the FESA mandates that federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [3], [19]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties. Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan (HCP) that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of the FESA, a federal agency reviewing a project within the jurisdiction of the agency must determine whether any federally listed threatened or endangered species may be present in the project area and whether the proposed project would have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]).

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 CFR Section 328.2[f]). In addition, Section 401 of the CWA (Title 33 USC, Section 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge would comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands (if they retain continuous flow to other surface waters), sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under

normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3[b]).

Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

In addition to discharge of dredged or fill material into waters of the U.S. under Section 404, the CWA regulates municipal and industrial discharges to surface waters of the U.S through the National Pollutant Discharge Elimination System (NPDES) permit system, which is discussed in detail in Chapter 4.5, Hydrology and Water Quality, of this EIR.

State Regulations

The following are the State environmental laws and policies relevant to biological resources.

California Department of Fish and Wildlife

CDFW administers a number of laws and programs designed to protect fish and wildlife resources under the California Fish and Game Code (CFGC), such as CESA (CFGC Section 2050, et seq.), Fully Protected Species (CFGC Section 3511) and the Lake or Streambed Alteration Agreement Program (CFGC Sections 1600 to 1616). Such regulations are summarized in the following sections.

California Endangered Species Act

The State of California enacted CESA in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFGC Section 2081).

California Fish and Game Codes

A number of species have been designated "fully protected" species under Sections 5515, 5050, 3511, and 4700 of the CFGC, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The CFGC defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Birds of prey are protected in California under provisions of the CFGC Section 3503.5 (1992), which states, "it is unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by CDFW.

Lake or Streambed Alteration Program

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the CFGC Section 1602 requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, State or local government agency, or public utility that proposes an activity that would:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in harm to the natural environment, the CDFW requires that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

CDFW Species of Special Concern

In addition to formal listings under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern" developed by CDFW. Species whose numbers, reproductive success, or habitat may be threatened are tracked by CDFW in California.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently, 64 species, subspecies, and varieties of plants are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the federal CWA. Although the CWA is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the SWRCB and Regional Water Quality Control Boards (RWQCBs) are the authorities that certify that issuance of a federal license or permit does not violate California's water quality

standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S., and also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the State; (3) wetland delineation procedures; and (4) procedures for the submittal, review, and approval of applications for WQCs and Waste Discharge Requirements (WDR) for dredge or fill activities. The State Office of Administrative Law (OAL) approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code Section 13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000, et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

Local Regulations

The following are the local environmental laws and policies relevant to biological resources.

City of Livermore General Plan

Applicable goals, objectives, and policies from the adopted City of Livermore General Plan related to biological resources are presented below:

Goal OSC-1 Conserve the value and function of Livermore's open space as a biological resource.

Objective OSC-1.1 Maintain biodiversity within the Planning Area with special emphasis on species that are sensitive, rare, declining, unique or represent valuable biological resources.

Policy P4 The City shall require all projects that impact a federal or State listed threatened or endangered species, federal or State listed

candidate species, State species of special concern, or State designated sensitive habitats, to mitigate for identified impacts in a way consistent with mitigation and avoidance measures published and distributed by the federal and/or State resource agencies at the time of the specific plan or project-level review. Monitoring requirements also shall be consistent with published requirements for each species or habitat. For listed or candidate species, species of special concern, or sensitive habitats for which no mitigation or avoidance measures have been published, the City shall require evidence of coordination with the responsible agencies prior to acceptance of mitigation or avoidance measures or monitoring requirements.

Objective OSC-1.2 Minimize impacts to sensitive natural habitats including alkali sinks, riparian vegetation, wetlands and woodland forest.

Policy P1 Habitats of rare or endangered species shall be preserved.

Policy P2 Use and development of riparian areas should enhance the appearance of the creekside environment and protect and enhance native vegetation.

Policy P3 Require appropriate setbacks, to be determined in coordination with resource agencies, LARPD, EBRPD, and other responsible agencies, adjacent to natural streams to provide adequate buffer areas that ensure the protection of plant and animal communities.

Policy P4 Riparian woodlands and freshwater marshes shall be preserved. Developers shall be required to mitigate possible adverse impacts upon these resource areas. Consistent with the North Livermore Urban Growth Boundary Initiative, no development shall be allowed that would have a substantial adverse impact or significant effect on such areas.

Policy P6 The City shall require all development to comply with State and federal regulations to

preserve and protect the habitats of rare and endangered species.

Policy P7 The City shall require project proponents to identify and map sensitive biological and wetland resources on each development parcel and identify the measures necessary to avoid and/or minimize impacts on sensitive biological and wetland resources prior to approving the development. Mitigation for impacts to sensitive biological and wetland resources shall replace the functions and values of the resources as well as gross acreage.

Policy P8 The City shall require development to avoid take of species listed as threatened, endangered, or candidate under federal and state endangered species acts by implementing measures determined in consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Policy P12 The City shall require the maintenance of adequately-sized terrestrial and aquatic movement corridors that connect natural open space areas.

Objective OSC-1.3 Conserve Livermore's native trees and vegetation, which are important biological resources within the Planning Area

Policy P1 Require new developments to incorporate native vegetation into their landscape plans, and prohibit the use of invasive non-native plant species. Propagules (seeds or plants) of native plants shall be from native sources.

City of Livermore Tree Protection Ordinance

Chapter 12.20 of the City's Municipal Code comprises the City's Tree Preservation Ordinance. Pursuant to Section 12.20.190, removal or encroachment into the protected zone of any "protected trees" on public or private property within the City requires issuance of a tree permit from the City pursuant to the provisions of the Ordinance. Protected trees are defined in Section 12.20.160(M) of the Municipal Code as a single-trunked tree, a multi-trunked tree, or a stand of trees dependent upon each other for survival that meets any one or more of the following criteria:

1. Any tree located on private property occupied by single-family residential development that meets the following criteria:
    a. Any tree with a circumference at breast height (CBH) of 60 inches or more; or

   b. Any California native tree having a circumference (CBH) of 24 inches or more;
2. Any tree located on private property occupied by commercial, industrial, institutional (i.e., religious, public agency, hospital, care facilities, etc.), mixed-use or multifamily residential (two or more units) development with a circumference (CBH) of 24 inches or more;
3. Any tree located on an undeveloped or underdeveloped property, regardless of zoning district, use, or development status, for which new development is proposed, with a circumference (CBH) of 18 inches or more;
4. Any tree located in an open space, riparian, or habitat area with a circumference (CBH) of 18 inches or more;
5. Any tree approved as part of a site plan approval, or required as a condition of approval for a development project, zoning use permit, use permit or other site development review;
6. Any tree designated by the City Council as determined to be an ancestral tree;
7. Any tree listed on the City's ancestral tree inventory; and/or
8. Any tree required to be planted as mitigation for unlawfully removed trees.

In addition, Section 12.20 contains further regulations related to the definition, planting, protection, removal, and pruning of street trees within the City. As noted in Section 12.20.020 of the City's Municipal Code, all street trees within the City are considered property of the City, and the Director of Public Works or designee thereof retains exclusive authority and responsibility to plant, remove, prune, inspect, maintain, root-prune, or otherwise alter street trees.

East Alameda County Conservation Strategy

The EACCS was deemed final in December 2010, and has been approved and accepted by the City of Dublin, Zone 7 Water Agency, and the City of Livermore. The EACCS is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects. The EACCS focuses on impacts to biological resources such as endangered and other special-status species as well as sensitive habitat types (e.g., wetlands, riparian corridors, rare upland communities). However, the EACCS does not provide an estimate of impacts to species or their habitats during a designated period of time, nor does the EACCS provide a specific mitigation program to offset the estimated impacts, which are required elements of a HCP or Natural Conservation Community Plan (NCCP). Therefore, while conservation strategies are provided by the EACCS, the document is not considered an adopted HCP/NCCP.

To support the project permitting process, the EACCS identifies mitigation standards to offset impacts expected from projects in the EACCS study area, and includes a set of specific management prescriptions to benefit natural communities and covered species. The EACCS also sets long-range conservation goals for preservation of all natural communities in the study area, and is designed to contribute to covered species recovery and to prevent the listing of non-listed species within the region through the protection, restoration, and enhancement of natural communities and species habitat.

Covered species under the EACCS include the following 13 wildlife species: longhorn fairy shrimp; vernal pool fairy shrimp; callippe silverspot butterfly; California tiger salamander; California red-legged frog; foothill yellow-legged frog; Alameda whipsnake; Central California coastal steelhead; golden eagle; tricolored blackbird; western burrowing owl; American badger; and San Joaquin kit fox. The EACCS also includes the following six covered plant species: San

Joaquin spearscale; big tarplant; Congdon's tarplant; palmate-bracted bird's-beak; Livermore Valley tarplant; and recurved larkspur.

Applicable goals and objectives of the EACCS include the following:

- Protect and enhance natural and semi-natural landscapes that are large enough to accommodate natural processes beneficial to populations of native species;
- Maintain and enhance the effective movement and genetic exchange of native organisms within and between natural communities inside and outside the study area; and
- Avoid or minimize direct impacts on streams during project construction and indirect impacts that result from post-project activities by implementing avoidance measures.

Further, as discussed above, the project site is located within CZ-2 of the EACCS, which consists of the largely urbanized Livermore Valley. CZ-2 includes the intersections of I-580 and I-680 and the intersection of State Route (SR) 84 and I-580. I-580 forms the northeast boundary. Conservation priorities for CZ-2 include the following:

- Protection of Western Burrowing Owl nesting and foraging habitat;
- Protection of and restoration opportunities in mixed willow riparian scrub along Arroyo Valle and Arroyo Mocho;
- Protection of and restoration opportunities along Arroyo Seco and Arroyo Mocho to support California red-legged frog and future central California coast steelhead habitat;
- Surveys for San Joaquin spearscale (*Extriplex joaquiniana*) and protection of extant populations;
- Surveys for Congdon's tarplant (*Centromadia parryi congdonii*) and protection of extant populations; and
- Protection of vernal pool habitat.

4.3.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to biological resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the City's adopted General Plan, and professional judgment, a significant impact would occur related to biological resources if the proposed project would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State HCP.

Method of Analysis

The analysis presented herein is based primarily on the BRAs prepared for the proposed project by Monk & Associates (see Appendix D and Appendix E of this EIR). The analysis within the BRAs is based on a literature review and field surveys of the project site, which are detailed further below. Additional information within this chapter was sourced from the adopted City of Livermore General Plan and associated General Plan EIR. Determinations of significance are made in this chapter based on the potential of the proposed project to adversely affect biological resources within the project site.

Literature Review

A list of special-status plant and wildlife species with potential to occur within the project site was developed as part of the BRAs through a query of the most recent version of the CDFW's CNDDB RareFind 5 application. The CNDDB query included a search of historic and recent records of special-status plant and animal species within three miles of the project site. All known record locations for special-status species were examined to determine if the species could occur within the project site or within an area of potential effect.

Field Surveys

Several field studies have been conducted by Monk & Associates within the project site. Both SMP 39 and SMP 40 were both first surveyed in 2000, with follow-up surveys over the years, including in November 2013, for various development proposals. In addition, a project-specific field survey was conducted on SMP 39 on October 14, 2021, and on SMP 40 on June 10, 2019 to record biological resources within the sites, and to assess the likelihood of resource agency regulated areas to be located within the sites. An additional survey was conducted for SMP 40 on June 21, 2019 to flag the Arroyo Mocho's riparian drip line to allow for the project engineers to survey the limits of the riparian vegetation and overlay the area on the project site plan, and another general survey of SMP 40 was conducted on September 10, 2021. Each site survey conducted for both SMP 39 and SMP 40 involved searching all habitats on the sites and recording all plant and wildlife species observed. The habitats found on the project site were cross referenced against the habitat requirements of local or regionally known special-status species to determine if the proposed project could directly or indirectly impact such species. The field surveys also included an examination of the sites to determine if regulated waters of the U.S. and/or State are present within the sites. Finally, a wetland delineation was conducted along the Arroyo Mocho located to the south of SMP 40 on June 15, 2022 as part of the proposed SMP 40 on-site trail plan. Though the acreage has not been confirmed by the USACE, Monk & Associates identified 0.073 acres of wetland along Arroyo Mocho just east of the Isabel Avenue overcrossing. To the west of the Isabel Avenue overcrossing, Arroyo Mocho was identified as unvegetated "other waters."

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to biological resources is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above. As discussed above, neither the SMP 38, nor the Additional Annexation Only Parcels located east of SMP 40 would be developed as part of the proposed project. Therefore, the analysis included within this chapter is focused on the potential impacts associated with the development of SMP 39 and SMP 40, as well as the off-site trail connection options, which would connect to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. The discussions and mitigation measures presented below apply to both SMP 39 and SMP 40, as well as the off-site trail connections, unless otherwise stated.

4.3-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species. Based on the analysis below, the impact is *less than significant*.

Special-status plants generally occur in relatively undisturbed areas within vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, chaparral, alkali playa, dunes, and areas with unusual soil characteristics.

According to the BRAs prepared for the proposed project, seven special-status plants are known to occur, or to have once occurred, in the regional vicinity of the proposed project. However, as discussed in Table 4.3-1 above, all special-status plant species are considered absent or unlikely to occur within both the SMP 39 and SMP 40 sites due to a lack of suitable habitats and the regular disturbance of the sites as a result of past agricultural activities. In addition, special-status plants have not been observed during several surveys of the project sites conducted during various months over the years.

Therefore, the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.3-2 Have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts to special-status wildlife species associated with development of the proposed project.

Western Burrowing Owl

As noted previously, while western burrowing owls have not been observed within SMP 39 or SMP 40, and the likelihood of the species being present is on SMP 39 and SMP 40 is low, suitable nesting and foraging habitat (e.g., California ground squirrel

burrows) occurs on both the SMP 39 and SMP 40 sites. In addition, while Trail Connection Option 1 would be developed entirely within previously disturbed areas associated with the Isabel Avenue/SR 84 frontage, the undeveloped areas associated with Trail Connection Options 2 and 3 could provide additional nesting and foraging habitat for western burrowing owl.

Therefore, construction activities associated with implementation of the proposed project would have the potential to disturb existing burrows on the project site and/or off-site improvement areas that have the potential to be used by burrowing owl. Should individual burrowing owls be present within burrows during ground disturbance within the project area, project construction, including construction of Trail Connection Options 2 and 3, could result in the loss of individual owls. As such, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl.

Tricolored Blackbird

As discussed above, blue gum eucalyptus trees grow along Arroyo Mocho's banks at the southern end of SMP 40, and extend out from the arroyo banks south of the site. The eucalyptus trees could provide low value nesting habitat for tricolored blackbird. However, tricolored blackbirds were not observed nesting during surveys of SMP 40. Therefore, the BRA determined that the species has low to no potential to occur within SMP 40 (including the off-site trail connection areas). In addition, tricolored blackbird was not identified as having the potential to occur within SMP 39, as the species has not been observed near SMP 39 in nearly 40 years, and aquatic habitat does not exist within SMP 39.

Nonetheless, construction activities associated with implementation of the proposed project would have the potential to disturb tricolored blackbird on SMP 40 and/or the off-site improvement areas, if tricolored blackbird are determined to be nesting on-site. As such, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird.

Loggerhead Shrike

As noted above, the pastures and ruderal habitats on SMP 40 provide loggerhead shrikes with suitable hunting habitat. In addition, loggerhead shrikes were observed hunting in the site vicinity, and the eucalyptus trees along the Arroyo Mocho provide suitable nesting habitat. As such, the BRA determined that loggerhead shrike have a low to moderate potential to occur within SMP 40 and the off-site trail connection areas. Loggerhead shrike was not identified as having the potential to occur within SMP 39.

Any loggerhead shrike that are nesting within or near work areas of the proposed project during construction activities would have the potential to be injured or killed by project activities. In addition to direct take of loggerhead shrike, project activities could disturb loggerhead shrike nesting within or adjacent to work areas such that the species could abandon the nest. Thus, the proposed project could have a substantial adverse effect, either directly or through substantial habitat modifications, on loggerhead shrike.

Nesting Birds and Raptors

As previously discussed, native nesting birds, including raptors, are protected by CFGC Section 3503. Raptors, passerines, non-passerine land birds, and waterfowl are further protected under the MBTA. The MBTA prohibits the take, possession, purchase, sale, or bartering of any migratory bird, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

The project area, including SMP 39, SMP 40, and the disturbance areas for all three off-site trail connection options, contains potential habitat for raptors and nesting birds that are protected by the MBTA, such as red-tailed hawk and red-shouldered hawk. Common songbirds (passerine birds) could also nest on the SMP 39 and SMP 40 sites, as well as the off-site improvement areas.

Thus, any birds or raptors that are nesting within or near work areas of the proposed project during construction activities would have the potential to be injured or killed by project activities. In addition to direct take of nesting birds, project activities could disturb birds nesting within or adjacent to work areas such that the species could abandon the nest. Project-related injury or mortality of nesting raptors and migratory birds would violate State and federal laws. Thus, the proposed project could have a substantial adverse effect, either directly or through substantial habitat modifications, on nesting birds and raptors.

Conclusion

Based on the above, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Western Burrowing Owl

4.3-2(a) *If project construction begins during the western burrowing owl nesting season (February 15 to August 31), a qualified biologist shall conduct targeted burrowing owl nest surveys within 14 days prior to construction activities using seven- to 20-foot transects. A separate preconstruction survey shall be conducted for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The survey shall include the project site and all accessible areas within 500 feet of the project impact zone, and shall follow CDFW guidelines outlined in the 2012 Staff Report on Burrowing Owl Mitigation. The results of the survey shall be submitted to the City of Livermore Community Development Department within 30 days of*

the completed survey. The survey report shall be valid for one construction season.

If western burrowing owls are not detected on-site during the survey, further mitigation shall not be required. If any western burrowing owls are detected on-site, pursuant to the CDFW's 2012 Staff Report on Burrowing Owl Mitigation, the following restricted activity dates and setback distances shall be implemented:

- *From April 1 through October 15, low disturbance activities shall have a 200-meter buffer while high disturbance activities shall have a 500-meter buffer from occupied nests.*
- *From April 1 through August 15, medium disturbance activities shall have a 500-meter buffer from occupied nests. Medium disturbance activities can have a reduced buffer of 200 meters starting August 16 through October 15.*
- *From October 16 through March 31, low disturbance activities shall have a 50-meter buffer, medium disturbance activities shall have a 100-meter buffer, and high disturbance activities shall have a 500-meter buffer from occupied nests.*
- *Earth-moving activities or other disturbance shall not occur within the aforementioned buffer zones of occupied burrows unless monitoring of the nest site by a qualified biologist determines that the owls are acclimated to the disturbance and would not be disturbed by a smaller buffer. The buffer zones shall be fenced.*
- *A qualified biologist shall delineate the extent of burrowing owl habitat on the site.*
- *Owls may be passively relocated from the project site between October 1 and February 1. Passive removal shall be conducted by a qualified biologist with demonstrated experience with passive relocation.*
- *Credits shall be purchased from a mitigation bank in coordination with CDFW and the City of Livermore to offset the project's habitat loss on the burrowing owl.*

A report detailing compliance with the provisions set forth herein shall be prepared by the qualified biologist and submitted for review and approval to the City of Livermore Community Development Department.

Western Burrowing Owl (Trail Connection Options 2 and 3)

4.3-2(b) *In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge or Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84 is the selected trail connection option for the proposed project, the requirements of Mitigation Measure 4.3-2(a) shall be implemented for the disturbance area associated with the trail connection option.*

Tricolored Blackbird

4.3-2(c) *Prior to any ground disturbance on SMP 40, a qualified biologist shall conduct a preconstruction survey in all accessible areas identified as supporting potential tricolored blackbird nesting habitat. The survey shall document the current, and to the extent possible, historical presence or absence of nesting colonies of tricolored blackbird. Surveys shall conclude no more than two calendar days prior to construction. If a tricolored blackbird nesting colony is present, a 250-foot buffer shall be applied from the outer edge of all hydrophytic vegetation associated with the site and the site plus buffer shall be avoided. The Wildlife Agencies shall be notified immediately of nest locations. All survey results shall be submitted to the City of Livermore Community Development Department prior to the start of construction. If current or recent tricolored blackbird nesting colonies are not identified, further action is not required.*

If construction takes place during the breeding season when an active colony is present, a qualified biologist shall monitor construction to ensure that the 250-foot buffer zone is enforced. If monitoring indicates that construction outside of the buffer is affecting a breeding colony, the buffer shall be increased if space allows (e.g., move staging areas farther away). If space does not allow, construction shall cease until the colony abandons the site or until the end of the breeding season, whichever occurs first. The biological monitor shall also conduct training of construction personnel on the avoidance procedures, buffer zones, and protocols in the event that tricolored blackbirds fly into an active construction zone (i.e., outside the buffer zone).

Nesting Birds and Raptors (Including Loggerhead Shrike)

4.3-2(d) *If project construction begins during the nesting season (February 1 to August 31), a qualified biologist shall conduct a nesting bird survey within 7 days prior to construction activities. A separate preconstruction survey shall be conducted for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The nesting bird survey shall include walking transects to search for ground nesting birds, and an examination of all trees on-site and within all accessible areas within 200 feet of the entire project site and off-site improvement areas (i.e., within a zone of influence of nesting birds). If nesting birds are not found within the project site or off-site improvement areas, further mitigation shall not be required.*

If migratory birds are identified nesting on or within the zone of influence, the Wildlife Agencies shall be notified immediately of nest locations. A qualified biologist shall establish a temporary protective nest buffer around the nest(s). The nest buffer shall be staked with orange construction fencing. The buffer must be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist with extensive

experience working with nesting birds near and on construction sites. Typically, adequate nesting buffers are 75 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several raptor species known in the region of the project site but that are not expected to occur on the project site. Upon completion of nesting surveys, if nesting birds are identified on or within a zone of influence of the project site, a qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed.

Construction or earth-moving activity shall not occur within any established nest protection buffer prior to September 1 unless a qualified ornithologist/biologist determines that the young have fledged and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July; however, the date may be significantly earlier or later, and would have to be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence in established nesting buffers without further regard for the nest site. If active nesting buffers are established and a biologist does not confirm that the nesting cycle is completed, then the nesting buffers must be maintained until the end of the CDFW recognized nesting season (September 1).

Should construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop the following agitated behavior: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest. The revised non-disturbance buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City of Livermore.

A report detailing compliance with the provisions set forth herein shall be prepared by the qualified biologist and submitted for review and approval to the City of Livermore Community Development Department.

4.3-3 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS, or State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other

means. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted previously, creeks, drainages, or wetlands are not present on SMP 39, and because the site is relatively flat and regularly disked, noticeable drainage patterns were not observed on-site. In addition, Trail Connection Options 1 and 3 are proposed to remain outside of any waters of the U.S. and/or State.

One aquatic resource, Arroyo Mocho, was identified as being located along the southern boundary of the SMP 40 site and within portions of the Trail Connection Option 2 disturbance area. According to the BRA prepared for SMP 40 and the associated off-site trail connections, SMP 40 does not currently have a confirmed USACE map of jurisdictional waters within the site, and only the USACE can confirm the extent of Arroyo Mocho that falls within their jurisdiction. However, according to the wetland delineation map that Monk & Associates prepared on June 15, 2022, Arroyo Mocho is likely considered a water of the U.S. and the State. In addition, Monk & Associates identified 0.073-acre of wetland along Arroyo Mocho just east of the Isabel Avenue overcrossing.

Nonetheless, as discussed previously, a field survey was conducted for the SMP 40 site on June 21, 2019 to flag the Arroyo Mocho's riparian drip line to allow for the project engineers to survey the limits of the riparian vegetation and overlay the area on the project site. By allowing the project engineers to overlay the area on the project site, site plans were prepared to ensure that the proposed development on SMP 40 would avoid all impacts to potential waters of the U.S. and State, and that all grading and building development would remain 25 feet from the top of the Arroyo Mocho's bank and outside of the riparian tree canopy, consistent with CDFW requirements.

Although the proposed on-site development of SMP 40 would avoid all impacts to potential waters of the U.S. and State, Trail Connection Option 2 would include improvements to the existing undercrossing below the Isabel Avenue bridge, which are anticipated to be below the Arroyo Mocho top of bank, and above the OHWM of the Arroyo Mocho, would be approximately 14 feet wide, and provide a minimum of eight feet of clearance under the bridge. As a result, Trail Connection Option 2 would be subject to RWQCB and CDFW requirements set forth by Section 401 of the CWA, the Porter-Cologne Water Quality Control Act, and CFGC Section 1600, et seq., discussed above. However, if it is necessary to place the trail below the Arroyo's top of bank, which would be considered "fill," as part of the proposed project, the RWQCB has a Water Quality Order (Water Quality Order No. 2004-0004-DWQ) that provides coverage for "threats to waters of the State when there is no Clean Water Act jurisdiction (i.e., for projects that do not require a Corps permit)." To be eligible for coverage under Water Quality Order No. 2004-0004-DWQ, projects must be restricted to not more than two-tenths of an acre (0.20-acre) and 400 linear feet. Trail Connection Option 2 would meet such criteria. To obtain RWQCB coverage, the applicant would need to submit a formal "Request for Concurrence of Applicability of Proposed Project with SWRCB Water Quality Order No. 2004- 0004-DWQ" to the RWQCB. Prior to the RWQCB issuing a Notice of Applicability (NOA) and WDRs, the project would have to be reviewed pursuant to CEQA and a Notice of Determination (NOD) issued. In addition, although the improvements are anticipated to be above the OHWM, if work

below the OHWM cannot be avoided, Trail Connection Option 2 would be subject to USACE Section 404 permit requirements.

The proposed project would also be required to implement pre-and post-construction Best Management Practices (BMPs) to ensure that all surface runoff is treated prior to entering the City's storm drain system. Discharge from the project would not be discharged into Arroyo Mocho either while under construction or after the project is constructed. In addition, a Storm Water Pollution Prevention Plan (SWPPP) would be implemented prior to constructing the project and would be maintained throughout the duration of project construction, thus ensuring that deleterious water would not be discharged from the project. Furthermore, because the City of Livermore would also enforce development of a post-construction Storm Water Management Plan that would treat and hydromodify all stormwater falling on impervious surfaces, the project would not impact downstream water quality in any way. Thus, the project would remain in compliance with the Porter-Cologne Water Quality Control Act. See Chapter 4.5, Hydrology and Water Quality, of this EIR for further detail.

Nonetheless, in the event that Trail Connection Option 2 is the selected option, without compliance with the LSAA and/or Section 401 permit (and the Section 404 permit if work below the OHWM cannot be avoided) the proposed project could have a substantial adverse effect on riparian habitat identified in local or regional plans, policies, regulations or by the CDFW or USFWS and State or federally protected wetlands.

Based on the above, implementation of the proposed project could have a substantial adverse effect on riparian habitat and/or other sensitive natural communities and/or have a substantial adverse effect on State or Federally protected aquatic resources (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Trail Connection Option 2 – Undercrossing at Isabel Bridge

4.3-3(a) *Prior to the initiation of ground-disturbing activities, the project applicant shall submit a formal wetland delineation to the USACE for Trail Connection Option 2 for verification to determine the extent of all hydrological features, their jurisdictional status, and the extent of any impacts resulting from the proposed project. A copy of the wetland delineation and USACE verification letter shall be submitted to the City of Livermore Community Development Department. If Trail Connection Option 2 will result in impacts to features under the USACE's jurisdiction, Mitigation Measure 4.3-3(e) shall be required.*

Trail Connection Option 2 – Undercrossing at Isabel Bridge

4.3-3(b) *In the event that Trail Connection Option 2 – Undercrossing at Isabel Bridge is the selected Trail Connection Option for the proposed project,*

implement Mitigation Measures 4.5-1 and 4.5-2 related to the preparation of a SWPPP and final Stormwater Control Plan and Maintenance Plan during project construction and operations, respectively.

SMP 40 and Trail Connection Option 2

4.3-3(c) *Prior to the commencement of ground-disturbing activities for SMP 40 or Trail Connection Option 2, if selected, the project contractor shall notify CDFW pursuant to Section 1600 of the CFGC. The notification shall include a description of all of the activities associated with the proposed project, not just those associated with the drainages and/or riparian vegetation. Impacts shall be outlined in the notification and are expected to be in substantial conformance with the impacts to biological resources outlined in the Biological Resources Assessments prepared for SMP 40 by Monk & Associates. Impacts for each activity shall be broken down by temporary and permanent impacts. A description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent impact. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, as well as a description of stormwater treatment methods. Minimization and avoidance measures shall be proposed, as appropriate, and may include the following:*

- *To avoid fuels, lubricants, soils and other pollutants from entering Arroyo Mocho, wildlife friendly hay wattles (that is, no mono-filament netting) and silt fencing shall be installed at the top of bank. The use of mulch or any other substitute that may enter into the creek shall be prohibited.*
- *Staging, operation and maintenance of heavy-duty construction equipment shall be located away from Arroyo Mocho at all times and well outside of the riparian corridor unless the equipment is needed to specifically work on the realignment of Arroyo Mocho or the outfalls for the project.*
- *To mitigate for any impacts to the riparian corridor of Arroyo Mocho, disturbed areas shall be revegetated with native riparian plant species. Replacement of riparian trees to be removed shall be planted near the creek as feasible and/or adjacent to the existing limits of the riparian corridor to contribute to the existing riparian canopy. Riparian plantings shall be maintained for a minimum of 5 years to ensure that the canopy is enhanced and the understory restored.*
- *Non-native and invasive ornamental landscaping shall be precluded from use proximate to Arroyo Mocho.*
- *To avoid debris from entering Arroyo Mocho, the final project design shall provide for enclosed and accessible trash receptacles (located outside of the riparian corridor).*
- *New lighting introduced by the project shall be downcast and precluded from spilling over to the riparian corridor as direct*

lighting along creek corridors has a negative impact on nocturnal wildlife.

Mitigation shall not result in a net loss of a Sensitive Natural Community. Written verification of Section 1600 of the LSAA shall be submitted to the City of Livermore Community Development Department.

Trail Connection Option 2 – Undercrossing at Isabel Bridge

4.3-3(d) *Prior to initiation of any groundbreaking activity associated with Trail Connection Option 2, if selected, the project applicant shall ensure that authorization pursuant to Clean Water Act (CWA) Section 401 from the San Francisco Bay Regional Water Quality Control Board (RWQCB) is obtained.*

If Trail Connection Option 2 will result in impacts to features under the RWQCB's jurisdiction, the construction contractor shall adhere to all conditions outlined in the permit. The project applicant shall ensure that the proposed project replaces, restores, or enhances on a "no net loss" basis (in accordance with the RWQCB) the acreage of all riparian habitat and waters of the State that would be removed, lost, and/or degraded due to project implementation by methods agreeable to the RWQCB and the City, as appropriate, depending on agency jurisdiction, and as determined during the Section 401 permitting processes. Methods include, but are not limited to implementation of a riparian enhancement planting plan and/or tree planting mitigation at a 1:1 ratio, or as otherwise prescribed by the RWQCB.

Trail Connection Option 2 – Undercrossing at Isabel Bridge

4.3-3(e) *If it is determined that work below the OHWM cannot be avoided for Trail Connection Option 2, prior to the issuance of grading permits, the project applicant shall apply for a CWA Section 404 permit from the USACE. Waters that would be lost or disturbed shall be restored, replaced, or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement, including the purchase of credits from a USACE approved mitigation bank at a 1:1 ratio, shall be at a location and by methods acceptable to the USACE. Documentation of compliance with the provisions set forth herein shall be submitted to the City of Livermore Community Development Department for verification.*

4.3-4 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. Based on the analysis below, the impact is *less than significant*.

As noted previously, the project area does not fall within an Essential Habitat Connectivity area mapped by the CDFW. In addition, according to the BRAs, both the SMP 39 and SMP 40 sites are isolated from regional open spaces and, as such, do

not have regional wildlife corridor value to terrestrial mammals, and have minimal habitat that could be used by some migrating avian species.

Arroyo Mocho runs along the southern boundary of SMP 40, just outside of the project site, and is located within the off-site improvement area for Trail Connection Option 2. Arroyo Mocho may serve as a local movement corridor for mammals, amphibians, and reptiles to move unobtrusively through the general geographic area. Animals moving along Arroyo Mocho may potentially leave the Arroyo and enter the project site to move across the landscape. Animals expected to migrate along the Arroyo and possibly enter the upland areas of the project site are common species such as raccoons, skunks, deer, and rodents. However, such mammals would be able to navigate around the project site even after the site is developed. In addition, implementation of Mitigation Measures 4.3-3(a) through 4.3-3(e) would ensure that all impacts to Arroyo Mocho would be mitigated to a less-than-significant level, and, as such, the wildlife corridor values of the channel would remain intact. Therefore, implementation of the proposed project would not have the potential to 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.

Based on the above, the proposed project would not interfere substantially with the movement of any wildlife and a ***less-than-significant*** impact would result.

Mitigation Measure(s)
None required.

4.3-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Based on the analysis below, the impact is *less than significant*.

Existing trees are not located within SMP 39. However, trees are located along the southern boundary of SMP 40 associated with Arroyo Mocho. In addition, while trees are not present within the Trail Connection Option 2 and 3 off-site improvement areas, street trees are located along the portions of the Isabel Avenue/SR 84 frontage within the Trail Connection Option 1 off-site improvement area.

Based on the definition of “protected trees” set forth in Chapter 12.20 of the City’s Municipal Code, and according to the BRA prepared for the SMP 40 site, the only protected trees that occur within SMP 40 are a few black walnut trees located along the Arroyo Mocho, which are interspersed among blue gum eucalyptus. Pursuant to Section 12.20.190 of the City’s Tree Protection Ordinance, removal or encroachment into the protected zone of any “protected trees” on public or private property within the City requires issuance of a tree permit from the City pursuant to the provisions of the Ordinance. However, all construction activity associated with the development of SMP 40 would remain more than 25 feet from the bank of Arroyo Mocho, and all grading and construction activities would occur outside of the Arroyo Mocho’s tree dripline. Thus, the black walnut trees located within SMP 40 would not be impacted by the proposed project.

In addition, Section 12.20 contains further regulations related to the definition, planting, protection, removal, and pruning of street trees within the City. As noted in Section 12.20.020 of the City's Municipal Code, all street trees within the City are considered property of the City, and the Director of Public Works or designee thereof retains exclusive authority and responsibility to plant, remove, prune, inspect, maintain, root-prune, or otherwise alter street trees. In the event that Trail Connection Option 1 is the chosen off-site trail connection, the proposed project could result in the removal of trees along the Isabel Avenue/SR 84 frontage. Given that the trees are located within the public right-of-way, the trees are considered "street trees" pursuant to Section 12.20.010 of the City's Municipal Code. However, none of the trees proposed for removal are considered protected trees per the City's Municipal Code. Nonetheless, prior to the removal of any street trees, a tree removal application must be submitted to the City pursuant to Section 12.20.080 of the City's Municipal Code. Upon approval of the application, street trees are permitted to be removed as is described within the approved application.

Considering that the proposed project would not involve the removal of protected trees, and the proposed project would be required to submit an application prior to the removal of any street trees, the proposed project would not conflict with local policies and/or ordinances that protect biological resources, including tree resources. Therefore, a ***less-than-significant*** impact could occur.

Mitigation Measure(s)

None required.

4.3-6 Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. Based on the analysis below, the impact is *less than significant*.

The project site is within the boundaries of the EACCS, a guidance document for regional conservation and environmental permitting for private and public development projects. While conservation strategies are provided by the EACCS, the document is not considered an adopted HCP/NCCP. Pursuant to the EACCS, the project site is located in CZ-2, which encompasses 37,066 acres of the largely urbanized Livermore Valley. Though the CZ-2 area is largely urbanized, the dominant natural land cover types in the conservation zone are annual grassland (3,409 acres) and mixed riparian forest and woodland (410 acres). According to Figure 2-8 of the EACCS, the entirety of the project site consists of ruderal land. In addition, as noted previously, the potential exists for two species covered under the EACCS, western burrowing owl and tricolored blackbird, to occur within the project site. However, Mitigation Measures 4.3-2(a) through 4.3-2(d), above, would reduce any potential impacts to western burrowing owl and tricolored blackbird to a less-than-significant level.

Therefore, the proposed project would not conflict with the applicable provisions of the EACCS, and a ***less-than-significant*** impact would occur related to conflicts with an adopted HCP/NCCP, or other approved local, regional, or State HCP.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The geographic scope for the cumulative biological resources analysis generally includes buildout of the proposed project in conjunction with the adopted City of Livermore General Plan. For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections of this EIR.

4.3-7 Cumulative loss of habitat for special-status species. Based on the analysis below, the projects incremental contribution to the significant impact is *less than cumulatively considerable*.

The City's adopted General Plan EIR determined that development associated with implementation of the adopted General Plan would contribute to the loss of sensitive wildlife habitat, such as vernal pools, wetlands, and oak woodland, in the Livermore area. As such, the adopted General Plan EIR concluded that despite the General Plan's goals and policies to minimize effects of development on biological resources, implementation of the adopted General Plan would result in a significant and unavoidable cumulative impact on biological resources.

As discussed above, the majority of the project site includes ruderal herbaceous land cover which has been disked annually and periodically dry-land farmed. In addition, Arroyo Mocho, and associated riparian eucalyptus grove habitat, is located along the southern boundary of SMP 40 and within portions of the Trail Connection Option 2 disturbance area. The proposed project would result in the conversion of the SMP 39 and SMP 40 sites to urban uses. As such, development of the proposed on-site and off-site project components would result in potential impacts to portions of the foregoing areas.

However, ruderal herbaceous land is not considered sensitive wildlife habitat. In addition, this chapter sets forth mitigation measures to ensure all potential project-specific impacts that would occur to biological resources are reduced to a less-than-significant level. For instance, Mitigation Measures 4.3-2(a) through 4.3-2(d), above would reduce any potential impacts to western burrowing owl and tricolored blackbird, as well as any other protected nesting birds and raptors, to a less-than-significant level. Furthermore, while the proposed development located on SMP 40 is anticipated to avoid all impacts to waters of the U.S. and State, in the event that Trail Connection Option 2 is chosen, the potential exists for the proposed project to result in impacts to Arroyo Mocho, which is considered to be a water of the U.S. and State. Mitigation Measures 4.3-3(a) through 4.3-3(e) would require the project applicant to obtain a

Section 1600 LSAA from CDFW, a Section 404 permit from USACE, and a Section 401 water quality certification from the RWQCB, as applicable, to address potential impacts to sensitive natural communities and federally and/or State-protected waters.

Overall, the mitigation measures set forth herein address all potential project-specific impacts to biological resources associated with the proposed project. As such, the proposed project would not result in substantial adverse effects to biological resources protected by CEQA.

As further discussed in Chapter 5 of this EIR, CEQA Guidelines Section 15064(h)(5), states, "[…] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

In addition, the courts have explicitly rejected the notion that a finding of significance is required simply because a proposed project would result in a net loss of habitat. "[M]itigation need not account for every square foot of impacted habitat to be adequate. What matters is that the unmitigated impact is no longer significant," (*Save Panoche Valley v. San Benito County* [2013] 217 Cal.App.4th 503, 528, quoting *Banning Ranch Conservancy v. City of Newport Beach* [2012] 211 Cal.App.4th 1209, 1233).

The above discussion provides substantial evidence that, while the combined effects on biological resources resulting from approved/planned development throughout the City of Livermore General Plan Area could be considered significant, the proposed project's incremental contribution to the significant cumulative effect would be reduced with implementation of the mitigation measures required in this EIR, as the majority of the habitat that would be developed as a result of the proposed project is not considered sensitive wildlife habitat, and the aforementioned Mitigation Measures would ensure that all project-specific impacts to sensitive biological resources are reduced to a less-than-significant level.

Based on the above, the proposed project's incremental contribution to the cumulative impact would be ***less than cumulatively considerable***.

Mitigation Measure(s)

None required.

4.4 Cultural and Tribal Cultural Resources

4.4 CULTURAL AND TRIBAL CULTURAL RESOURCES

4.4.1 INTRODUCTION

The Cultural and Tribal Cultural Resources chapter of the EIR addresses known historic and prehistoric cultural resources in the project vicinity, as well as the potential for previously unknown resources to occur within the overall project site. In addition, a discussion of tribal cultural resources potentially occurring in the project area is provided. The chapter summarizes the existing setting with respect to cultural and tribal cultural resources, identifies thresholds of significance, evaluates project impacts to such resources, and sets forth mitigation measures, as necessary. The information presented in this chapter is primarily drawn from the Cultural Resources Study prepared for the SMP 39 site (see Appendix F of this EIR)[1], and the Cultural Resources Study prepared for the SMP 40 site by Tom Origer & Associates (Origer) (see Appendix G of this EIR),[2] as well as the City of Livermore General Plan[3] and the associated General Plan EIR.[4]

4.4.2 EXISTING ENVIRONMENTAL SETTING

Cultural resources in the City of Livermore's General Plan planning area are associated with the Livermore-Amador Valley's prehistoric past, the Spanish and Mexican periods, and the civic and agricultural development of Livermore. The City of Livermore prepared a Historic Resources Survey Update in March 2021 to determine if any potential historic resources that had not already been listed are present within the City.[5] As part of the Historic Resources Survey Update, a total of 2,103 properties within the City were considered during a reconnaissance-level survey. Following the reconnaissance-level survey, a list of 82 properties, consisting of 67 individual properties and a historic district with 15 properties that warranted further evaluation as potential historic resources, was compiled. Overall, a total of 30 properties were identified to be eligible for individual listing in the National Register of Historic Places (NRHP) and California Register of Historic Places (CRHP) and met the definition of a City of Livermore historic resource, and 22 properties met the definition of a City of Livermore historic resource. In addition, 14 properties were identified as contributors to the Trevarno Road historic district. Overall, nearly 100 properties were newly identified within the Historic Resources Survey Update. The City also includes five properties that are currently listed as historic resources.

As discussed in the Project Description chapter of this EIR, neither SMP 38, nor the Additional Annexation Only Parcels located east of SMP 40 would be developed as part of the proposed project. Accordingly, the following sections provide further details regarding the prehistoric overview, ethnographic overview, and the historic overview of the SMP 39 and 40 sites, as well

1 Tom Origer & Associates. *Cultural Resources Study for the SMP 39 Project, Livermore, Alameda County, California*. December 14, 2021.
2 Tom Origer & Associates. *Cultural Resources Study for the SMP 40 Project, Livermore, Alameda County, California*. January 27, 2023.
3 City of Livermore. *General Plan 2003-2025*. Adopted February 9, 2004.
4 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038)*. June 2003.
5 City of Livermore. *Historic Resources Survey Update*. March 2021.

as the SMP 39 and 40 sites' histories and current uses. In addition, a description of any identified cultural or tribal cultural resources associated with the project site is provided below.

Prehistoric Overview

Because a prehistoric overview for both the SMP 39 and SMP 40 sites provides a broader discussion on the overall project region, the following discussion pertains to the prehistory of both sites.

SMP 39 and SMP 40 Prehistoric Overview

The concept of prehistory refers to the period of time before events were recorded in writing and varies worldwide. Due to the absence of a written record, the understanding of California prehistory is reliant on archaeological materials and oral histories passed down through generations. According to the City's General Plan EIR, the Livermore-Amador Valley was initially occupied by native Californians between 6,000 and 12,000 years ago. The area's earliest inhabitants are referred to by archaeologists as "Paleoindians." Paleoindian groups were the first humans to enter California and subsisted primarily on big game and, to a minimal extent, processed plant foods. The Paleo-Archaic-Emergent cultural sequence developed by David Fredrickson at the University of California, Davis, Department of Anthropology, is commonly used to interpret the prehistoric occupation of Central California. The sequence is broken into the following three broad periods:

- The Paleoindian period (8000 to 6000 B.C.) began with the first entry of people into California. Such people probably subsisted mainly on big game, and to a lesser extent, on plant foods, with few or no trade networks. Current research, however, indicates more plant processing, trading, and sedentism occurred in the period than previously thought;
- The Archaic period (Lower Archaic, 6000 to 3000 B.C.; Middle Archaic, 3000 to 500 B.C.; and Upper Archaic, 500 B.C. to 1000 A.D.) is characterized by increased use of plant foods, elaboration of burial and grave goods, and increasingly complex trade networks; and
- The Emergent period (1000 to 1800 A.D.) is marked by the introduction of the bow and arrow, the ascendance of wealth-linked social status, and the elaboration and expansion of trade networks, signified in part by the appearance of clam disk bead money.

Pursuant to the General Plan EIR, the descendants of the native groups who lived in the Livermore area prefer to be called Ohlone, although they are often referred to by the name of their linguistic group, Costanoan. The General Plan planning area is within the former territories of the Ssoam, Luecha, and Pelnen tribelets, three of approximately 40 Ohlone tribes which existed in the Bay Area, prior to European settlement in the region.

According to the Cultural Resources Studies prepared for the SMP 39 and 40 sites, early occupants appear to have had an economy based largely on hunting with limited exchange, and social structures based on the extended family unit. Milling technology and an inferred acorn economy were later introduced, with the foregoing diversification of the economy appearing concurrently with the development of sedentism, population growth, and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), possible indicators of both status and increasingly complex exchange systems. Prehistoric archaeological site indicators expected to be found in the region include, but are not limited to, obsidian and chert flakes and chipped stone tools; grinding and mashing

implements, such as slabs, hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items, plus fragments of bone, shellfish, and fire-affected stones.

Ethnographic Overview

Similar to the prehistoric overview discussion above, the ethnographic overview for both the SMP 39 and SMP 40 sites provides a broader discussion on the overall project region. Thus, the following discussion pertains to the ethnography of both sites.

SMP 39 and SMP 40 Ethnographic Overview

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups: the Hokan and Penutian phyla and the Uto-Aztecan, Algic, and Athabaskan language families. The distribution and internal diversity of four of the foregoing groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, which is the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of the aforementioned core region during the Archaic period, and hints of connections between certain branches of Hokan, such as that between Salinan and Seri, suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the U.S. Southwest and northwestern Mexico.

Linguistic evidence shows that between 10,000 and 4,000 years ago, inhabitants in the area were Pre-Hokan speakers and that by 6,000 years ago, Hokan languages had developed in the San Francisco Bay Area. Penutian (Utian) speakers have been hypothesized to have begun migration into the Bay Area from the lower Sacramento Valley approximately 4,000 years ago, establishing themselves in the East Bay Area. Proto-Costanoan people were also hypothesized to have originated in the East Bay Area, while early Costanoans are thought to have spread to the peninsula by approximately 3,200 years ago.

According to the Cultural Resources Studies prepared for the SMP 39 and 40 sites, the Ohlone/Costanoan were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages, in which seasonal camps and task-specific sites were distributed. Permanent villages were occupied throughout the year and satellite sites were visited to procure particular resources that were especially abundant or only seasonally available. Sites were often situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

Between 1777 and 1797, Spanish missionaries established seven missions in Costanoan territory, disrupting Costanoan lifeways and cultural identities and decimating the population. The Costanoan population is estimated to have declined from 10,000 in 1770 to less than 2,000 in 1832 as new diseases were introduced, leading to higher mortality rates and lower birth rates.

Historic Overview

Historic period site indicators typically include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains, such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps). The historic overview for the SMP 39 and 40 sites is presented separately below.

SMP 39 Historic Overview

Historically, the SMP 39 study area is within the Rancho Santa Rita, granted to Dolores Pacheco in 1839, and patented to John Yountz, the administrator of Pacheco's estate in 1865. When granted, the Rancho Santa Rita consisted of 8,894 acres located within the Amador Valley and containing the present cities of Pleasanton, Asco, and Dougherty. Mr. Pacheco held several public offices between 1838 and 1846, before dying in 1852.

SMP 40 Historic Overview

Historically, the SMP 40 study area is within the Valle de San Jose land grant, granted to Antonio María Pico and Antonio María Suñol in 1839, and patented to Antonio Suñol, Juan Bernal, and Augustin Bernal in 1863. When granted, the Valle de San Jose land grant consisted of 48,436 acres and included the present cities of Livermore and Pleasanton. Pico held a variety of military and public offices throughout his career, was later appointed as a registrar of the U.S. Land Office in Los Angeles in 1861, and was the grantee of Rancho Pescadero in San Joaquin County. Suñol was mainly a stock raiser and trader, but was also the owner of Rancho Los Coches in Santa Clara County and the co-purchaser of the San Rafael Mission with Pico in 1846. In 1878, the SMP 40 study area was owned by Martin Mendenhall, who was a farmer.

Project Site History and Current Uses

The history and current uses of both the SMP 39 and 40 sites are discussed separately below.

SMP 39 Setting

The SMP 39 study area consists of generally level, undeveloped land with a slope of zero to one percent. The nearest water source is the Arroyo Mocho, which is approximately 750 meters (2,461 feet) south of the SMP 39 study area. With respect to soils, which could indicate the presence of cultural midden if discoloration is present or the former presence of structures or buildings (e.g., postholes, foundations) and historic-era debris (e.g., metal, glass, ceramics) if depressions occur, the geology of the SMP 39 study area consists of alluvium that dates to the Holocene Epoch (11,700 years ago to the present). Soils within the study area belong to the Yolo series. Yolo soils consist of well-draining, moderately deep to very deep loamy soils. In a natural state, the soils support the growth of grasses and oaks. Historically, parcels containing Yolo soils were used for irrigated pasture, alfalfa, and row crops.

The SMP 39 site has been vacant or used for agricultural purposes since at least 1906. Currently, the site is composed of vacant land. The vicinity surrounding the site similarly consisted of vacant land until the mid-1960s. By the 1990s, the vicinity was developed for commercial, industrial, and municipal airport purposes, as well as a sand and gravel quarry located on an adjoining property south of the site. Currently, the site is surrounded by uses, including a paved shared-use path and the Livermore Municipal Airport to the north, across West Jack London Boulevard; the Oaks Business Park to the east and the Arroyo Mocho Trail and single-family residences further east, across Isabel Avenue/State Route (SR) 84; gravel quarries and industrial ponds associated with mining operations to the south; and SMP 38, Arroyo Mocho, and industrial ponds to the west.

SMP 40 Setting

County areas between Livermore to the east and Pleasanton to the west, such as the SMP 40 site, have largely been used for gravel mining. The SMP 40 study area for the purposes of this analysis encompasses both the SMP 40 site and off-site trail improvements footprint and consists of generally level land. The closest water source is the Arroyo Mocho, which abuts the southern portion of the SMP 40 study area.

The geology of the SMP 40 study area consists of alluvium that dates to the Holocene Epoch. Soils within the study area belong to the Yolo and Livermore series, with a small portion of the southernmost trail segment being Riverwash. Yolo soils consist of well-draining, moderately deep to very deep loamy soils, which in a natural state, support the growth of grasses and oaks. Livermore soils consist of somewhat excessively draining, very deep gravelly soils. In a natural state, the soils support the growth of grasses and oaks. Historically, Livermore soils were used for wine grapes, dry-farmed grain, and grain hay.

Similar to the SMP 39 site, the SMP 40 site has been vacant or used for agricultural purposes since at least 1906. Currently, the site consists of vacant land. The vicinity surrounding the site similarly consisted of vacant land until the 1970s, when residential development began east of the site. By the 1990s, the vicinity was developed for commercial, industrial, and municipal airport purposes, as well as a sand and gravel quarry located on an adjoining property south of the site. The sand and gravel quarry was visible on the westerly adjoining property by 2006. Construction of the commercial and industrial adjoining facilities north of the site started during the late 2000s. Currently, surrounding uses include the Oaks Business Park to the north; single-family residences to the east, across Isabel Avenue/SR 84; the Arroyo Mocho, open fields, railroad tracks, and gravel quarries associated with mining operations to the south, across Stanley Boulevard; and vacant land, gravel quarries, and industrial ponds associated with mining operations to the west.

Known Historic and Archaeological Resources

Origer completed a review of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC) at Sonoma State University at Rohnert Park on November 23, 2021 for the SMP 39 and 40 study areas (NWIC File No. 21-0820) (see Figure 4.4-1 and Figure 4.4-2, respectively). Further details on the records search are provided in the Method of Analysis subsection below.

Archival research found that the SMP 39 study area was included in three previous cultural resources studies, none of which identified cultural resources in the study area. In addition, four previous studies have been conducted within 0.25-mile of the SMP 39 study area, one of which identified a cultural resource that is located approximately 300 feet from the study area (P-01-010526), but does not extend into the study area. With respect to SMP 40, archival research found that the SMP 40 study area was included in four previous cultural resource studies, none of which identified cultural resources. Three studies have been conducted within 0.25-mile of the SMP 40 study area, which, combined, identified three resources. The closest resource is the Arroyo Mocho Canal (P-01-001776), which is outside of the SMP 40 study area to the south.

Additionally, an intensive field survey was completed on December 7, 2021 as part of the Cultural Resources Studies for the SMP 39 and 40 sites, the details of which are provided in the Method of Analysis subsection below. The field survey found that archaeological site indicators are not present within either site.

The proposed on-site and off-site trail connections were added to the proposed project subsequent to the initial completion of the SMP 39 and SMP 40 Cultural Resources Studies. Because the trail connection footprints have been previously studied as part of the previous cultural resource studies discussed above, Origer determined that additional field surveys of the trail connections were not necessary, as known resources do not occur within the trail alignments.

Figure 4.4-1
SMP 39 Study Area

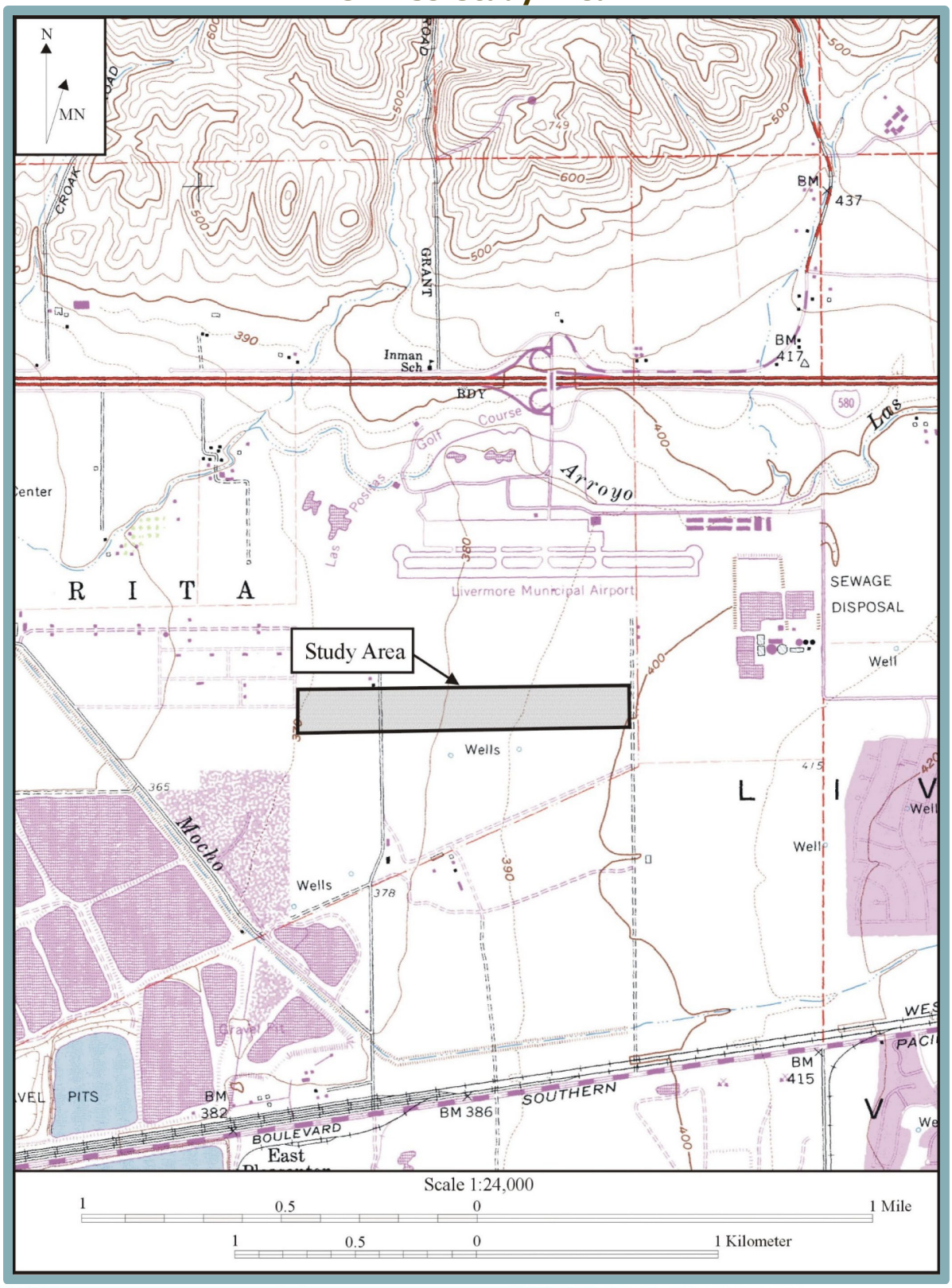
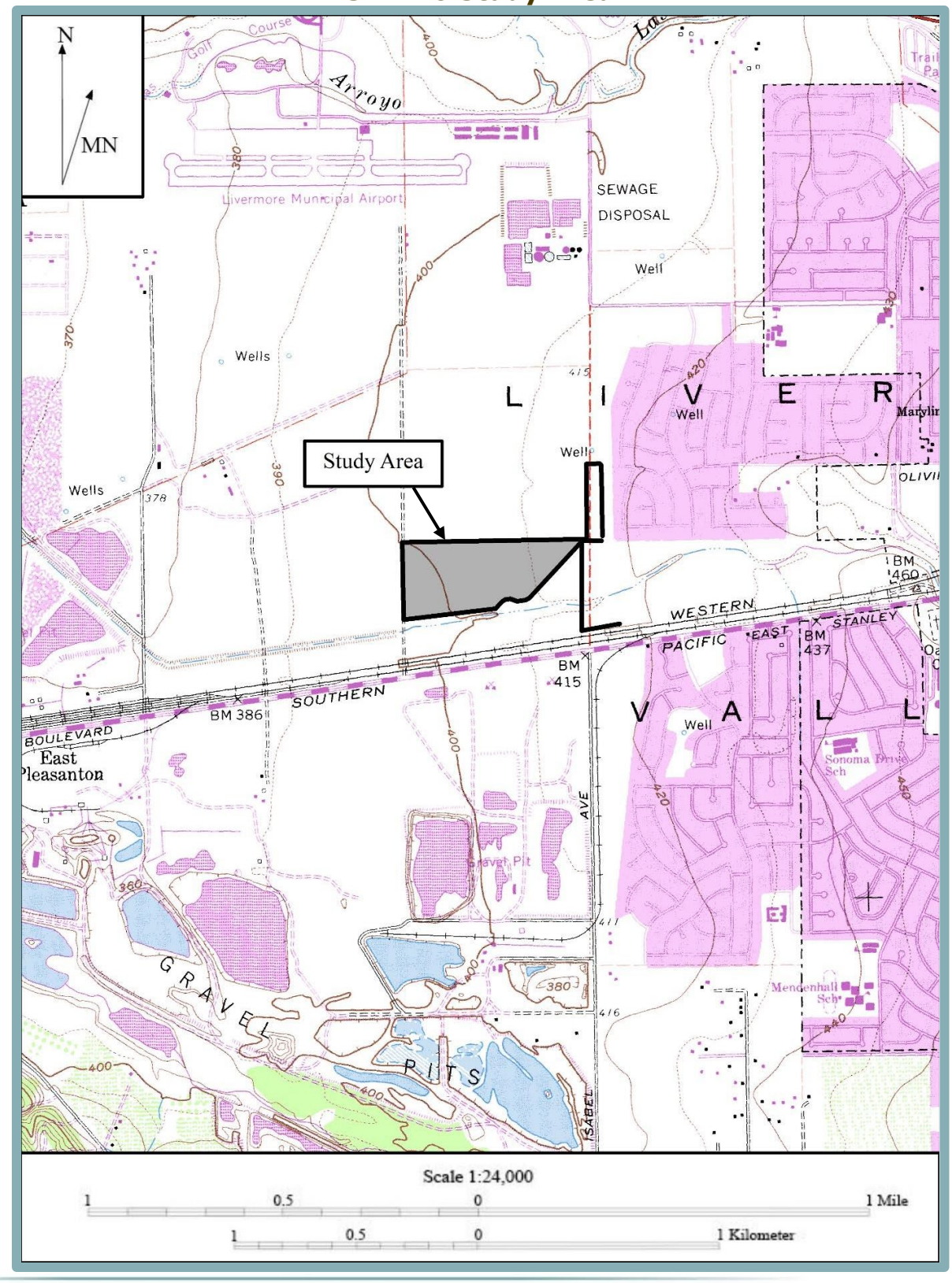


Figure 4.4-2
SMP 40 Study Area



Tribal Cultural Resources

Origer contacted the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands File (SLF) for Native American cultural resources within or near the SMP 39 and 40 study areas. The NAHC returned the results for the SMP 40 study area on December 7, 2021 and the results for the SMP 39 study area on February 9, 2022, which were both negative, indicating that known Native American cultural resources are not present within the study areas.

Pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18, invitations to consult were sent to tribes who requested notification of proposed projects within the geographic area of the project site on January 3, 2023. Specifically, AB 52 and SB 18 notification letters were sent to representatives of the Ione Band of Miwok Indians, Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the SF Bay Area, North Valley Yokuts Tribe, The Ohlone Indian Tribe, Wilton Rancheria, Wuksache Indian Tribe/Eshom Valley Band, and The Confederated Villages of Lisjan.

On February 24, 2023, The Confederated Villages of Lisjan responded to the notification letter. According to the response letter, The Confederated Villages of Lisjan reviewed the project site and requested to be notified of any findings regarding the proposed project. The City provided information on the Cultural Resource Studies as described above. The Confederated Villages of Lisjan requested to be notified should any cultural resources be found. The City did not receive responses from the other aforementioned tribes in response to the AB 52 notification letters.

4.4.3 REGULATORY CONTEXT

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural and tribal cultural resources that may be affected by actions that they undertake or regulate. The following section contains a summary of basic federal and State laws governing preservation of historic, archaeological, and tribal cultural resources of national, State, and local significance.

Federal Regulations

The following are the federal environmental laws and policies relevant to cultural and tribal cultural resources.

Section 106 for the National Historical Preservation Act of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the National Historical Preservation Act (NHPA) of 1966. Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in Title 36 of the Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or uses federal funding.

National Register of Historic Places

The NRHP is the nation's master inventory of known historic resources. The NRHP includes listings of resources, including: buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level. Resources over 50 years of age can be listed on the NRHP. However, properties under 50 years of age that are of exceptional significance or are contributors to a district can also be included on the NRHP. Four criteria are used to determine if a potential resource may be considered significant and eligible for listing on the NRHP. The criteria include resources that:

A. Are associated with events that have made a significant contribution to the broad patterns of history; or
B. Are associated with the lives of persons significant in our past; or
C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded or may likely yield information important in prehistory or history.

A resource can be individually eligible for listing on the NRHP under any of the above four criteria, or can be listed as contributing to a group of resources that are listed on the NRHP. A resource can be considered significant in American history, architecture, archaeology, engineering, or culture. Once a resource has been identified as significant and potentially eligible for the NRHP, the resource's historic integrity must be evaluated. Integrity is a function of seven factors: location, design, setting, materials, workmanship, feeling, and association. The factors closely relate to the resource's significance and must be intact for NRHP eligibility.

Historical buildings, structures, and objects are usually eligible under Criteria A, B, and C based on historical research and architectural or engineering characteristics. Archaeological sites are usually eligible under Criterion D, the potential to yield information important in prehistory or history. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. The lead federal agency makes the determination of eligibility based on the results of the test program and seeks concurrence from the State Historic Preservation Officer (SHPO).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

State Regulations

The following are the State environmental laws and policies relevant to cultural and tribal cultural resources.

California Environmental Quality Act and California Register of Historic Places

State historic preservation regulations affecting the proposed project include the statutes and guidelines contained in CEQA (PRC Sections 21083.2 and 21084.1 and Sections 15064.5 and 15126.4[b] of the CEQA Guidelines). CEQA requires lead agencies to consider the potential effects of a project on historic resources and unique archaeological resources. A "historic resource" includes, but is not limited to, any object, building, structure, site, area, place, record,

or manuscript that is historically or archaeologically significant (PRC Section 5020.1). Under Section 15064.5 of the CEQA Guidelines, a resource is considered "historically significant" if one or more of the following California Register of Historic Resources (CRHR) criteria have been met:

1) The resource is associated with events that have made a significant contribution to the broad patterns of California history;
2) The resource is associated with the lives of important persons from our past;
3) The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

In addition, the resource must retain integrity. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

CEQA requires preparation of an EIR if a proposed project would cause a "substantial adverse change" in the significance of a historical resource. A "substantial adverse change" would occur if a proposed project would result in physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5[b][1]).

In addition to historically significant resources, which can include archeological resources that meet the criteria listed above, CEQA also requires consideration of "unique archaeological resources." If a site meets the definition of a unique archaeological resource, the site must be treated in accordance with the provisions of PRC Section 21083.2. Under PRC Section 20183.2(g), an archaeological resource is considered "unique" if it:

1) Is associated with an event or person of recognized significance in California or American history or recognized scientific importance in prehistory;
2) Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
3) Has a special kind or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4) Is at least 100 years old and possesses substantial stratigraphic integrity; or
5) Involves important research questions that can be answered only with archaeological methods.

CEQA also includes specific guidance regarding the accidental discovery of human remains. Specifically, CEQA Guidelines Section 15064.5(e) requires that if human remains are uncovered, excavation activities must be stopped and the county coroner be contacted. If the county coroner determines that the remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC identifies the most likely descendant, and that individual or individuals can make recommendations for treatment of the human remains under the procedures set forth in Section 15064.5 of the CEQA Guidelines.

The SHPO maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Assembly Bill 52

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources," pursuant to PRC Section 21074(a), are defined as either:

> (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
>
> (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
> (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
>
> (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. AB 52 (PRC Section 21080.3.1) requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe(s) requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe(s). Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe(s).

Senate Bill 18

Signed in September 2004, SB 18 amended Section 815.3 of the Civil Code, amended Sections 65040.2, 65092, 65351, 65352, and 65560 of the PRC, and added to Sections 65352.3, 65352.4, and 65562.5 of the Government Code, relating to traditional tribal cultural places. SB 18 requires local (city and county) governments to consult with California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code Section 65300 et seq.) and specific plans (defined in Government Code Section 65450 et seq.). Because the proposed project requires City approval of a General Plan Amendment, the project is subject to SB 18 consultation requirements.

Local Regulations

The following are the local environmental laws and policies relevant to cultural and tribal cultural resources.

City of Livermore General Plan

The relevant goals, policies, and actions from the adopted City of Livermore General Plan related to cultural and tribal cultural resources are presented below.

Goal CC-3 Preserve and enhance the City's cultural and historic resources not merely as positive reminders of the past, but also as relevant and unique alternatives for the present and the future – a source of community identity, architecture, and social, ecological and economic vitality.

Objective CC-3.1: Establish and maintain a comprehensive, Citywide preservation program.

Policy P2 The City shall encourage, and when possible require, the preservation of places, sites, areas, buildings, structures, and works of humans which have cultural, archaeological, or historical significance or other special distinction to the community.

Policy P3 Whenever a historical resource is known to exist in or near a proposed project area, the City shall require an evaluation by qualified professionals as a part of the environmental assessment process.

Policy P4 The City shall encourage the preservation of historic resources to promote the sustainability, stabilization, and revitalization of its neighborhoods.

Objective CC-3.4: Identify and protect archaeological and paleontological resources that enrich our understanding of early Livermore and the surrounding region.

Policy P1 The City shall require proper archaeological or paleontological testing, research, documentation, monitoring, and safe retrieval of archaeological and cultural resources as part of a City established archaeological monitoring and mitigation program.

Policy P2 Whenever there is evidence of an archaeological or paleontological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process.

Policy P3 If an archaeological site is discovered during construction, all work in the immediate vicinity

shall be suspended pending site investigation by qualified professionals. If, in the opinion of a qualified professional, the site will yield new information or important verification of previous findings, the site shall not be destroyed.

Policy P4 Archaeological sites should be preserved for research and educational programs. Where possible, such sites shall be made accessible to the public as part of the open space/recreation/educational system.

4.4.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to cultural and tribal cultural resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to cultural or tribal cultural resources would occur if the proposed project would result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - (a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or
  - (b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Method of Analysis

The impact analysis contained in this chapter is primarily based on the Cultural Resources Studies prepared for the SMP 39 and SMP 40 sites by Origer. Each Cultural Resources Study included archival research, a field survey, and consultation with the NAHC. The methodology of each Cultural Resources Study is discussed further below, as well as a discussion of the tribal consultation efforts conducted by the City, pursuant to AB 52 and SB 18.

SMP 39 Cultural Resources Study

The archival research, field survey, and NAHC consultation conducted as part of the Cultural Resources Study prepared for the SMP 39 site by Origer are discussed separately below.

Archival Research

Archival research included examination of the library and project files at Origer in order to assess the potential to encounter archaeological sites and the built environment within the SMP 39 study area. Research was also completed to determine the study area's potential of containing buried archaeological deposits.

A review (NWIC File No. 21-0820) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the NWIC by Origer on November 23, 2021. Sources of information included, but were not limited to, the current listings of properties on the NRHP, California Historical Landmarks, CRHR, and California Points of Historical Interest, as listed in the OHP's Historic Property Directory and the Built Environment Resources Directory. In addition, as the OHP has determined that structures in excess of 45 years of age could be important historical resources and former building and structure locations could be important archaeological sites, archival research also included an examination of 19th and 20th century maps and aerial photographs to gain insight into the nature and extent of historical development in the general project vicinity and within the SMP 39 study area.

Additionally, ethnographic literature that describes appropriate Native American groups, County histories, and other primary and secondary sources were reviewed. A complete listing of sources reviewed are provided in the "Materials Consulted" section of the Cultural Resources Study prepared for the SMP 39 site.

With respect to the three previous cultural resources studies that encompassed the project site and occurred in 1983, 1998, and 2002, the 1983 cultural resources study included excavation of 47 backhoe trenches to look for subsurface archaeological deposits, five of which were within the SMP 39 study area. The trenches were 42 inches wide, 10 feet long, and approximately 120 inches deep.

Finally, a model for predicting a location's sensitivity for buried archaeological sites was formulated by Byrd et al. based on the age of the landform, slope, and proximity to water. A location is considered to have highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of fresh water (492.1 feet), and 150 meters of a confluence. The Holocene Epoch is the current period of geologic time, which began approximately 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating such factors using the buried site model, a location's sensitivity is scored on a scale of 1 to 10 and classified, as follows: lowest (<1); low (1 to 3); moderate (3 to 5.5); high (5.5 to 7.5); highest (>7.5).

Field Survey

An intensive field survey was completed by Origer on December 7, 2021. Approximately six hours were spent in the field, and field conditions were sunny and clear. Surface examination consisted of walking in 15-meter corridors (49.2 feet) and hoes were used as needed to expose the ground surface. Ground visibility was good, with grass being the primary hindrance to visibility.

Native American Heritage Commission Consultation

A request was sent by Origer on November 19, 2021 to the NAHC seeking information from the SLF. The NAHC returned the results on February 9, 2022, which were negative, indicating that known Native American cultural resources are not present within the SMP 39 study area.

SMP 40 Cultural Resources Study

The archival research, field survey, and NAHC consultation conducted as part of the Cultural Resources Study prepared for the SMP 40 site by Origer are discussed separately below.

Archival Research

Similar to the archival research completed for the SMP 39 site, archival research included examination of the Origer library and project files to assess the potential to encounter archaeological sites and the built environment within the SMP 40 study area and to determine the study area's potential of containing buried archaeological deposits. The NWIC review described above for the SMP 39 Cultural Resource Study also encompassed the study area for the SMP 40 site (NWIC File No. 21-0820).

Additionally, ethnographic literature that describes appropriate Native American groups, County histories, and other primary and secondary sources were reviewed. A complete listing of sources reviewed are provided in the "Materials Consulted" section of the Cultural Resources Study prepared for the SMP 40 site.

Finally, the model for predicting a location's sensitivity for buried archaeological sites formulated by Byrd et al. was used to evaluate the SMP 40 site's sensitivity for unknown deposits. Please see the discussion above under the Archival Research subsection for the SMP 39 Cultural Resources Study for further details of the model.

Field Survey

The December 7, 2021 field survey completed by Origer for the SMP 39 study area also encompassed the SMP 40 study area. Please see the discussion above under the Field Survey subsection for the SMP 39 Cultural Resources Study for further details of the on-site reconnaissance. In addition to the surface survey, an examination of the bank of the Arroyo Mocho Canal was made to look for buried archaeological site indicators. The bank ranged in height from eight to 12 feet, which provided a good profile to examine. Lastly, the proposed on-site and off-site trail connections were added to the proposed project subsequent to the initial completion of the SMP 40 Cultural Resources Study. However, because the trail connections have been previously studied, as previously detailed under the Known Cultural and Archaeological Resources subsection above, Origer determined that additional field surveys of the trail connections were not necessary, as known resources do not occur within the trail alignments.

Native American Heritage Commission Consultation

A request was sent by Origer on November 18, 2021 to the NAHC seeking information from the SLF. The NAHC returned the results on December 7, 2021, which were negative, indicating that known Native American cultural resources are not present within the SMP 40 study area.

Assembly Bill 52 and Senate Bill 18 Tribal Consultation

Pursuant to AB 52 and SB 18, project notification letters were sent on January 3, 2023 to representatives of the Ione Band of Miwok Indians, Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan,

Muwekma Ohlone Indian Tribe of the SF Bay Area, North Valley Yokuts Tribe, The Ohlone Indian Tribe, Wilton Rancheria, Wuksache Indian Tribe/Eshom Valley Band, and The Confederated Villages of Lisjan.

On February 24, 2023, The Confederated Villages of Lisjan responded to the notification letter. According to the response letter, The Confederated Villages of Lisjan reviewed the project site and requested to be notified of any findings regarding the proposed project. The City provided information on the Cultural Resource Studies as described above. The Confederated Villages of Lisjan requested to be notified should any cultural resources be found. The City did not receive responses from the other aforementioned tribes in response to the AB 52 notification letters.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.4-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5. Based on the analysis below, the impact is *less than significant*.

Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

The SMP 39 and 40 sites have been vacant or used for agricultural purposes since at least 1906. Currently, the sites are comprised of vacant land. As previously discussed, the SMP 40 Cultural Resources Study determined that the closest known resource to the SMP 39 and 40 sites is the Arroyo Mocho Canal (P-01-001776), which is outside of the SMP 40 study area to the south. Thus, neither the SMP 39 site, nor the SMP 40 site contains historical resources. Additionally, with respect to the proposed off-site trail connection alternatives, Options 1, 2, and 3 would be designed to ensure that ground-disturbing activities do not occur within the Arroyo Mocho Canal, and vehicles and equipment would be staged outside of the canal and its associated banks.

Based on the above, the proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.4-2 Cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Based on landform age, the existing setting, and incorporating the Byrd et al. analysis of sensitivity for buried sites, the SMP 39 Cultural Resources Study found that the SMP 39 study area has moderate potential (as defined by the Byrd model) for buried archaeological site indicators, as the study area is level and rests atop Holocene Epoch alluvium, which coincides with the human arrival and occupation of California. However, the nearest source of fresh water is 750 meters away from the SMP 39 study area (2,461 feet), which would have made the SMP 39 site a less desirable location for long-term habitation. In addition, the backhoe trenches excavated during a previous cultural resources study that encompassed the SMP 39 study area did not contain buried resources. Therefore, the SMP 39 Cultural Resources Study concluded that the study area has a very low likelihood of containing buried sites.

Based on landform age, the existing setting, and incorporating the Byrd et al. analysis of sensitivity for buried sites, the SMP 40 Cultural Resources Study found that the SMP 40 study area has high potential for buried archaeological site indicators, as the study area is on a landform that was formed during the Holocene Epoch, has level terrain, and is near a source of fresh water. However, examination of the bank of the Arroyo Mocho Canal as part of the Cultural Resources Study allowed for an assessment of subsurface soils to a depth of eight to 12 feet, which indicated that the potential for buried sites should be reduced to moderate, as archaeological site indicators were not found. Additionally, ground-disturbing activities associated with the off-site trail connection alternatives would occur in proximity to the Arroyo Mocho Canal. As such, the footprints of the off-site trail connections would similarly have moderate potential of containing buried sites.

Overall, the SMP 39 and SMP 40 Cultural Resources Studies did not identify known unique archaeological resources within the SMP 39 and 40 sites. However, while known archaeological resources have not been recorded within the project site, given the sensitivity of the project site, unknown archaeological resources could exist beneath the ground surface and have the potential to be uncovered during ground-disturbing activities on the project site and within the off-site trail alignments. In the event that project ground-disturbing activities encounter such resources, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5. Therefore, the proposed project could result in a ***significant*** impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.4-2 *In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering*

the materials until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology has evaluated the find. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The qualified archeologist shall make recommendations to the City of Livermore on the measures that shall be implemented to protect the discovered resources, including, but not limited to, culturally appropriate temporary and permanent treatment, which may include avoidance of cultural resources, in-place preservation, and/or reburial on the project site so the resource(s) are not subject to further disturbance in perpetuity. In addition, The Confederated Villages of Lisjan shall be notified of the discovery. If avoidance is determined to be infeasible, pursuant to CEQA Guidelines Section 15126.4(b)(3)(C), a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. If necessary, excavation and evaluation of the finds shall comply with Section 15064.5 of the CEQA Guidelines.

Potentially significant archaeological site indicators include obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Livermore, the Northwest Information Center (NWIC), and the State Historic Preservation Office (SHPO), as required.

4.4-3 Disturb any human remains, including those interred outside of dedicated cemeteries. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The proposed project would include ground-disturbing activities such as excavation associated with construction of the new industrial buildings, associated internal roadways, the off-site trail connections, and trenching for new utility lines. As previously discussed, the project site is located in an area sensitive for prehistoric archaeological resources, such as those associated with the Ohlone/Costanoan culture, whose territory encompassed the SMP 39 and 40 sites. Prehistoric sites often contain human remains.

The field survey conducted as part of the SMP 39 and 40 Cultural Resources Studies did not detect human remains. In addition, previous cultural resource studies that have encompassed the sites did not identify human remains within the project site or vicinity.

Nevertheless, the potential for human remains to be discovered during construction cannot be eliminated, given the known prehistoric occupation of the project vicinity by Native American tribes. In the event that project ground-disturbing activities encounter human remains, including those interred outside of formal cemeteries, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.4-3 *In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the Alameda County Coroner has been notified to determine if an investigation into the cause of death is required. If the County Coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission (NAHC), which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. The potential exists that the NAHC may be unable to identify a most likely descendant, the most likely descendant fails to make a recommendation within 48 hours after notification by the NAHC, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the NAHC fails to provide a measure acceptable to the landowner. In such case, the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. Should human remains be encountered, a copy of the resulting County Coroner report noting any written consultation with the NAHC shall be submitted as proof of compliance to the City of Livermore Community Development Department.*

4.4-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

A search of the SLF conducted by the NAHC for Native American cultural resources within the SMP 39 and 40 study areas returned negative results, indicating known tribal cultural resources are not within the SMP 39 and 40 sites or the immediate vicinity. In addition, as previously discussed, the City sent project notification letters on January 3, 2023 to tribes who requested notification within the geographic area of the City, pursuant to AB 52, as well as pursuant to SB 18. On February 24, 2023, The Confederated Villages of Lisjan responded to the notification letter and requested to

be notified of any findings regarding the proposed project. The City did not receive responses from other contacted tribes.

Based on the findings of the SMP 39 and 40 Cultural Resources Studies, as well as the results of the NAHC SLF search, known tribal cultural resources do not occur within the SMP 39 and 40 sites or in the project vicinity. Nevertheless, while background research and the field surveys did not indicate the presence of known tribal cultural resources, subsurface Native American resources could potentially be identified on the project site and the off-site trail alignments during project construction activities. In the event that tribal cultural resources are discovered during project construction activities, without inclusion of appropriate measures for unanticipated discoveries of potential, subsurface tribal cultural resources, the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.4-4 Implement Mitigation Measures 4.4-2 and 4.4-3.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative project setting can be found in Chapter 5, Statutorily Required Sections, of this EIR.

4.4-5 Cause a cumulative loss of cultural and tribal cultural resources. Based on the analysis below, the cumulative impact is *less than significant*.

Generally, while some cultural and tribal cultural resources may have regional significance, the resources themselves are site-specific, and impacts to them are project-specific. For example, impacts to a subsurface archeological find at one project site would not generally be made worse by impacts to a cultural or tribal cultural resource at another site due to development of another project. Rather, the resources and the effects upon them are generally independent. A possible exception to the aforementioned general conditions would be where a cultural or tribal cultural resource represents the last known example of its kind or is part of a larger resources site. For such a resource, cumulative impacts, and the contribution of a project to them, may be considered cumulatively significant.

As described throughout this chapter, the SMP 39 and 40 sites do not contain known resources that would be eligible for inclusion on the NRHP or considered significant pursuant to CEQA. Furthermore, implementation of the project-specific mitigation

measures set forth in this EIR (Mitigation Measures 4.4-2 through 4.4-4) would ensure that any impacts to previously unknown, subsurface resources that are discovered on-site during construction activities are reduced to a less-than-significant level.

Similar to the proposed project, future development projects throughout the project region would be required to implement project-specific mitigation to ensure any potential impacts to identified cultural and tribal cultural resources are reduced to a less-than-significant level, where possible. Therefore, given that cultural and tribal cultural resource impacts are generally site-specific and each future project within the project region would be required to mitigate such impacts, any potential impacts associated with cumulative buildout of the City of Livermore would not combine to result in a significant cumulative impact.

Based on the above, the potential for impacts related to a cumulative loss of cultural and tribal cultural resources, to which implementation of the proposed project might contribute, is ***less than significant***.

Mitigation Measure(s)

None required.

4.5 Hydrology and Water Quality

4.5. HYDROLOGY AND WATER QUALITY

4.5.1 INTRODUCTION

The Hydrology and Water Quality chapter of the EIR describes existing drainage patterns on the project site, current stormwater flows, and stormwater infrastructure. The chapter also evaluates potential impacts of the proposed project with respect to increases in impervious surface area and associated stormwater flows, degradation of water quality, and increases in on- and off-site flooding. Information used for the chapter was primarily drawn from the City of Livermore General Plan,[1] and the associated General Plan EIR,[2] as well as the SMP 40 Flood Study Memorandum and SMP 39/SMP 40 Drainage Analysis Memorandum prepared by Schaaf & Wheeler (see Appendix H and Appendix I).[3,4] It should be noted that issues associated with water supply availability are addressed in Chapter 4.7, Public Services, Utilities, and Service Systems, of this EIR.

4.5.2 EXISTING ENVIRONMENTAL SETTING

The section below describes regional hydrology, the existing drainage patterns within the project site, including peak flows, existing water quality, and groundwater conditions.

Regional Hydrology

The project site is located within Alameda County, California, adjacent to the City of Livermore, in the eastern portion of the San Francisco Bay Area, and is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The average annual precipitation for the region is 15.23 inches, with the wettest period during November through March. The project area is generally located in the northern portion of the Livermore Valley Watershed. The valley is surrounded by the hills of the Diablo Range.

Several creeks and arroyos, which typically flow from east to west, cross the Livermore Valley. The principal waterways within the region include Arroyo del Valle, Arroyo Mocho, Arroyo las Positas, Arroyo Seco, and Cayetano Creek.

The Arroyo del Valle flows through the southeastern portion of the Livermore Valley, and drains a relatively small area of the City of Livermore. The majority of the drainage area contributing to Arroyo del Valle is in the central and southern portion of the Livermore Valley. Arroyo Mocho flows through the southerly portion of the valley, draining approximately 4,000 acres of the City of Livermore south of Interstate 580 (I-580), including much of the Downtown area. Arroyo las Positas generally flows along I-580 through much of the region. The major tributaries to Arroyo las Positas include Arroyo Seco, Altamont Creek, Cayetano Creek, and Collier Creek. Arroyo las Positas and its tributaries drain approximately 20,000 acres within the City's planning area. All

1 City of Livermore. *General Plan 2003-2025.* Adopted February 9, 2004.
2 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038).* June 2003.
3 Schaaf & Wheeler. *SMP 40 Flood Study Memorandum.* April 28, 2023.
4 Schaaf & Wheeler. *SMP 39/40 Drainage Analysis Memorandum.* May 24, 2023.

streams in the region flow west and converge to form Arroyo de la Laguna, which flows south to join Alameda Creek in Sunol Valley, and ultimately drain to the San Francisco Bay.

Project Site and Surrounding Area Drainage

The +/-217.04-acre project site consists of nine separate parcels located in unincorporated Alameda County: SMP 38; SMP 39; SMP 40, and four Annexation Only Parcels. However, development of SMP 38, as well as the four Annexation Only Parcels, is not proposed as part of the project. Therefore, the analysis included within this chapter is focused on the potential impacts associated with the development of SMP 39 and SMP 40, as well as the off-site trail connection options, which would connect to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/State Route (SR) 84. The three trail connection options being considered and evaluated herein include Trail Connection Option 1 – At-Grade Crossing at Discovery Drive; Trail Connection Option 2 – Undercrossing at Isabel Bridge; and Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84. Further detail of the trail connection options is provided in Chapter 3, Project Description, of this EIR.

Both SMP 39 and SMP 40 are currently vacant, undeveloped, and disked annually. Vegetation on the sites primarily consists of ruderal herbaceous communities, with the exception of a blue gum eucalyptus grove which grows along Arroyo Mocho's banks at the southern end of SMP 40. SMP 39 and SMP 40 are both relatively flat and have a gentle downward slope from east to west. Elevation on the sites ranges from 417 to 395 feet above mean sea level (msl).

A portion of Arroyo Mocho flows east to west along the southern boundary of SMP 40, just south of the project site, into an engineered channel connecting to Arroyo de la Laguna. Other hydrologic features within the project area include the former sand and gravel pits located south and west of the project site, which are now filled with surface water.

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) numbers 06001C0329G and 06001C0337G, a small portion along the southern boundary of SMP 39, and the majority of SMP 40 are located within Zones A and AE, which are designated as Special Flood Hazard Areas (SFHAs) (see Figure 4.5-1 and Figure 4.5-2). In addition, Trail Connection Option 2 is located entirely within Zone AE. The remaining areas of SMP 39, SMP 40, and the off-site trail improvement areas are located within Zone X, which is not designated as a SFHA.

As shown on Figure 4.5-2, a portion of SMP 40 is designated as a regulatory floodway. FEMA defines a regulatory floodway as "the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height."[5] On behalf of the applicant, Schaaf & Wheeler submitted an application to revise the FIRM showing the regulatory floodway. As proposed, the revised FIRM would reduce the extent of the regulatory floodway from a width of approximately 500 feet to 50 feet. The floodway reduction is supported by a floodway encroachment analysis showing that the floodway is contained within the existing Arroyo Mocho channel.

[5] Federal Emergency Management Agency. *Glossary*. Available at: https://www.fema.gov/glossary/floodway. Accessed August 2023.

Figure 4.5-1
SMP 39 FEMA FIRM

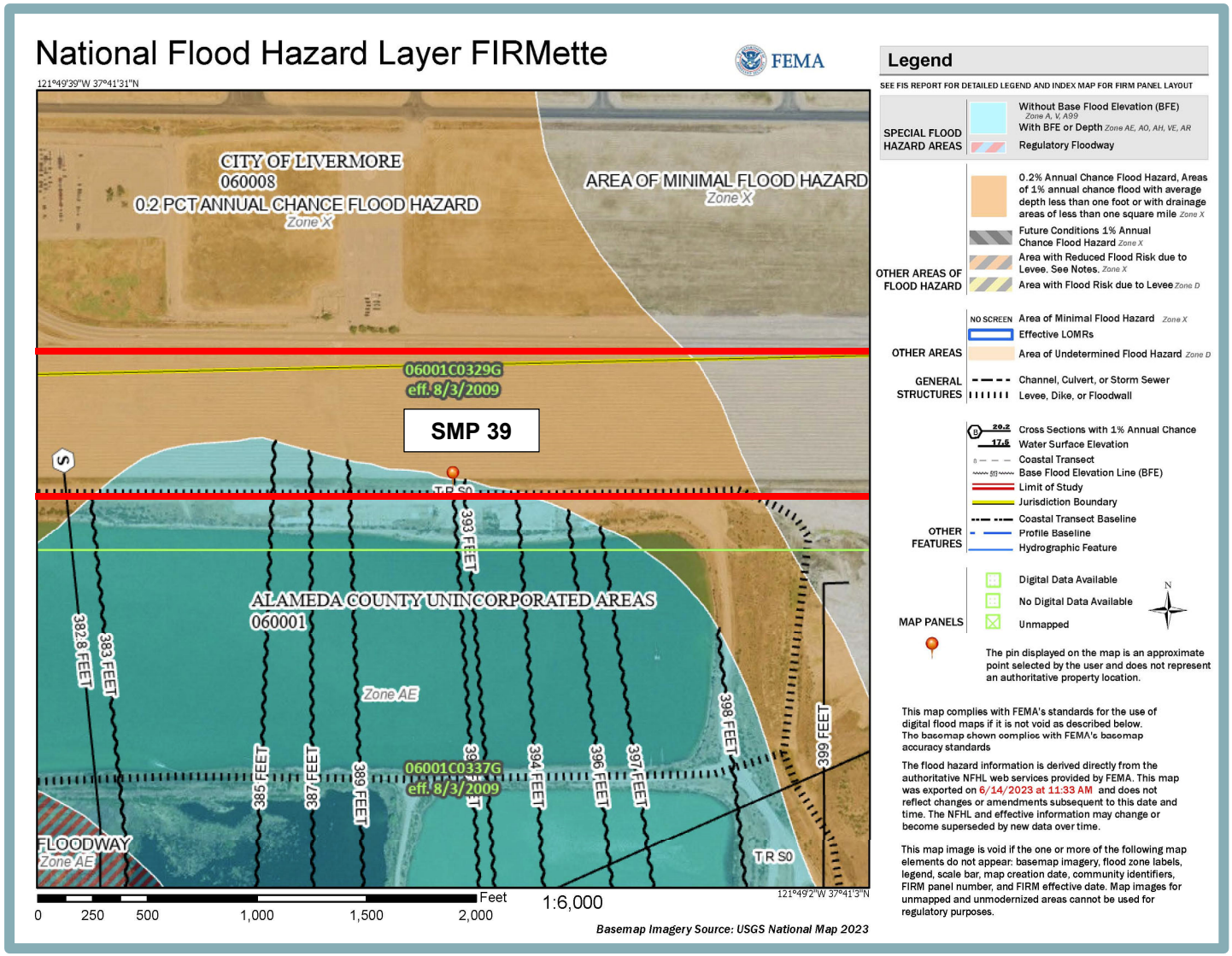
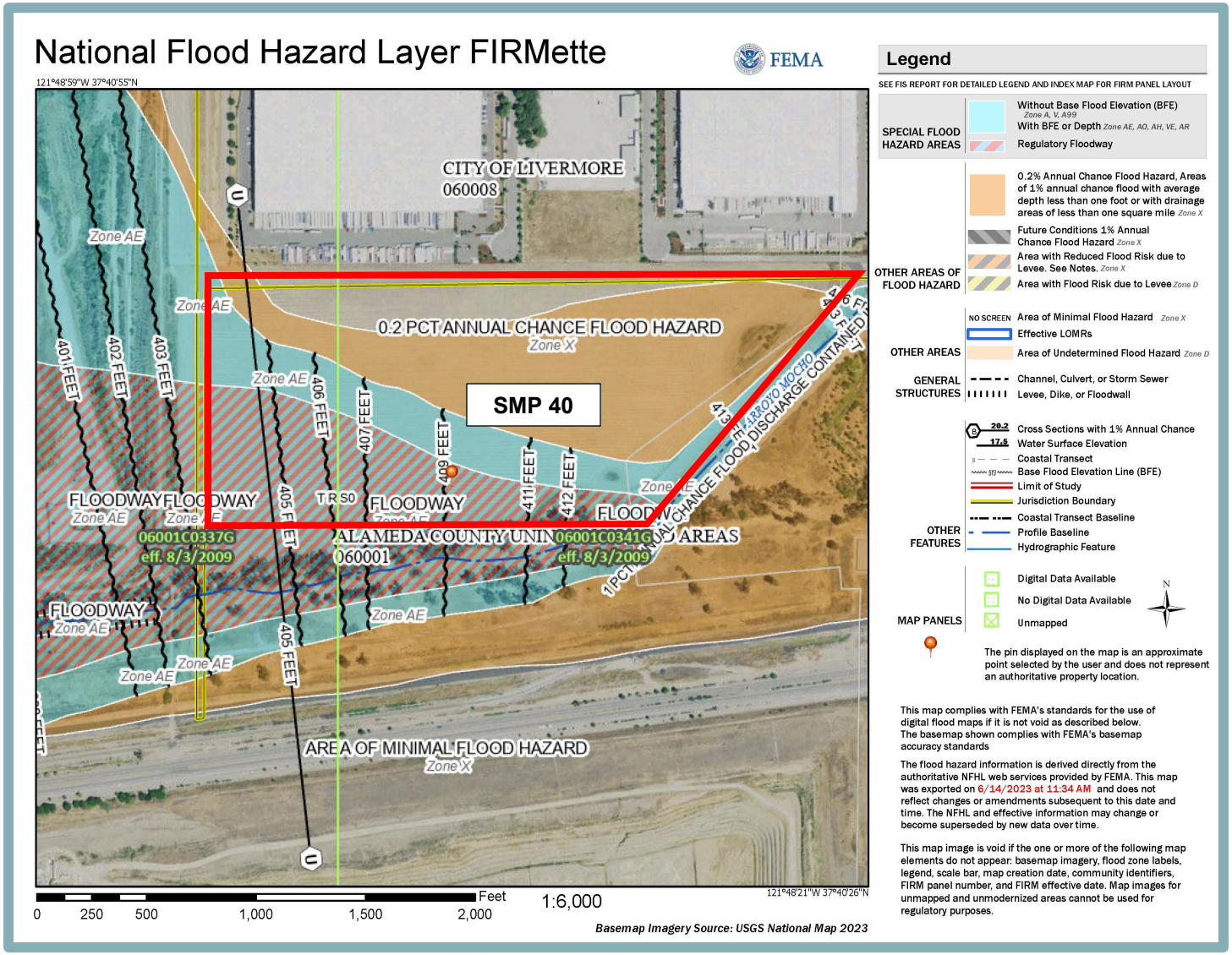


Figure 4.5-2
SMP 40 FEMA FIRM



Stormwater from SMP 39 is currently either absorbed into on-site soils or is routed through existing 24-inch to 42-inch storm drain lines, which run east to west within West Jack London Boulevard. Stormwater is then routed north to a modified channel through two parallel 36-inch pipes. The flow enters the modified channel parallel to a maintenance access road flowing westerly to a large drop structure with multiple culverts under West Jack London Boulevard, west of the Livermore Municipal Airport.

Stormwater from SMP 40 currently either percolates into the soils underlying the site or flows into Arroyo Mocho, located south of the site. With regard to the off-site trail connection options, stormwater is currently either routed into existing stormwater infrastructure located within Isabel Avenue, or flows into Arroyo Mocho, just south of the site. Existing stormwater catchments, pipes, channels, and detention basins within the project area are shown in purple on Figure 4.5-3.

The stormwater runoff estimates for existing conditions on the project site were calculated using the Hydrologic Engineering Center's River Analysis System (HEC-RAS) and are summarized in Table 4.5-1 below, and the locations of the stormwater features are shown on Figure 4.5-3.

Table 4.5-1
Existing Drainage Conditions

Drainage Location	Units	10-Year Storm Event	100-Year Storm Event
Oak Detention Basin	cfs	14.6	16.5
	ft NAVD88	397.4	399.3
42-inch Pipe on West Jack London Boulevard	cfs	26.6	40.7
	ft NAVD88	372.9	373.5
Discharge to Airport Channel	cfs	27.1	41.5

Notes:
cfs = cubic feet per second; representative of peak flows.
ft NAVD88 representative of the maximum hydraulic grade line (HGL).

Source: Schaaf & Wheeler, 2023.

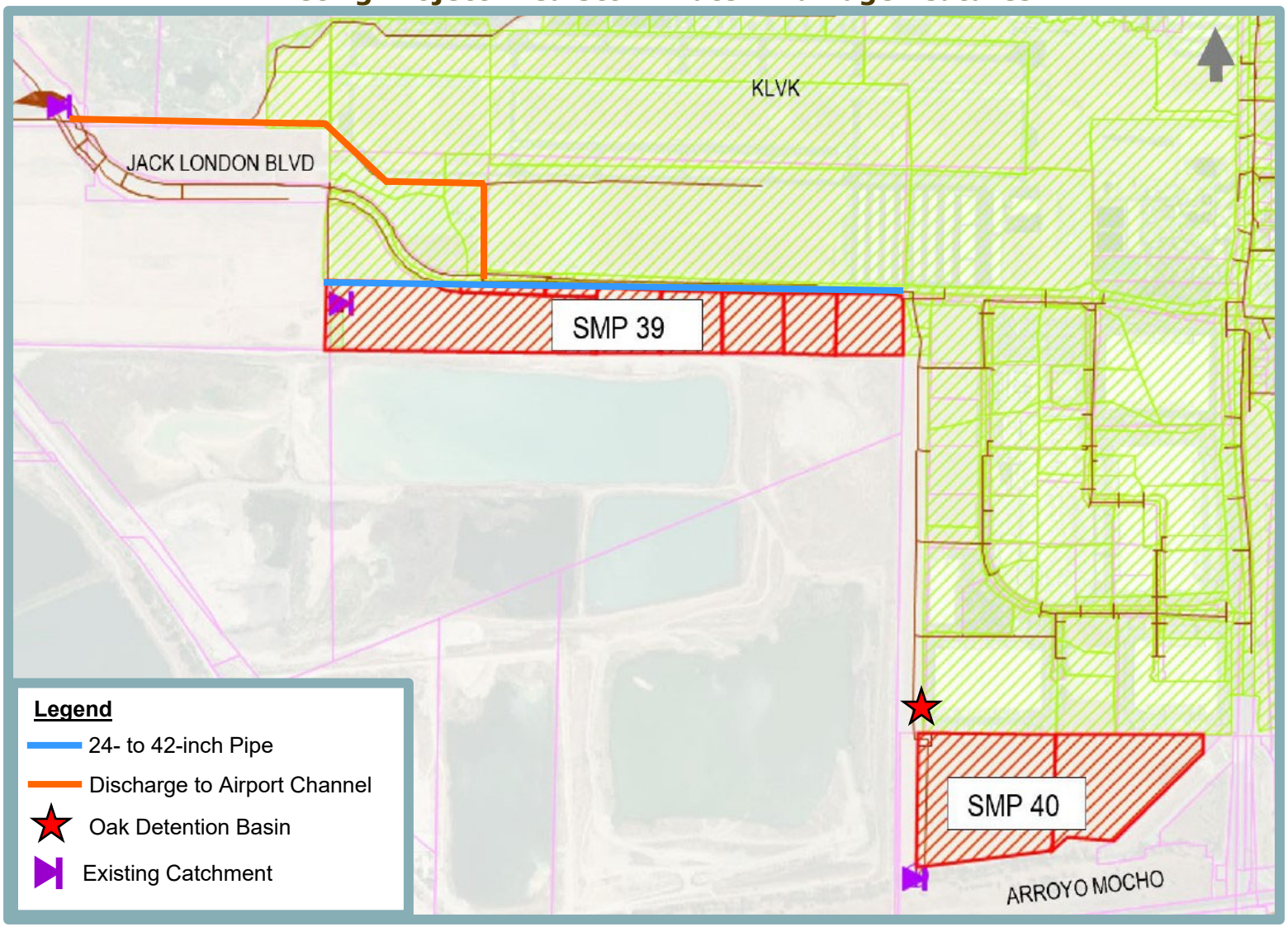
Water Quality

Activities and/or conditions that have the potential to degrade water quality include but are not limited to, construction activities and urban stormwater runoff.

Construction activities have the potential to cause erosion and sedimentation associated with groundbreaking and clearing activities, which could cause unstabilized soil to be washed or wind-blown into nearby surface water. In addition, the use of heavy equipment during construction activities, especially during rainfall events, have the potential to cause petroleum products and other pollutants to enter nearby drainages.

Water quality degradation from urban stormwater runoff is primarily the result of runoff carrying pollutants from the land surface (i.e., streets, parking lots, etc.) to the receiving waters (i.e., streams and lakes). Pollutants typically found in urban runoff include facility maintenance and lawn-care/landscaping chemicals (insecticides, herbicides, fungicides and rodenticides), heavy metals (such as copper, zinc and cadmium), oils and greases from automobiles and other mechanical equipment, and nutrients (nitrogen and phosphorus).

Figure 4.5-3
Existing Project Area Stormwater Drainage Features



According to the Phase I Environmental Site Assessment (ESA) prepared for the proposed project, the project site is not subject to existing on-site hazards; however, as noted in the Initial Study prepared for the proposed project (see Appendix A), a groundwater well was observed along the western boundary of SMP 39. It should also be noted that a Zone 7 supply well is located in the south-central portion of SMP 39. In addition, a final off-site trail connection has not yet been decided, and a Phase I ESA has not been prepared for the trail undercrossing associated with Trail Connection Option 2 or the above-grade crossing associated with Trail Connection Option 3. Nonetheless, with implementation of Mitigation Measure IX-1, as set forth in the Initial Study, which would require proper abandonment of and/or appropriate improvements to the on-site wells, consistent with applicable regulations and Zone 7 standards, and Mitigation Measure IX-2, which would require the preparation of an additional Phase I ESA if Trail Connection Option 2 or 3 are chosen and the implementation of the recommendations included therein, potential impacts associated with hazards and hazardous materials would be less than significant, thereby ensuring that existing materials that could act as pollutants in nearby waterways would not be released.

Groundwater

The project site overlies the Livermore Valley Groundwater Basin, which is under the jurisdiction of the Zone 7 Water Agency. The Zone 7 Water Agency is the Groundwater Sustainability Agency (GSA) for the Livermore Valley Groundwater Basin and is in charge of managing the basin by protecting against overdraft and creating sustainable water supplies in order to comply with the requirements of the Sustainable Groundwater Management Act (SGMA). As defined in the Department of Water Resources (DWR) Bulletin 118, the Livermore Valley Groundwater Basin extends from the Pleasanton Ridge east to the Altamont Hills and from the Livermore Uplands north to the Tassajara Uplands. The basin is not adjudicated, in overdraft, or expected to be in overdraft, and DWR has identified the basin as medium priority.

The entire floor of the Livermore Valley and portions of the upland areas on all sides of the valley overlie groundwater-bearing materials. The materials are mostly continental deposits from alluvial fans, outwash plains, and lakes, and include valley-fill materials, the Livermore Formation, and the Tassajara Formation. Under most conditions, the valley-fill and Livermore Formation yield adequate to large quantities of groundwater to all types of wells, with the larger supply wells being in the main basin of the Livermore Valley Groundwater Basin. The main basin is composed of the Castle, Bernal, Amador, and Mocho II sub-basins, with an estimated total storage capacity of 254,000 acre-feet (AF).

According to the Geotechnical Investigation prepared for the proposed project by Cornerstone Earth Group,[6] groundwater was not encountered in the exploratory borings taken within SMP 39 or SMP 40; however, the presence of groundwater was inferred from pore pressure dissipation tests at depths ranging from about 39 to 73 feet below current grades in three of the soil borings. Historic high groundwater was mapped at a depth of approximately 35 to 60 feet within SMP 39 and approximately 55 to 60 feet within SMP 40.

Water service for the proposed project would be provided by the City of Livermore, which is supplied water through a wholesale agreement with Zone 7 Water Agency. The City does not currently pump groundwater (nor plans to in the future); however, a portion of the water supply that the City receives from Zone 7 Water Agency is obtained through groundwater from the Livermore Valley Groundwater Basin.

[6] Cornerstone Earth Group. *Geotechnical Investigation – Oaks Business Park and Jack London Boulevard (SMP 39 and SMP 40)*. November 23, 2021.

4.4.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of hydrology and water quality under the CEQA process.

Federal Regulations

The following section includes federal environmental goals and policies relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

Federal Emergency Management Agency

FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing the FIRMs, which are used in the National Flood Insurance Program (NFIP). The FIRMs identify the locations of SFHAs, including the 100-year floodplains.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within flood hazard areas, depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). These standards are implemented at the State level through construction codes and local ordinances; however, these regulations only apply to residential and non-residential structure improvements. Although roadway construction or modification is not explicitly addressed in the FEMA regulations, the California Department of Transportation (Caltrans) has also adopted criteria and standards for roadway drainage systems and projects situated within designated floodplains. Standards that apply to floodplain issues are based on federal regulations (Title 23, Part 650 of the CFR). At the State level, roadway design must comply with drainage standards included in Chapters 800-890 of the Caltrans Highway Design Manual. CFR Section 60.3(c)(10) restricts cumulative development from increasing the water surface elevation of the base flood by more than one foot within the floodplain.

Federal Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the U.S. Environmental Protection Agency (USEPA) must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, two types of nonpoint source discharges are controlled by the NPDES program – nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the USEPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by the USEPA that are not included in Phase I.

Section 402 of the CWA mandates that certain types of construction activities comply with the requirements of the NPDES stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), implemented and enforced by the nine RWQCBs.

As of July 1, 2010, all dischargers with projects that include clearing, grading or stockpiling activities expected to disturb one or more acres of soil are required to obtain compliance under the NPDES Construction General Permit Order 2009-0009-DWQ. The General Permit requires all dischargers, where construction activity disturbs one or more acres, to take the following measures:

1. Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to include a site map(s) of existing and proposed building and roadway footprints, drainage patterns and stormwater collection and discharge points, and pre- and post- project topography;
2. Describe types and placement of Best Management Practices (BMPs) in the SWPPP that will be used to protect stormwater quality;
3. Provide a visual and chemical (if non-visible pollutants are expected) monitoring program for implementation upon BMP failure; and
4. Provide a sediment monitoring plan if the area discharges directly to a water body listed on the 303(d) list for sediment.

To obtain coverage, a SWPPP must be submitted to the RWQCB electronically. When project construction is completed, the landowner must file a Notice of Termination (NOT).

State Regulations

The following section includes the State regulations relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

State Water Resources Control Board

The SWRCB and the RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The project site is situated within the jurisdictional boundaries of the San Francisco Bay RWQCB (Region 2). The San Francisco Bay RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction.

Industrial Stormwater Program

The Statewide General Permit for Stormwater Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit) regulates industrial storm water discharges and authorized non-storm water discharges from industrial facilities in California. The SWRCB and the RWQCBs implement and enforce the Industrial General Permit. The Industrial General Permit regulates discharges associated with nine federally defined categories of industrial activities including:

- Facilities subject to federal Storm Water Effluent Limitations Guidelines, New Source Performance Standards, or Toxic Pollutant Effluent Standards;
- Manufacturing Facilities;

- Oil and Gas/Mining Facilities;
- Landfills, Land Application Sites, and Open Dumps;
- Recycling Facilities;
- Steam Electric Power Generating Facilities;
- Transportation Facilities; and
- Sewage or Wastewater Treatment Facilities.

Industrial facilities are required to submit permit registration documents using the Storm Water Multiple Application and Report Tracking System (SMARTS) program at least seven days prior to the commencement of industrial activities in order to obtain coverage under the Industrial General Permit.

San Francisco Bay Regional Water Quality Control Board

As authorized by the Porter-Cologne Water Quality Control Act, the San Francisco Bay RWQCB's primary function is to protect the quality of the waters within its jurisdiction for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

The San Francisco Bay RWQCB is responsible for issuing permits for a number of activities. Activities subject to the San Francisco Bay RWQCB permitting requirements include stormwater, wastewater, and industrial water discharge, disturbance of wetlands, and dewatering. Permits issued and/or enforced by the San Francisco Bay RWQCB include, but are not limited to, the NPDES Construction General Permit, Municipal Regional Stormwater NPDES Permit, Industrial Stormwater General Permits, CWA Section 401 and 404 Permits, and Dewatering Permits.

The cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, Alameda County, the Alameda County Flood Control and Water Conservation District (ACFCWCD), and the Zone 7 Water Agency, have joined together to form the Alameda Countywide Clean Water Program (Alameda Permittees). The Alameda Permittees, including the City of Livermore, are currently subject to Municipal Regional Stormwater NPDES Permit No. CAS612008, issued by Order No. R2-2019-0004 on January 1, 2019, which pertains to stormwater runoff discharges from storm drains and watercourses associated with the municipal separate storm sewer systems (MS4s) of the aforementioned cities within Alameda County. New development or redevelopment projects that disturb one or more acres of land area must contain and treat stormwater runoff from the site, as part of compliance with Provision C.3 of Municipal Regional Stormwater NPDES Permit No. CAS612008. The proposed project would disturb greater than one acre of land area and is, thus, a C.3-regulated project.

The goal of Provision C.3 is for the NPDES Permittees to use their planning authorities to require new development projects to include stormwater treatment measures within the site design to address pollutants in stormwater runoff and prevent increases in runoff flows. New development projects primarily accomplish such requirements through incorporating low impact development (LID) techniques. The goal of the LID techniques is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treats stormwater as a

resource, rather than a waste product. LID techniques include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. The Alameda Permittees require all projects to implement LID source control, site design, and stormwater treatment on-site or at a joint stormwater treatment facility in accordance with Provisions C.3.c and C.3.d of Municipal Regional Stormwater NPDES Permit No. CAS612008, unless the Provision C.3.e alternate compliance options are invoked. To aid in the design of appropriate stormwater system design consistent with the Provision C.3 requirements, the C.3 Stormwater Technical Guidance was developed.[7] According to the C.3 Stormwater Technical Guidance, to confirm that final stormwater requirements have been integrated into the project design, a Stormwater Control Plan and Maintenance Plan must be prepared and submitted to the RWQCB.

Water Quality Basin Plans and Objectives

The Porter-Cologne Water Quality Control Act provides for the development and periodic review of water quality control plans (basin plans) that are prepared by the RWQCBs. Basin plans designate beneficial uses of California's major rivers and groundwater basins, and establish narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a water body (i.e., the reasons why the water body is considered valuable), while water quality objectives represent the standards necessary to protect and support those beneficial uses. Basin plans are primarily implemented through the NPDES permitting system and by issuing waste discharge regulations to ensure that water quality objectives are met.

Basin plans provide the technical basis for determining waste discharge requirements and taking regulatory enforcement actions, if deemed necessary. The project site is located within the jurisdiction of the San Francisco Bay RWQCB. A basin plan has been adopted for the San Francisco Bay (Basin Plan), which covers the project area.

The Basin Plan includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan also establishes water quality standards for all the ground and surface waters of the region. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards. Additionally, water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the CWA and the California Water Code.

Sustainable Groundwater Management Act

Groundwater Management is outlined in the California Water Code Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and the Sustainable Groundwater Management Act (SGMA) (SB 1168, SB 1319, and AB 1739) in 2014. The intent of the SGMA is to encourage local agencies to work cooperatively to manage

[7] Alameda County Clean Water Program. *C.3 Stormwater Technical Guidance*. March 22, 2023.

groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan.

The SGMA became law on January 1, 2015 and applies to all groundwater basins in the State (Water Code Section 10720.3). By enacting the SGMA, the Legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1). The Livermore Valley Groundwater Basin was designated a "Medium" priority at the time, which was the threshold for SGMA compliance.

The SGMA outlines four basic requirements: (1) development of a Groundwater Sustainability Agency, (2) development of a Groundwater Sustainability Plan (GSP) or development of an Alternative Submittal, (3) implementation of the specific plan and management to meet quantifiable sustainability objectives, and (4) reporting of the implementation activities. Pursuant to the SGMA, Zone 7 Water Agency, as the GSA for the Livermore Valley Groundwater Basin, submitted the Livermore Valley Alternative GSP for approval to the DWR. The most recent update of the Livermore Valley Alternative GSP (as discussed in further detail below), was approved in December 2021. In early 2019, DWR undertook a review of basin prioritization. The DWR has identified the Livermore Valley Groundwater Basin as medium priority.

Local Regulations

Relevant goals and policies from the City of Livermore General Plan, as well as various other local guidelines and regulations related to hydrology and water quality, are discussed below.

City of Livermore General Plan

The following goals, objectives, and policies from the City of Livermore General Plan related to hydrology and water quality are applicable to the proposed project.

Infrastructure and Public Services Element

Goal INF-3 Collect, store and dispose of stormwater in ways that are safe, sanitary, environmentally acceptable and financially sound while maintaining the highest standards required to enhance the quality of life for existing and future residents.

Objective INF-3.1 Plan, manage and develop the City's stormwater collection system in a logical, timely and appropriate manner.

Policy P1 Design local storm drainage improvements to carry appropriate design-year flows resulting from build out of the General Plan.

Objective INF-3.2 Encourage coordination between land use planning, site design and stormwater pollution control.

Policy P1 All new development projects shall be responsible for constructing a stormwater collection system and contributing stormwater collection fees to construct additional necessary facilities. These fees include the

City storm drain fees as well as Zone 7 regional storm drainage fees.

Policy P2 Criteria used to design the stormwater system shall be in the master plan prepared for storm drainage.

Policy P3 The City shall take all necessary measures to regulate runoff from urban uses to protect the quality of surface and ground-waters and other resources from detrimental conditions.

Policy P4 Installation of stormwater collection systems should occur concurrently with construction of new roadways to maximize efficiency.

Objective INF-3.3 Maintain creeks and arroyos in as natural a state as possible, while maintaining the health and safety of residents, providing flood control, preserving habitat and providing recreational use.

Policy P1 Stream modifications should only be allowed for development in order to better contain flood flows, re-route stormwater to restore creek conveyance capacity and enhance groundwater recharge, stabilize creek beds and banks and control erosion, remove sediment and debris, provide public access for maintenance and emergency vehicles, provide for trails and recreational facilities, restore creek natural habitat and wetlands areas and provide for water filtration.

Policy P2 Any stream modifications and flood control structure improvements shall be done in accordance with appropriate engineering design, resource agency approvals, and current environmental restoration best management practices.

Policy P4 Arroyos shall not be channelized (i.e. converted to a trapezoidal form) or concrete lined. Modifications should only be allowed for public safety reasons. Flood control improvements such as capacity enhancement shall be done in accordance with appropriate engineering design and current environmental best practices.

Policy P5 New development shall be required to incorporate appropriate measures to minimize the impacts of stormwater runoff to local creeks and channels.

Public Safety Element

Goal PS-2 Reduce hazards related to flooding or inundation.

Objective PS-2.1 Minimize flood risks to development.

Policy P1 Modification to the floodway will not be permitted in order to accommodate new adjacent development but will be permitted to restore creek capacity, stabilize creek banks, and restore habitat or water quality. However, modification of the land within the 100-year flood zone, but located outside of the floodway, will be permitted to protect the health and safety of existing development.

Policy P2 When feasible, arroyos and creeks shall be preserved in their natural state, and shall not be channelized or otherwise altered. Floodways should remain undeveloped and be allowed to function as natural flood protection features where flood waters are temporarily stored and conveyed during intense storms.

Policy P3 The City shall require new development and significant redevelopment projects to prepare drainage studies to assess storm runoff impacts on the local and regional storm drain and flood control system, and to develop recommended detention and drainage facilities to ensure that increased risks of flooding do not result from development. The drainage study shall include an analysis and recommended mitigations for projects that would increase peak runoff flows and increase runoff volume and for all projects where such increased flow and/or volume is likely to cause increased erosion of creek beds and banks, silt pollutant generation, or other impacts to beneficial uses.

Policy P4 Only uses which have low flood damage potential and do not threaten other lands during times of flooding shall be permitted in the 100-year flood zone.

Policy P5 Subject to the North Livermore Urban Growth Boundary Initiative, the City shall permit development in a flood-prone area when it is demonstrated that such development will not (NLUGBI):

a) Interfere with the existing waterflow capacity of the floodway or substantially increase the erosion, siltation or chemical nutrients.
b) Contribute to the deterioration of any watercourse or the quality of water in any body of water.
c) Require storage of material, construction of any substantial grading or placement of fill.

Policy P6 Development shall only be allowed on lands within the 100-year flood zone, if it will not:

a) Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use.
b) Create difficult emergency vehicle access in times of flood.
c) Create a safety hazard due to the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
d) Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities.
e) Interfere with the existing waterflow capacity of the floodway.
f) Substantially increase erosion and/or sedimentation.
g) Contribute to the deterioration of any watercourse or the quality of water in any body of water.
h) Require storage of material, or any substantial grading or placement of fill.

Policy P7 Both public and private service facilities and utilities in existing 100-year flood zones shall be floodproofed to a point at or above the base flood elevation.

Policy P8	The City shall prevent the construction of flood barriers within the 100-year flood zone which will divert flood water or increase flooding in other areas.

Alameda County Flood Control and Water Conservation District

ACFCWCD was created in 1949, and plans, designs, constructs, and maintains Western Alameda County's flood control systems such as natural creeks, channels, levees, pump stations, dams, and reservoirs. The ACFCWCD also cares for the natural environment through public outreach and enforcement of pollution control regulations governing County waterways. The ACFCWCD's updated Hydrology and Hydraulics Manual defines current practices in the hydrologic and hydraulic design of all flood control facilities in Alameda County that are subject to district approval.

Livermore Valley Alternative Groundwater Sustainability Plan

In September 2014, the California legislature passed the SGMA, establishing new measures for groundwater management and regulation statewide. SGMA provides for local control of groundwater resources while requiring sustainable management of the State's groundwater basins. Under the provisions of SGMA, local agencies must establish governance of groundwater subbasins by forming GSAs with the authority to develop, adopt, and implement GSPs for the subbasin under their jurisdiction.

As discussed above, the Zone 7 Water Agency is the GSA for the Livermore Valley Groundwater Basin, and is in charge of managing the basin in order to comply with the requirements of the SGMA. Zone 7 has been managing groundwater within the basin since the early 1960s. Because Zone 7 had an existing plan in place in advance of State requirements, the agency was able to submit an Alternative GSP. The Alternative GSP for the Livermore Valley Groundwater Basin (Livermore Valley Alternative GSP) was adopted in December 2021. The purpose of the Livermore Valley Alternative GSP is to characterize groundwater conditions in the Livermore Valley Groundwater Basin, establish sustainability goals, and to describe programs and management actions that Zone 7 intends to implement to maintain sustainable groundwater management within the basin.

Livermore Storm Drain Master Plan

The City of Livermore adopted the Livermore Storm Drain Master Plan in January 2022, which identifies capital improvement projects needed to maintain acceptable levels of protection against local flooding. As part of the plan, priority rankings are included for future improvement projects to be implemented through the City's current Capital Improvement Program (CIP). The Storm Drain Master Plan details how the prioritized CIP is established based on hydrologic and hydraulic modeling of the existing storm drainage system and provides estimates of the revenue stream needed to complete the CIP over 20 years. Example CIP projects include upsizing storm drains adjacent to numerous streets within the City limits.

City of Livermore Municipal Code

The applicable ordinances within the City of Livermore Municipal Code associated with hydrology and water quality are discussed in further detail below.

Chapter 13.44, Storm Drainage Facilities

Chapter 13.44, Storm Drainage Facilities, of the Livermore Municipal Code establishes stormwater drainage fees and credits and construction requirements for storm drainage facilities. As noted therein, in addition to the requirement for adequate stormwater drainage facilities to be developed, every person or subdivider who constructs or causes to be constructed any impervious area shall pay a stormwater drainage fee to the City based on the total square footage of new impervious area multiplied by the stormwater unit connection fee per square foot of impervious area. The stormwater unit connection fee is based on a study of stormwater connection fees. The stormwater drainage fee is deposited in the City's storm drainage fund for the purpose of providing capital funds for the expansion of the stormwater drainage facilities, the servicing of bonded indebtedness for such purpose, and the reimbursement of persons installing stormwater drainage facilities of excess capacity. Fees are required to be paid prior to the issuance of a building permit for any building or improvement on a project site.

Chapter 13.45, Stormwater Management and Control Program

Chapter 13.45, Stormwater Management and Control Program, of the City's Municipal Code includes provisions to eliminate non-stormwater discharges to the municipal separate storm sewer; control of the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater; and to reduce pollutants in stormwater discharges to the maximum extent practicable. The intent of Chapter 13.45 is to protect and enhance the water quality of the City's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal CWA.

Chapter 13.46, Stormwater System Enterprise Fund

Chapter 13.46, Stormwater System Enterprise Fund, of the City's Municipal Code was established to provide funding for the City's stormwater management and discharge control program. The stormwater system enterprise fund includes all activities and resultant expenses related to the Alameda Countywide Clean Water Program; all activities and resultant expenses related to the City's NPDES permit, which authorizes and regulates discharge from the City stormwater collection and conveyance system; all activities and resultant expenses associated with the maintenance and operation of the stormwater collection and conveyance system; capital expenses associated with the repair or replacement of the stormwater collection and conveyance system; all expenses associated with the maintenance and operation of any stormwater treatment system, which may be prospectively required by federal or State law; and all expenses for any activities directly related to any of the foregoing.

Chapter 16.12, Flood Control Regulations

The purpose of Chapter 16.12, Flood Control Regulations, of the Livermore Municipal Code is generally to minimize hazards due to flooding within the City by providing restrictions for development within SFHAs and requirements to ensure new uses vulnerable to flooding are protected. Specifically, Section 16.12.090 requires a development permit application be obtained before construction or development begins within any SFHA. In addition, according to Section 16.12.120 of the City's Municipal Code, new construction is required to place the lowest floor of structures at least one foot above the base flood elevation. The development permit application is required to show that all buildings are raised at least one foot above the base flood elevation.

Zone 7 Stream Maintenance Management Plan

The 2006 Zone 7 Stream Maintenance Management Plan (SMMP), which updates the Zone 7's 1966 Flood Control Master Plan, includes a recommended project to divert stormwater in a major

storm event within the Arroyo Mocho channel, referred to in the SMMP as the Arroyo Mocho Bypass and Regional Storage at Chain of Lakes (Project Number R.6-2). Because widening of the existing Arroyo Mocho in this area is likely to be infeasible, the bypass and regional storage at Chain of Lakes are considered a viable alternative to provide the 100-year flood protection. A major component of the approach to regional flood protection includes detention of flood water in the Chain of Lakes, which requires diversion of flood waters from the Arroyo Mocho during high flow events. The project involves routing peak flows into a bypass channel running within the western boundary of the SMP 40 property, located east of Lake E, ultimately traveling within the southern boundaries of the SMP 38 and 39 properties, located north of Lakes F and G, and eventually connecting to the Chain of Lakes for regional storage as shown on Figure 4.5-4. Zone 7 has informed the City that they are unsure whether the bypass will proceed and will be conducting further analysis through a system-wide evaluation.

4.5.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to hydrology and water quality. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

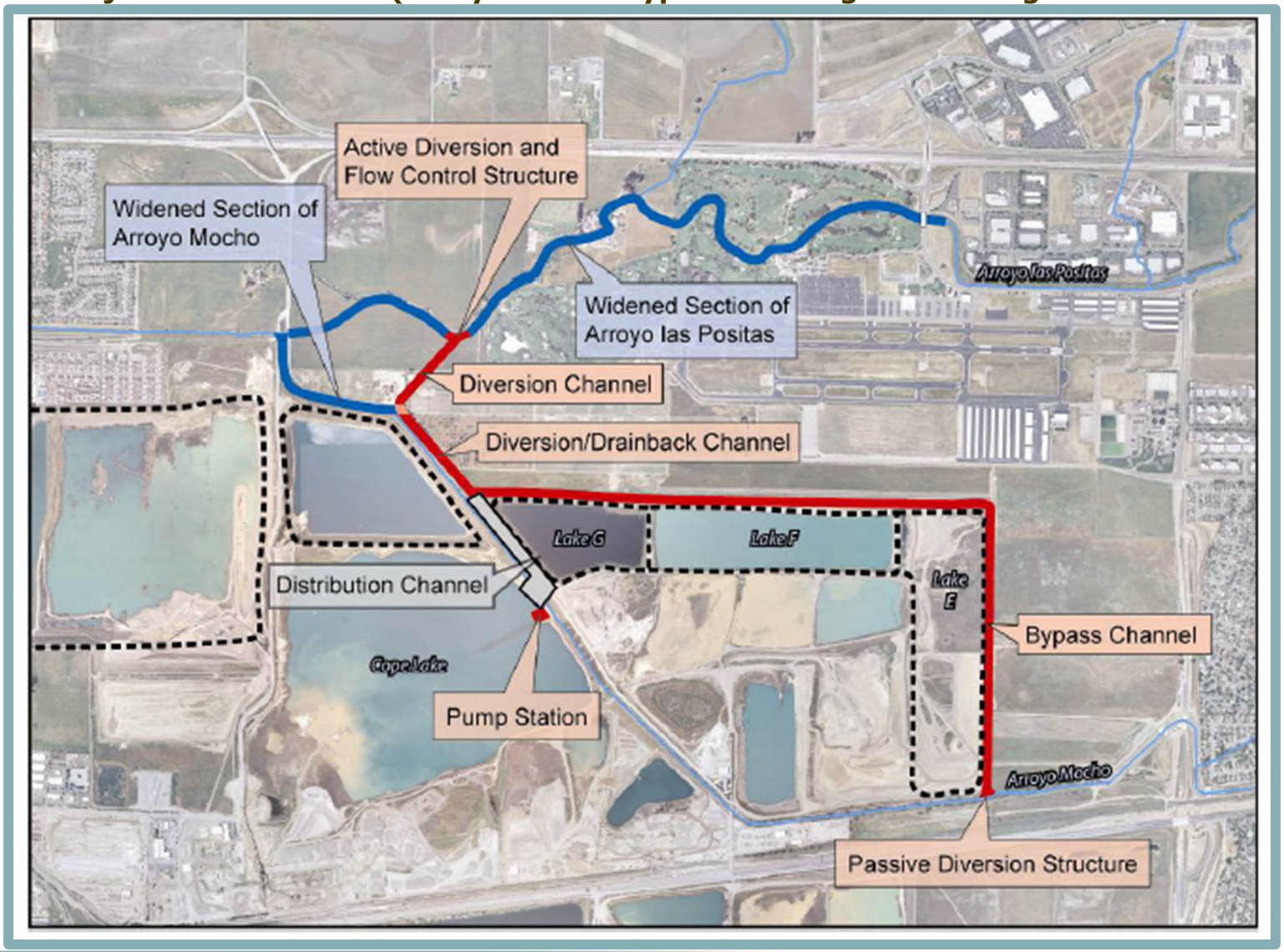
Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur related to hydrology and water quality if the proposed project would result in any of the following:

- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;
    - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Method of Analysis

The impacts analysis for this chapter is primarily based on information included in the SMP 40 Flood Study Memorandum and SMP 39/SMP 40 Drainage Analysis Memorandum prepared for the proposed project by Schaaf & Wheeler. Further information was sourced from the City of Livermore General Plan and the associated General Plan EIR.

Figure 4.5-4
Zone 7 Project Number R.6-2 (Arroyo Mocho Bypass and Regional Storage at Chain of Lakes)



As part of the SMP 40 Flood Study Memorandum (Appendix H), to assess whether development of SMP 40 would have any impact on the floodplain or hydrologic impacts, Arroyo Mocho models and mapping were input into the 2019 Zone 7 HEC-RAS model. In addition, for the purposes of the Drainage Analysis Memorandum prepared for the proposed project, Schaaf & Wheeler relied on a hydraulic model conducted using InfoWorks ICM software, which was previously prepared for the City of Livermore 2022 Storm Drain Master Plan. Hydrologic calculations were based on methods used by Alameda County Flood Control and Drainage District. The analysis assessed project drainage using 1-D hydraulics, and runoff was calculated for the 10-year, 24-hour storm. Additional 1-D analysis of the drainage pipe system was calculated for the 100-year storm to assess the proposed on-site detention system performance.

The modeling conducted as part of the Drainage Analysis Memorandum (Appendix I) was extended to include additional storm drainage components and catchment areas pertinent to SMP 39 and SMP 40. The existing modified channels at the northern edge of West Jack London Boulevard and the existing modified channels near the Livermore Airport were approximately represented in the model based on topographical surface elevation data. The catchment areas were also delineated within the model using data from a hydrologic map prepared for the proposed project, which showed both area inflow and discharge locations. The runoff surfaces of the project site catchments were changed from pre-project to post-project conditions by modifying imperviousness from five percent to 85 percent for the hydrologic calculation, based on design assumptions. In addition, the modeling assumed that SMP 40 would be elevated out of the floodplain, as necessary.

The section below gives full consideration to the development of the proposed project and acknowledges physical changes to the existing setting. Impacts to the existing environment of the project area are to be determined by the contrast between the local hydrology before and after buildout of the proposed project. The standards of significance listed above are used to delineate the significance of any hydrological alterations of the site, including alterations that would substantially degrade water quality or substantially alter the existing drainage patterns of the site or area.

The City has reviewed the technical analysis prepared for the proposed project and preliminarily concurs with the methodology applied by Schaaf & Wheeler, as well as the conclusions provided therein.

Project Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

4.5-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality during construction. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction of the proposed project would include grading, excavation, trenching for utilities, and other construction-related activities that could cause soil erosion at an accelerated rate during storm events. All such activities have the potential to affect water quality and contribute to localized violations of water quality standards if

impacted stormwater runoff from construction activities enters downstream waterways.

Soils exposed by the aforementioned types of construction activities have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements. However, in general, impacts from construction-related activities would be short-term and of limited duration.

Because the proposed project would require construction activities that would result in a land disturbance of approximately 92.4 acres (greater than one acre), the project applicant would be required by the State to comply with the most current Construction General Permit requirements. Consistent with the requirements, a SWPPP would be prepared for the overall project (i.e., SMP 39, SMP 40, and the chosen trail connection option), which would include the site map, drainage patterns and stormwater collection and discharge points, BMPs, and a monitoring and reporting framework for implementation of BMPs, as necessary. In addition, a Notice of Intent (NOI) would be filed with the RWQCB.

Development of the SWPPP would include plans to treat stormwater runoff in accordance with the standards of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment. In addition, the project would be required to comply with Chapter 13.45, Stormwater Management and Control Program, of the City's Municipal Code, which includes standards for managing stormwater runoff during construction. Pursuant to Section 13.45.090, any construction contractor performing work in the City must provide filter materials at the catch basin to retain any debris and dirt flowing into the City's stormwater system.

Non-stormwater management and material management controls reduce non-sediment-related pollutants from potentially leaving the construction site to the extent practicable. The Construction General Permit prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges (such as irrigation and pipe flushing and testing). Non-stormwater BMPs tend to be management practices with the purpose of preventing stormwater from coming into contact with potential pollutants. Examples of non-stormwater BMPs include preventing illicit discharges, and implementing good practices for vehicle and equipment maintenance, cleaning, and fueling operations, such as using drip pans under vehicles. Waste and materials management BMPs include implementing practices and procedures to prevent pollution from materials used on construction sites. Examples of materials management BMPs include the following:

- Good housekeeping activities such as storing of materials covered and elevated off the ground, in a central location;
- Securely locating portable toilets away from the storm drainage system and performing routine maintenance;
- Providing a central location for concrete washout and performing routine maintenance;
- Providing several dumpsters and trash cans throughout the construction site for litter/floatable management; and
- Covering and/or containing stockpiled materials and overall good housekeeping on the site.

While the final materials management BMPs to be used during construction of the proposed project are currently unknown, the project would likely include a combination of the BMP examples listed above. Final BMPs for the proposed project construction would be chosen in consultation with the applicable CASQA Stormwater BMP Handbooks and implemented by the project contractor.

In accordance with the Construction General Permit, the project site, including SMP 39, SMP 40, and the chosen trail connection option, would also be inspected during construction before and after storm events and every 24 hours during extended storm events in order to identify maintenance requirements for the implemented BMPs and to determine the effectiveness of the implemented BMPs. As a "living document", the site-specific SWPPP that would be prepared for the proposed project would be modified as construction activities progress. A Qualified SWPPP Practitioner (QSP) would ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The QSP for the project would amend the SWPPP and revise project BMPs, as determined necessary through field inspections, to protect against substantial erosion or siltation on- or off-site.

Compliance with the State NPDES Construction General Permit and Chapter 13.45 of the City's Municipal Code, as described above, would minimize the potential degradation of stormwater quality and downstream surface water associated with construction of the proposed project. In addition, BMPs would be required to be designed in accordance with the CASQA Stormwater BMP Handbook for New Development and Redevelopment. However, because a SWPPP has not yet been prepared for the proposed project, proper compliance with the aforementioned regulations cannot be ensured at this time, and the proposed project's construction activities could violate water quality standards or waste discharge requirements or otherwise degrade water quality. Therefore, the proposed project could result in a ***significant*** impact related to short-term construction-related water quality.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.5-1 *Prior to issuance of any grading permits, the contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for review and approval by the San Francisco Bay RWQCB. The contractor shall file the Notice of Intent (NOI) and associated fee to the SWRCB. A*

separate SWPPP shall be prepared for SMP 39 and SMP 40 (including the off-site trail connection area) if the components of the project are not constructed concurrently. The SWPPP shall serve as the framework for identification, assignment, and implementation of BMPs. The contractor shall implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. Construction (temporary) BMPs for the project may include, but are not limited to: fiber rolls, straw bale barrier, straw wattles, storm drain inlet protection, velocity dissipation devices, silt fences, wind erosion control, stabilized construction entrance, hydroseeding, revegetation techniques, and dust control measures. The SWPPP shall be submitted to the City's Director of Public Works and the City Engineer for review and approval and shall remain on the project site during all phases of construction. Following implementation of the SWPPP, the contractor shall subsequently demonstrate the SWPPP's effectiveness and provide for necessary and appropriate revisions, modifications, and improvements to reduce pollutants in stormwater discharges to the maximum extent practicable.

4.5-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality during operations. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Development of the proposed project would result in the conversion of two undeveloped properties to an industrial development, which would include a total of 1,514,775 sf of industrial uses and warehouses, as well as various on- and off-site improvements. Such new land uses could result in new stormwater pollutants being introduced to the project area. Pollutants associated with the operational phase of the proposed project could include nutrients, oil and grease, metals, organics, pesticides, bacteria, sediment, trash, and other debris. Nutrients that could be present in post-construction stormwater include nitrogen and phosphorous resulting from fertilizers applied to landscaping. Excess nutrients could affect water quality by promoting excessive and/or a rapid growth of aquatic vegetation, which reduces water clarity and results in oxygen depletion. Pesticides, which are toxic to aquatic organisms and can bioaccumulate in larger species, such as birds and fish, can potentially enter stormwater after application to landscaped areas within the project site. Oil and grease could enter stormwater from vehicle leaks, traffic, and maintenance activities. Metals could enter stormwater as surfaces corrode, decay, or leach. Clippings associated with landscape maintenance and street litter could be carried into storm drainage systems. Pathogens (from wildlife and human activities) have the potential to affect downstream water quality.

Development of the proposed project could also increase polluted non-stormwater runoff (e.g., wash water and landscape irrigation runoff). Such non-stormwater runoff could flow down sidewalks, parking areas, and streets, and pick up additional pollutants deposited on impervious surfaces prior to discharge into the storm drain

system and surface waters. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements.

As discussed previously, the City of Livermore is designated by the San Francisco Bay RWQCB as a regulated MS4. Therefore, project-related stormwater discharges are subject to all applicable requirements of Municipal Regional Stormwater NPDES Permit No. CAS612008 issued by Order No. R2-2019-0004 on January 1, 2019 for the Alameda Countywide Clean Water Program Permittees, which includes C.3 Provisions for projects that would disturb greater than one acre of land area, such as the proposed project.

In compliance with the C.3 standards, the proposed project would be required to incorporate LID features into the on-site stormwater drainage facilities. LID features include, but are not limited to, rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. All on-site LID features would be required to comply with the provisions included in the Alameda County C.3 Stormwater Technical Guidance, and, as part of required C.3 compliance, the project applicant would be required to prepare a Stormwater Control Plan and Maintenance Plan for submittal to the RWQCB to ensure that final C.3 stormwater requirements have been integrated into the project design. The following includes a discussion of the proposed storm drainage systems associated with the proposed project.

Proposed Storm Drain System

The following includes a discussion of the storm drain systems proposed for both SMP 39 and SMP 40, as well as the off-site trail connection options.

SMP 39

Stormwater on the SMP 39 site would be collected through an on-site storm drainage system, which would be required to incorporate LID treatment features, before being routed to the existing drainage system located within West Jack London Boulevard. The drainage system for the eastern half of the site would connect to multiple existing storm drains within West Jack London Boulevard, which would discharge north into the existing modified channels at the Livermore Municipal Airport, before ultimately discharging at the existing large drop structure under West Jack London Boulevard, west of the Livermore Municipal Airport.

The drainage system for the western half of the site would be routed through a three-acre-foot detention pond, which would be required to incorporate LID treatment features. The outflow from the detention pond would flow north through an 18-inch storm drain and 24-inch storm drain within West Jack London Boulevard, before flowing into an existing modified channel located immediately north, along the northern edge of the roadway, before ultimately discharging at the existing large drop structure under West Jack London Boulevard, west of the Livermore Municipal Airport.

SMP 40

As shown on the Preliminary Stormwater Quality Control Plan prepared for SMP 40 (see Figure 4.5-5), stormwater on the SMP 40 site would be collected through an on-site storm drainage system, which would include an underground detention storage system comprised of three parallel 96-inch-wide, 1,000-foot-long corrugated metal pipes. The underground detention storage system would connect to the existing Oak Detention Basin, located to the north of the site, where water would be treated in accordance with the regional C.3 standards.

Outflow from the Oak Detention Basin would flow north through an existing 24-inch storm drain line to West Jack London Boulevard, where runoff would be conveyed north into the existing modified channels at the Livermore Municipal Airport, before ultimately discharging at the existing large drop structure under West Jack London Boulevard, west of the Livermore Municipal Airport.

The proposed detention system would include an overflow connection to Arroyo Mocho to the south. A flap gate would be installed on the outlet to prevent water from Arroyo Mocho to backflow into the underground storage system.

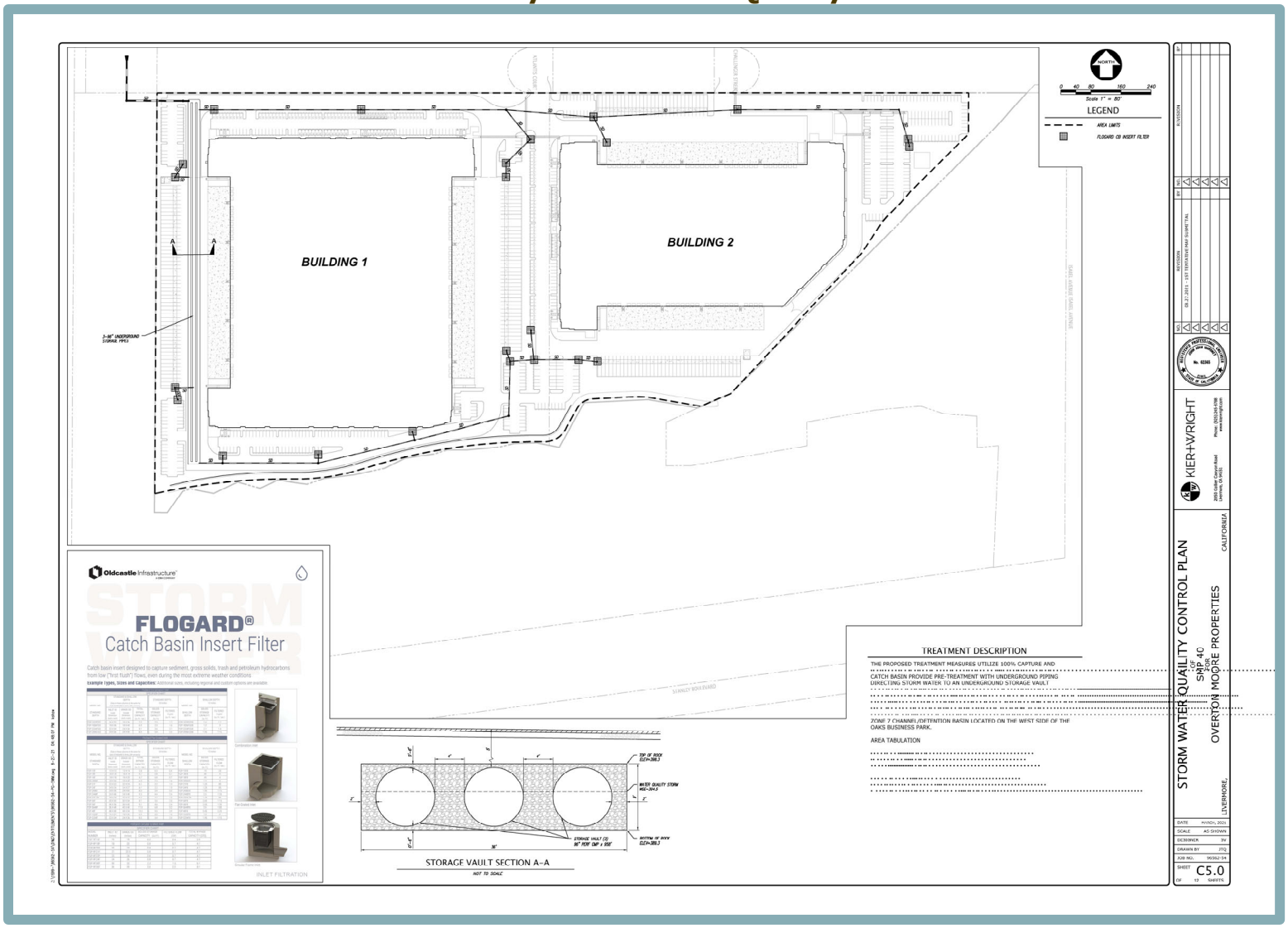
Off-Site Trail Connection Options

As discussed previously, the three off-site trail connection options being considered and evaluated herein include Trail Connection Option 1 – At-Grade Crossing at Discovery Drive; Trail Connection Option 2 – Undercrossing at Isabel Bridge; and Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84.

Trail Connection Option 1 would be constructed almost entirely within existing impervious areas, with the exception of an approximately 100-foot section of the trail alignment where the existing impervious area would be connected to Isabel Avenue. Runoff from Trail Connection Option 1 would be assumed to flow into the existing landscape vegetation located around the impervious surfaces and/or be collected by the existing stormwater infrastructure, similar to existing conditions. As such, Trail Connection Option 1 is not anticipated to increase stormwater runoff in the project area beyond existing conditions.

Trail Connection Option 2 would include improvements to an existing undercrossing below the Isabel Avenue Bridge. As discussed in Chapter 4.3, Biological Resources, of this EIR, Trail Connection Option 2 would be subject to RWQCB and California Department of Fish and Wildlife (CDFW) requirements set forth by Section 401 of the CWA, the Porter-Cologne Water Quality Control Act, and CFGC Section 1600, et seq. In addition, although the trail is anticipated to be located above the ordinary high-water mark (OHWM), if work below the OHWM cannot be avoided, Trail Connection Option 2 would be subject to USACE Section 404 permit requirements as well. Such requirements would be ensured through implementation of Mitigation Measures 4.3-3(b) through 4.3-3(e) described in Chapter 4.3 of this EIR, and compliance with the requirements would ensure that, if Trail Connection Option 2 is the selected off-site trail connection option, the trail connection option would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.

Figure 4.5-5
SMP 40 Preliminary Stormwater Quality Control Plan



Trail Connection Option 3 would include the extension of the proposed on-site trail south, where a new above-grade crossing over Isabel Avenue/SR 84 is proposed to connect to the existing Arroyo Mocho Trail. Runoff associated with the portion of Trail Connection Option 3 that would extend from the SMP 40 on-site trail to the proposed above-grade crossing would be assumed to flow into the existing vegetation located around the impervious surfaces, similar to existing conditions. The new above-grade crossing over Isabel Avenue/SR 84 would be designed as a semi-pervious feature, which would allow precipitation to fall onto the existing roadway below and collected by existing stormwater infrastructure, which would represent similar conditions to what currently occurs.

It should also be noted that given the nature of the off-site trail connection options, pollutants such as oil and grease from vehicle leaks, traffic, and maintenance activities are not anticipated to be carried into storm drainage systems, as the trail would be used for bicycle and pedestrian activities only.

Maintenance and Inspection

In order to ensure continued operation of the proposed stormwater control features, a detailed site-specific inspection and maintenance procedures plan would be implemented by the City, as required by the Municipal Regional Stormwater NPDES C.3 standards. For example, plants and vegetation within the detention basins would be inspected monthly, and the basins would be inspected for the presence of standing water 72 hours after rain events. Required maintenance activity would include, but not necessarily be limited to, removal of debris from basins and removal of debris from outlets of basins. Without implementation of such measures, the basins could fail to ensure that polluted runoff would not enter downstream water bodies during the continued operation of the project.

Conclusion

Based on the above, the proposed project would include C.3 site design measures to ensure that stormwater runoff is properly treated prior to discharge. Thus, urban pollutants entering and potentially degrading local water quality would not be expected to occur as a result of the project. However, because a Stormwater Control Plan and Maintenance Plan has not yet been prepared for SMP 39, and a final Stormwater Control Plan and Maintenance Plan has not yet been prepared for SMP 40, incorporation of proper source control measures cannot be ensured at this time. Therefore, the proposed project could result in a ***significant*** impact related to a violation of water quality standards or waste discharge requirements or otherwise substantial degradation of water quality during operations.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.5-2(a) *Prior to approval of final project improvement plans for SMP 39, SMP 40, and the selected off-site trail connection option, a final Stormwater Control Plan and Maintenance Plan shall be submitted to the City Director of Public Works, and the City Engineer for review and approval. A separate Stormwater Control Plan and Maintenance Plan shall be*

prepared for SMP 39, SMP 40, and the selected off-site trail connection option, if the components of the project are not constructed concurrently. The final Stormwater Control Plan and Maintenance Plan shall be in compliance with all applicable provisions of the C.3 Standards, and shall meet the standards of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment. Site design measures, source control measures, hydromodification management, and Low Impact Development (LID) standards, as necessary, shall be incorporated into the design and shown on the improvement plans. The final plans shall include calculations demonstrating that the water quality BMPs are appropriately sized, using methodology in the CASQA Stormwater BMP Handbook for New Development and Redevelopment. The final plans shall be submitted to the Public Works Department for review and approval.

4.5-2(b) *Implement Mitigation Measures 4.3-3(b) through 4.3-3(e).*

4.5-3 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Based on the analysis below, the impact is *less than significant*.

As discussed above, the project site is located within the Livermore Valley Groundwater Basin, which is under the jurisdiction of the Zone 7 Water Agency. As defined in the DWR Bulletin 118, the Livermore Valley Groundwater Basin is not adjudicated, in overdraft, or expected to be in overdraft, and DWR has identified the basin as medium priority.

Water service for the proposed project would be provided by the City of Livermore, which is supplied water through a wholesale agreement with Zone 7 Water Agency. The City does not currently pump groundwater (nor plans to in the future); however, a portion of the water supply that the City receives from Zone 7 Water Agency is obtained through groundwater from the Livermore Valley Groundwater Basin. For Zone 7's operations, the Livermore Valley Groundwater Basin is considered a storage facility and not a long-term water supply, as Zone 7 does not have access to naturally recharged water. As such, Zone 7 only pumps groundwater that has been artificially recharged with surface water supplies. As part of the conjunctive use program, Zone 7's policy is to maintain groundwater levels above historic lows in the Livermore Valley Groundwater Basin to minimize the risk of inducing land subsidence, which is currently accomplished by releasing surface State Water Project (SWP) water to the arroyos in the project region for percolation and replenishment of the aquifers and by managing pumping activities.

As discussed further in Chapter 4.7, Public Services and Utilities, of this EIR, Zone 7's 2020 Urban Water Management Plan (UWMP) indicates that a supply surplus exists in all hydrologic conditions through 2045. Further, the additional demand from the

proposed project represents approximately one percent of the City's potable water demands, which is not considered significant enough to warrant additional analysis, and is well within the margin of error for water supply planning purposes. Therefore, the Water Supply Assessment prepared for the proposed project concluded that Zone 7 water supplies would be sufficient to meet the City's projected potable and raw water demands, including potable water demands for the proposed project, in all hydrologic conditions through 2045.

It should also be noted that while the proposed project would result in an increase in impervious surfaces on SMP 39, SMP 40, and within the Trail Connection Option 2 and 3 alignments, which would reduce the infiltration of groundwater as compared to existing conditions, as discussed in the Drainage Analysis Memorandum prepared for the proposed project, the project proposes to construct a three-acre-foot detention pond to detain stormwater from SMP 39, and stormwater from SMP 40 would be detained in the existing Oak Detention Basin. Use of both detention basins to collect and store runoff from the new impervious surfaces would continue to allow for some infiltration during post-project conditions. Furthermore, the project site itself is not considered a site of substantial groundwater recharge. Consequently, the proposed project would not result in substantial interference with groundwater recharge in the area.

Based on the above, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.5-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or result in substantial erosion or siltation on- or off-site. Based on the analysis below and with the implementation of mitigation, the impact is *less than significant*.

Increases to peak runoff flows or volumes resulting from alterations to the existing drainage patterns of the site have the potential to result in exceedance of existing or planned stormwater drainage systems or flooding on- or off-site. The following

includes a discussion of the drainage analysis associated with both SMP 39 and SMP 40, as well as the off-site trail connection options.

SMP 39 and SMP 40

As discussed previously, runoff from impervious surfaces created by the proposed project would be captured by the on-site stormwater drainage systems, before being routed into existing drainage facilities within the project area. To assess whether development of the proposed project would have any impact on the existing drainage system, a hydraulic analysis was conducted as part of the Drainage Analysis Memorandum prepared for the proposed project. The results of the hydraulic analysis are presented in Table 4.5-2.

Table 4.5-2
Pre- and Post-Project Drainage Conditions

Drainage Location	Units	10-Year Storm Event		100-Year Storm Event	
		Existing Conditions	Proposed Project	Existing Conditions	Proposed Project
SMP 40 Detention Basin	cfs	N/A	4.6	N/A	6.1
Oak Detention Basin	cfs	14.6	14.8	16.5	16.8
	ft NAVD88	397.4	397.6	399.3	399.6
42-inch Pipe on West Jack London Boulevard	cfs	26.6	34.8	40.7	47.7
	ft NAVD88	372.9	373.3	373.5	373.8
Discharge to Airport Channel	cfs	27.1	36.0	41.5	49.4
SMP 39 West Detention Pond	cfs	N/A	6.0	N/A	6.9
	ft NAVD88	N/A	370.7	N/A	371.9
	ac-ft	N/A	1.7	N/A	2.8

Notes:
cfs = cubic feet per second; representative of peak flows.
ac-ft = acre-feet; representative of maximum volume.
ft NAVD88 representative of the maximum HGL.

Source: Schaaf & Wheeler, 2023.

As shown in Table 4.5-2, development of SMP 39 and SMP 40 would result in an increase in peak flows at all measured drainage locations within the City's stormwater system. In addition, the post-project stormwater runoff would slightly increase the water level (i.e., the hydraulic grade line [HGL]) of the existing Oak Detention Basin and the existing 42-inch storm drain pipe located within West Jack London Boulevard. However, according to the Drainage Analysis Memorandum during both the 10-year and 100-year storm events, runoff from SMP 39 and SMP 40 would be effectively captured such that the additional runoff would not cause high flows into the downstream system. As such, the slight increase in the post-project HGL of the existing storm drainage system downstream of the project site did not indicate any adverse impacts related to downstream flooding during the 10-year or 100-year storm event. Therefore, the Drainage Analysis Memorandum concluded that the post-project

increases could be handled by the existing downstream drainage system, and, as a result, impacts to the existing drainage system would not occur.

Furthermore, as discussed above, the proposed project would be required to implement BMPs, and a site-specific SWPPP would be prepared for proposed project. A Qualified SWPPP Practitioner (QSP) would ensure compliance with the SWPPP through regular monitoring and visual inspections, and would amend the SWPPP and revise project BMPs, as determined necessary through field inspections, to protect against substantial erosion or siltation on- or off-site.

Off-Site Trail Connection Options

A discussed previously, Trail Connection Option 1 would be constructed almost entirely within existing impervious areas, with the exception of an approximately 100-foot section of the trail alignment where the existing impervious area would be connected to Isabel Avenue. As such, increases to peak runoff flows or volumes resulting from Trail Connection Option 1 would be negligible, and runoff would be assumed to flow into the existing landscaping vegetation located around the impervious surfaces and/or collected by existing stormwater infrastructure, similar to existing conditions.

Trail Connection Option 2 would include improvements to an existing undercrossing below the Isabel Avenue Bridge. Therefore, the majority of the new impervious surface area associated with Trail Connection Option 2 improvements would occur beneath the existing roadway, and, as a result, would not receive direct precipitation. Thus, Trail Connection Option 2 would not increase the rate or amount of surface runoff.

Finally, similar to Trail Connection Option 1, runoff associated with the portion of Trail Connection Option 3 that would extend from the SMP 40 on-site trail to the proposed above-grade crossing would be assumed to flow into the existing vegetation located around the impervious surfaces, similar to existing conditions. The new above-grade crossing over Isabel Avenue/SR 84 would be designed as a semi-pervious feature, which would allow precipitation to fall onto the existing roadway below and collected by existing stormwater infrastructure, which would represent similar conditions to what currently occurs.

Overall, the proposed off-site trail connection options would not increase peak runoff flows or volumes due to alterations to the existing drainage pattern, and, therefore, would not have the potential to result in an exceedance of existing or planned stormwater drainage systems or flooding on- or off-site.

Conclusion

Based on the above, the proposed project is not anticipated to increase peak runoff flows or volumes due to alterations to the existing drainage pattern, or have the potential to result in an exceedance of existing or planned stormwater drainage systems or flooding on- or off-site. However, a final drainage report has not yet been prepared for the proposed project. Therefore, without preparation of a final drainage report, the proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding

on- or off-site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.5-4 *Prior to approval of final project improvement plans for SMP 39, SMP 40, and the selected off-site trail connection option, a final drainage plan shall be submitted to the City Director of Public Works, and the City Engineer for review and approval demonstrating the project's compliance with all State stormwater standards and requirements. A separate drainage plan shall be prepared for SMP 39, SMP 40, and the selected off-site trail connection option, if the components of the project are not constructed concurrently. The final drainage plan shall identify the water quality treatment and source control measures needed to ensure that stormwater runoff from the proposed project is adequately treated and peak flows do not exceed the capacity of the receiving storm drainage system.*

4.5-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The project site is not located in a tsunami or seiche zone. Therefore, impacts related to tsunamis and seiches are not discussed further. Rather, the following discussion is focused on potential impacts related to flooding and flood hazards.

As discussed above, according to FEMA FIRM numbers 06001C0329G and 06001C0337G, a small portion along the southern boundary of SMP 39, and the majority of SMP 40 are located within Zones A and AE, which are designated as SFHAs (see Figure 4.5-1 and Figure 4.5-2). In addition, Trail Connection Option 2 is located entirely within Zone AE. The remaining areas of SMP 39, SMP 40, and the off-site trail improvement areas are located within Zone X, which is not designated as a SFHA.

A FEMA Letter of Map Revision (LOMR) is being processed to update the effective FEMA flood maps. This update is based on better topography and computer modeling abilities. The updated FEMA maps will better represent the actual flood risks along Arroyo Mocho and Arroyo Las Positas through this region of Livermore and permit buildings to be constructed in this area as proposed.

Because portions of the project site are located within a SFHA, such portions of the site must be raised above the existing 100-year floodplain. Pursuant to Section 16.12.120 of the City's Municipal Code, new construction is required to place the lowest floor of structures at least one foot above the base flood elevation. In addition, Section 16.12.090 of the City's Municipal Code requires the submittal of a development permit application, which is required to be prepared in conformance with the provisions of Chapter 16.12 of the Municipal Code, and is required to be obtained before construction or development begins within any SFHA. As part of the development permit application, the proposed project is required to show that all buildings that would be located within a SFHA are raised at least one foot above the base flood elevation. Based on the conceptual site plan prepared for SMP 39, all proposed on-site buildings would be located outside the 100-year floodplain. However, final building locations may change as final site plans are prepared for the proposed project. Both buildings proposed within SMP 40 would be built partially within the 100-year floodplain. As such, the building pads of all on-site development within a SFHA would be raised above the 100-year base flood elevation, as necessary, in compliance with Section 16.12.120 of the City's Municipal Code.

Furthermore, as discussed in Impact 4.5-4, Schaaf & Wheeler has confirmed that the slight increase in the post-project HGL of the existing storm drainage system downstream of the project site would not result in downstream flooding during the 10-year or 100-year storm event. Additionally, Mitigation Measure 4.5-4 would require that a final drainage plan is prepared, which would ensure that stormwater runoff from the proposed project is adequately treated and peak flows do not exceed the capacity of the receiving storm drainage system. Therefore, the proposed project would be consistent with applicable hydromodification requirements, and would not result in substantial increases in runoff such that impacts to the City's existing drainage system would occur during the 10-year storm event or 100-year storm event. As such, the proposed project would not have the potential to impede or redirect flood flows.

With respect to risking release of pollutants due to project inundation, the future tenants of the proposed industrial buildings are not currently known; however, typical light industrial uses allowed within the project site include, but are not limited to, professional and administrative facilities, research institutions, warehouse uses, manufacturing operations, and green technology facilities. Operations associated with the proposed project would be typical of other warehouses in the City. In addition, as discussed in Section IX, Hazards and Hazardous Materials, of the Initial Study prepared for the proposed project (see Appendix A), while not currently anticipated, in the event that future operations associated with the proposed warehouses involve the routine use, transport, or disposal of hazardous materials, such materials would be safely managed in accordance with applicable regulations and would be subject to City review depending on the type or quantity of chemicals proposed for use. Section 6.02.040 of the Livermore Municipal Code establishes regulations related to the types and quantities of hazardous materials that may be stored or used within the City. Based on the allowances within Section 6.02.040, should operation of the proposed project require the use or storage of hazardous materials in excess of the accepted limits, a formal request must be made to the City, including a declaration of information regarding the type and quantities of hazardous materials to be used or stored within the project site. Such requests would be considered by the Livermore-Pleasanton Fire Department (LPFD) and the City's Planning Division. Any storage or use of hazardous

materials on-site would occur within buildings that would be elevated out of the floodplain. Therefore, the proposed project would not risk release of pollutants due to project inundation. Furthermore, all stormwater exiting the project site would be directed to the proposed on-site, or existing City-maintained off-site storm drainage systems to ensure that any pollutants entrained within stormwater from the project site are removed prior to discharge.

With regard to Trail Connection Option 2, pursuant to Section 16.12.090 of the City's Municipal Code, if Trail Connection Option 2 is selected, a development permit application would be required to be submitted to the City for approval, prior to any improvement activities associated with the trail. Improvement activities within the off-site trail improvement area would also be subject to all applicable mitigation measures prescribed within this EIR, including Mitigation Measure 4.5-1.

Considering the above, the proposed project is not anticipated to result in the impediment or redirection of flood flows such that on- or off-site structures would be exposed to flood risk. However, a Letter of Map Revision (LOMR) would be required prior to Building Permit issuance in order to ensure the project's compliance with existing regulations. Therefore, in the absence of a LOMR submitted to FEMA, a ***significant*** impact could occur related to alteration of the existing drainage pattern of the site or area, including through alteration of a course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.5-5 *Prior to Building Permit issuance for SMP 39 (if buildings are determined to be within a SFHA) and SMP 40, the City or applicant shall obtain from the Federal Emergency Management Agency (FEMA), a Letter of Map Revision (LOMR).*

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative setting for impacts related to hydrology and water quality encompasses the Livermore Valley Watershed, which is generally surrounded by the Diablo Range on the north, east, and south, and is linked to the west with the Amador Valley. Additional detail regarding the cumulative project setting can be found in Chapter 5, Statutorily Required Sections, of this EIR.

4.5-6 Cumulative impacts related to the violation of water quality standards or waste discharge requirements, and impacts resulting from the alteration of existing drainage patterns. Based on the analysis below, the cumulative impact is *less than significant*.

Potential impacts related to stormwater quality, groundwater, and drainage patterns that could occur as a result of reasonably foreseeable future development in the Livermore Valley Watershed, in conjunction with the proposed project, are discussed separately below.

Stormwater Quality

Construction activities have the potential to affect water quality and contribute to localized violations of water quality standards if stormwater runoff from construction activities enters receiving waters. Runoff from additional construction sites within the project area could carry sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products, which could result in water quality degradation if runoff containing such materials enters receiving waters in sufficient quantities. Thus, construction activities associated with the proposed project, in combination with the construction activities of reasonably foreseeable projects in the Livermore Valley Watershed, could result in potential cumulative impacts related to water quality. However, all construction projects resulting in disturbance of more than one acre of soil are required to comply with the provisions set forth by the NPDES Construction General Permit. Conformance with the Construction General Permit would require preparation of SWPPPs for all such projects, and subsequent implementation of BMPs to prevent the discharge of pollutants. Considering the existing permitting requirements for construction activity in the project vicinity, cumulative construction within the Livermore Valley Watershed would be heavily regulated and impacts related to the degradation of water quality would be minimized to the extent feasible.

Similar to the proposed project, cumulative development that could occur within the Livermore Valley Watershed would be subject to the applicable provisions of the Municipal Regional Stormwater NPDES Permit, including the requirements set forth by the Alameda County C.3 Stormwater Technical Guidance. More specifically, C.3-regulated projects are required to include appropriate source control, site design, and stormwater treatment measures to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows. Addressing stormwater runoff pollutant discharges would be accomplished primarily through the implementation of LID techniques, such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

Based on the above, compliance with the foregoing regulations would ensure that potential cumulative impacts that could occur as a result of reasonably foreseeable future development within the Livermore Valley Watershed related to stormwater quality would be minimized to the maximum extent feasible.

Groundwater

As discussed under Impact 4.5-2, the City does not currently pump groundwater (nor plans to in the future); however, a portion of the water supply that the City receives from Zone 7 Water Agency is obtained through groundwater from the Livermore Valley Groundwater Basin. Nonetheless, for Zone 7's operations, the Livermore Valley Groundwater Basin is considered a storage facility and not a long-term water supply, and Zone 7 only pumps groundwater that has been artificially recharged with surface water supplies. In addition, according to the Zone 7 2020 UWMP, a supply surplus exists in all hydrologic conditions through 2045. Furthermore, the project site itself is not considered a site of substantial groundwater recharge; thus, development of the project would not result in a significant cumulative loss of groundwater recharge. Thus, cumulative development would not be anticipated to substantially decrease groundwater supplies.

Drainage Patterns

Similar to the proposed project, cumulative development that could occur within the Livermore Valley Watershed would be subject to the applicable provisions of the Municipal Regional Stormwater NPDES Permit, including requirements set forth by the Alameda County C.3 Stormwater Technical Guidance. C.3-regulated projects are required to prepare a Stormwater Control Plan which would ensure that reasonably foreseeable future development provides LID treatment features that would equal or exceed the required treatment area pursuant to the C.3 standards. In addition, new storm drain infrastructure would be required to be designed consistent with applicable standards set forth by the City's Standard Details and Specifications, ensuring that new drainage features limit the potential for on- or off-site site flooding to occur, and a less-than-significant impact would occur.

Conclusion

Based on the above, the potential cumulative impact associated with reasonably foreseeable future development, in conjunction with the proposed project, would be ***less than significant***.

Mitigation Measure(s)

None required.

4.6 Noise

4.6. NOISE

4.6.1 INTRODUCTION

The Noise chapter of the EIR describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to noise and vibration associated with construction and operation of the proposed project. The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant noise and vibration impacts to less-than-significant levels, if required. The Noise chapter is primarily based on the Environmental Noise Study prepared by Salter for SMP 39 (see Appendix J)[1] and the Environmental Noise Study prepared by Salter for SMP 40 (see Appendix K),[2] as well as the City of Livermore General Plan,[3] the City of Livermore General Plan EIR,[4] and the Livermore Municipal Airport Land Use Compatibility Plan (ALUCP).[5]

4.6.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section provides background information on noise and vibration, a discussion of acoustical terminology and the effects of noise on people, existing sensitive receptors in the project vicinity, existing sources and noise levels in the project vicinity, and groundborne vibration.

Fundamentals of Acoustics

Decibels (dB) are logarithmic units that compare the wide range of sound intensities to which the human ear is sensitive. The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the typical range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and the use of A-weighted sound level, expressed as dBA, has become the standard tool of environmental noise assessment. Table 4.6-1 lists several examples of the noise levels associated with common situations.

Community Noise Equivalent Level (CNEL), which can be used to compare the noise level of neighborhoods, is the weighted average noise level over time, presented in dB. Community noise is also commonly described in terms of the ambient noise level, which is defined as the overall noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day-night average noise descriptor, (L_{dn} or DNL), and represents a correlation with community response to noise.

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1 Salter. *SMP-39 Site, Livermore, CA – Environmental Noise Study*. May 2, 2023.
2 Salter. *Oaks Business Park SMP 40, Livermore, CA – Update to Environmental Noise Study.* July 7, 2023.
3 City of Livermore. *General Plan 2003-2025*. Adopted February 9, 2004.
4 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038)*. June 2003.
5 Alameda County Community Development Agency. *Livermore Executive Airport Land Use Compatibility Plan*. August 2012.

Table 4.6-1
Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
N/A	110	Rock Band
Jet Fly-over at 300 meters (1,000 feet)	100	N/A
Gas Lawn Mower at 1 meter (3 feet)	90	N/A
Diesel Truck at 15 meters (50 feet), at 80 km/hr. (50 mph)	80	Food Blender at 1 meter (3 feet) Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 meters (100 feet)	70	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	60	Normal Speech at 1 meter (3 feet)
Quiet Urban Daytime	50	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
N/A	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September 2013.

The DNL is based on the average noise level over 24 hours, with an additional 10 dB weighting applied to noise that occurs during nighttime hours (10:00 PM to 7:00 AM). The 10 dB nighttime penalty is applied to account for the assumption that people are more sensitive to nighttime noise exposures as compared to daytime noise exposures. To describe the time-varying character of environmental noise, statistical noise descriptors were developed. For example, the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period (L_{50}) represents the median sound level. Finally, the highest root-mean-square (RMS) sound level measured over a given period of time is expressed as L_{max}.

Stationary sources of noise, including construction equipment, attenuate at a rate of approximately six dB per doubling of distance from the source depending on ground absorption. Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, increase the efficacy of noise attenuation that occurs by distance alone. Furthermore, sites with hard, reflective ground surfaces (e.g., parking lots and bodies of water) have less noise attenuation than sites with soft, absorbable ground surfaces (e.g., soft dirt, grasses, bushes and trees).

Existing Sensitive Receptors

Certain land uses are more sensitive to ambient noise levels than others due to the amount of noise exposure (in terms of both exposure time and shielding from noise sources) and the type of activities typically involved. Noise sensitive land uses typically include residences, schools, childcare centers, hospitals, long-term health care facilities, convalescent centers, retirement

homes, and recreation areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

The closest sensitive receptors to SMP 39 are the single-family residences located approximately 2,745 feet east of the site, across Isabel Avenue/State Route (SR) 84. Similarly, the closest sensitive receptors to SMP 40 are the single-family residences located across Isabel Avenue/SR 84, with the nearest being approximately 884 feet from the closest proposed building on-site and 550 feet from the nearest parking area. While not typically considered a sensitive receptor, the Oaks Business Park is a noise-generating source, which is located approximately 850 feet east of SMP 39, across Discovery Drive and approximately 50 feet north of SMP 40. Furthermore, the Livermore Municipal Airport is located approximately 100 feet north of SMP 39 and approximately 3,500 feet northwest of SMP 40.

Existing Ambient Noise Environment

The existing ambient noise environment in the project vicinity is primarily defined by traffic on Isabel Avenue/SR 84, as well as nearby industrial uses, the Livermore Municipal Airport, and aggregate mining operations. To quantify the existing ambient noise environment in the project vicinity, Salter conducted continuous (24-hour) noise level measurements at three locations within the vicinity of SMP 39 and SMP 40. Noise measurement locations for SMP 39 were taken along West Jack London Boulevard between April 5th and 10th, 2023 and are shown on Figure 4.6-1. Noise measurement locations for SMP 40 were taken between November 2nd and 4th, 2021 and are shown on Figure 4.6-2. A summary of the noise level measurement survey results is provided in Table 4.6-2.

Table 4.6-2
Summary of Ambient Noise Measurement Results

Site	Location	Measured DNL (dB)	Measured L_{eq} (dB)
SMP 39-LT-1	West Jack London Boulevard, approximately 12-feet above grade	75	76
SMP 40-LT-1	Oaks Business Park, approximately 10-feet above grade	65	N/A
SMP 40-LT-2	Arroyo Bike Trail, approximately 10-feet above grade	67	N/A

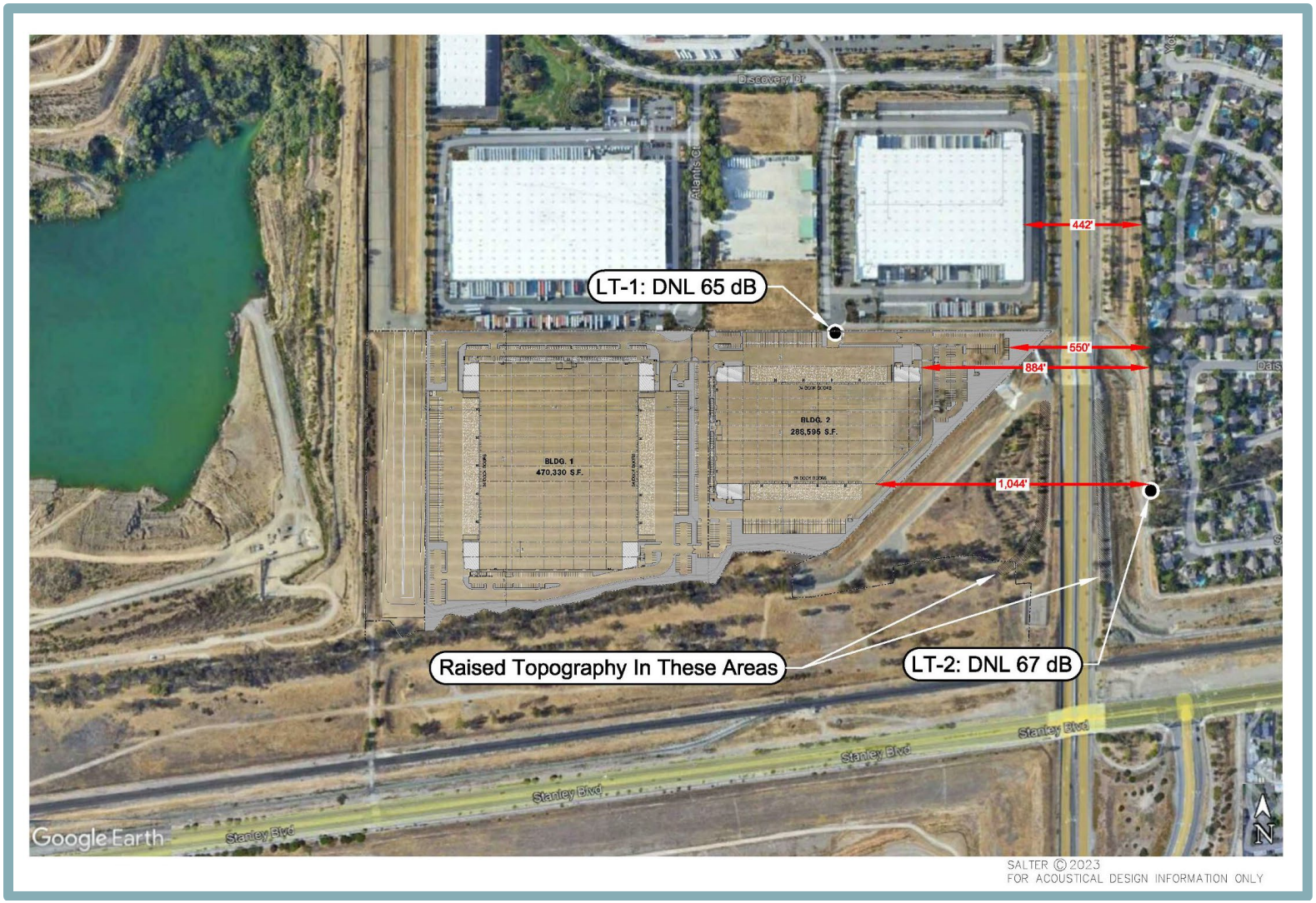
Source: Salter, 2023.

The noise measurements at SMP 39-LT-1 represent data collected from vehicle drive-bys on nearby roads and the Livermore Municipal Airport. As shown in Table 4.6-2, the measured noise level at SMP 39-LT-1 was 75 dB DNL. SMP 40-LT-1 and SMP 40-LT-2 were selected based on project setbacks and which nearby locations were accessible via public rights-of-way. The noise measurements represent data collected from vehicle drive-bys on nearby roads. As shown in Table 4.6-2, the measured noise levels at SMP 40-LT-1 and SMP 40-LT-2 were 65 dB DNL and 67 dB DNL, respectively.

Figure 4.6-1
SMP 39 Ambient Noise Measurement Location

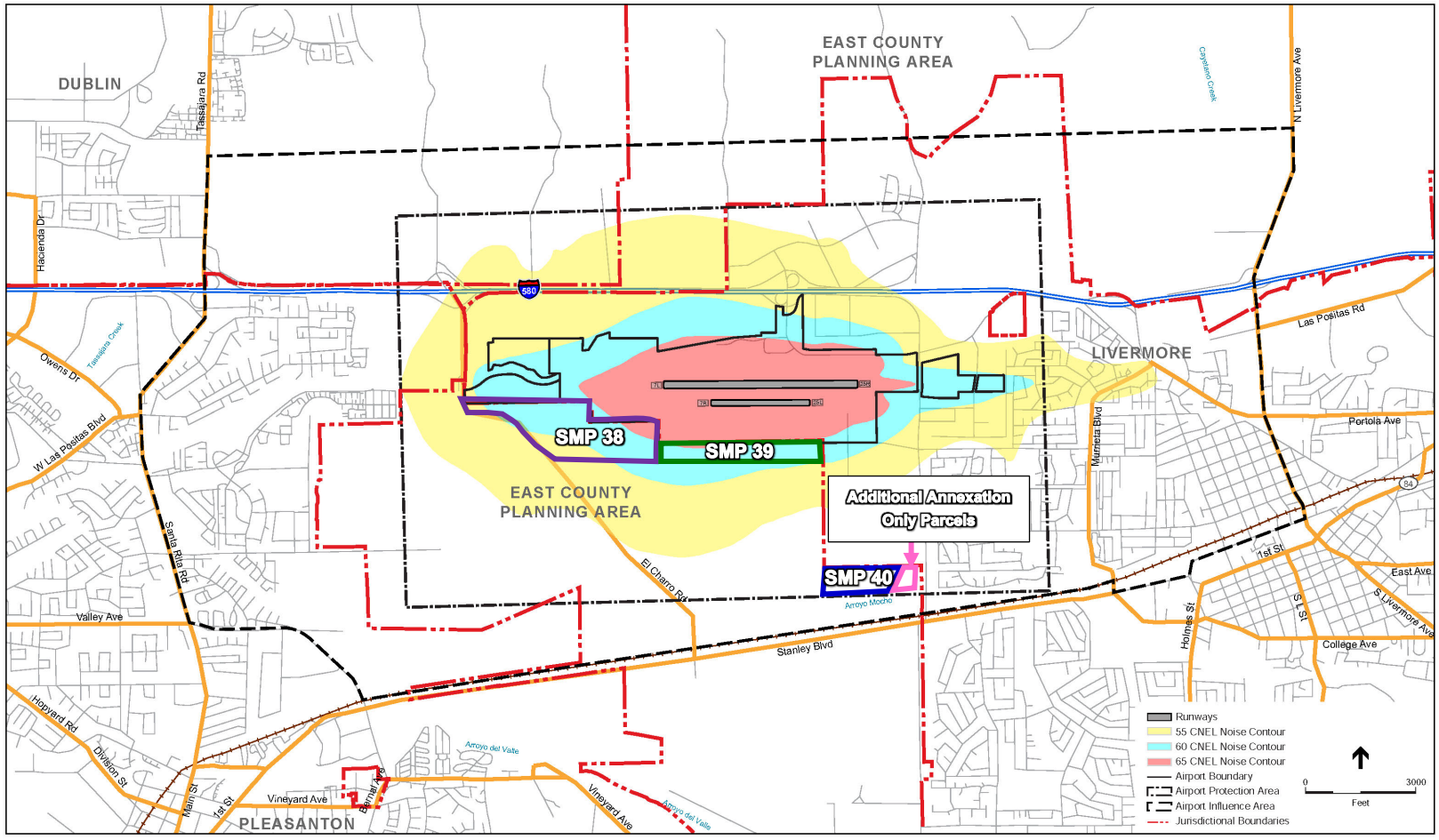
Source: Salter, 2023.

Figure 4.6-2
SMP 40 Ambient Noise Measurement Locations



Source: Salter, 2023.

Figure 4.6-3
Livermore Municipal ALUCP Noise Contours



Source: Alameda County Community Development Agency, Livermore Executive Airport Land Use Compatibility Plan [Figure 3-2], August 2012.

Furthermore, the Livermore Municipal ALUCP includes noise contours established for the purpose of evaluating the noise compatibility of land use development in the Livermore Municipal Airport airport influence area (AIA). These noise contours are depicted on Figure 4.6-3 (Figure 3-2 in the ALUCP). The locations of SMP 38, SMP 39, SMP 40, and the Additional Annexation Only Parcels within the noise contours are outlined on Figure 4.6-3.

Fundamentals of Vibration

Vibration is similar to noise in that both involve a source, a transmission path, and a receiver. However, while noise is generally considered to be pressure waves transmitted through air, vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration depends on their individual sensitivity, as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second (in/sec) peak particle velocities (PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception, as well as damage to structures, have been developed for vibration in terms of PPV and RMS velocities. As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes decrease with increasing distance.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases. According to the California Department of Transportation (Caltrans) Transportation and Construction Vibration Guidance Manual, operation of construction equipment and construction techniques generate ground vibration. Roadway traffic can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. However, traffic rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Existing Ambient Vibration Environment

The project site is undeveloped; however, vibration sources in the vicinity of the project site include the Livermore Municipal Airport located north of SMP 39, industrial uses located east of SMP 39 and north of SMP 40, traffic from Isabel Avenue/SR 84 located immediately east of SMP 40, and aggregate mining operations located southwest of SMP 40.

4.6.3 REGULATORY CONTEXT

In order to limit exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. Applicable federal laws or regulations pertaining to noise or vibration that would directly apply to the proposed project do not exist. The following provides a general overview of the existing State and local regulations that are relevant to the proposed project.

State Regulations

The following are the State environmental laws and policies relevant to noise and vibration.

California Building Code

The California Building Code (Title 24, Part 2 of the California Code of Regulations [CCR]) establishes uniform minimum noise insulation performance standards to protect persons within new buildings that house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also requires that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

Local Regulations

The following are the local environmental goals and policies relevant to noise and vibration.

City of Livermore General Plan

The following goals, objectives, and policies from the City of Livermore General Plan Noise Element related to noise and vibration are applicable to the proposed project.

Goal N-1 Minimize the exposure of community residents to excessive noise.

Objective N-1.1 Establish appropriate noise levels, design standards, and noise reduction techniques for all areas to minimize the adverse effects of noise.

Policy P3 The City shall maintain a pattern of land uses that separates noise-sensitive land uses from major noise sources to the extent possible.

Policy P4 The City shall use the Land Use Compatibility Guidelines for Exterior Noise (measured in dBA CNEL or L_{dn}) contained in Table 4.6-3 (General Plan Table 9-7) to direct the siting, design, and insulation of new development to reduce exposure to excessive noise. Within the 2030 Airport CNEL Noise Contours illustrated in Figure 9-2 of the General Plan, the Noise Compatibility policies contained in section 3.3.1 et. Seq. of the Livermore Airport Land Use Compatibility Plan ("ALUCP"), dated August 2012, shall apply in conjunction with citywide General Plan Noise Element policies.

Table 4.6-3
Land Use Compatibility Guidelines for Exterior Noise (dBA)

Land Use	Normally Acceptable[1]	Conditionally Acceptable[1]	Normally Unacceptable[1]	Clearly Unacceptable[1]
Residential- Low Density, Single-Family, Duplex, Mobile Homes	≤60	55-70	70-75	>75
Transient Lodging, Hotels, Motels	≤65	60-70	70-80	>80
Residential Multi-Family	≤65	60-70	70-75	>75
Playground, Neighborhood Park	≤70	X	70-75	>75
Office Building, Business Commercial, Professional, Retail	≤70	70-75	>75	X
Industrial, Manufacturing, Utilities, Agricultural	≤75	70-80	>75	X

[1] Where dBA levels overlap between these categories, determination of noise level acceptability will be made on a project-by-project basis. dBA is measured in CNEL or L_{dn} (see General Plan Policy N-1.1.P4).

Source: City of Livermore General Plan [Table 9-7], December 2014.

Policy P5 Review development proposals with respect to the Land Use Compatibility Guidelines for Exterior Noise in Table 4.6-3 (Table 9-7 of the General Plan) as follows:

(a) Normally Acceptable: If the noise level is within the "normally acceptable" level, noise exposure would be acceptable for the intended land use. Development may occur without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

(b) Conditionally Acceptable: If the noise level is within the "conditionally acceptable" level, noise exposure would be conditionally acceptable; a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or

parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

(c) Normally Unacceptable: If the noise level is within the "normally unacceptable" level, analysis and mitigation are required. Development should generally not be undertaken unless adequate noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce the exposure of people to unacceptable noise levels.

(d) Clearly Unacceptable: If the noise level is within the "clearly unacceptable" level, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to adequately reduce exposure of people to unacceptable noise levels.

Objective N-1.2 Adopt design standards and identify effective noise attenuation programs to prevent noise or reduce noise to acceptable levels.

Policy P1 When crafting mitigation programs for adverse noise exposure from new development, the City shall encourage the use of noise attenuation programs that avoid constructing sound walls.

Policy P2 The City shall require applicants for new noise-sensitive development, such as private schools, residences, and private hospitals, in areas subject to noise levels greater than 65 dBA CNEL to obtain the services of a professional acoustical engineer to provide a technical analysis and to design mitigation measures to attenuate noise to acceptable levels.

Policy P3 The City shall require the control of noise at the source for new development deemed to be noise generators through site design, building design, landscaping, hours of operation, and other techniques.

Policy P4 The City shall require operational limitations and feasible noise buffering for new uses that generate significant noise impacts near sensitive uses.

Policy P5 During all phases of construction, the City shall take measures to minimize the exposure of neighboring properties to excessive noise levels from construction-related activity.

Policy P8 It shall be the responsibility of new development or new land uses to be consistent with noise standards appropriate and sensitive to adjacent land uses.

Objective N-1.4 Reduce noise levels from traffic, which is the single largest continual source of unacceptable noise in the City.

Policy P2 The City shall minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.

Policy P3 The City shall provide planned industrial areas with truck access routes separated from residential areas to the maximum feasible extent. Consider methods to restrict truck travel times in sensitive areas.

Policy P4 The City shall require exterior noise in backyards to be Normally Acceptable at a maximum of 60 dBA CNEL for single-family development and a maximum of 65 dBA CNEL for multi-family development.

Policy P5. The City will consider sound walls as a means of noise mitigation along proposed and existing roadway segments and railroad rights-of-way only after other noise attenuation programs such as building construction, larger landscaped berms, and distances have been considered to reduce noise to appropriate levels in residential areas.

Objective N-1.5 Reduce the level of noise generated by mechanical and other noise-generating equipment by means of public education, regulation, and/or political action.

Policy P1 The City shall require that industrial and commercial uses be designed and operated so

as to avoid the generation of noise effects on surrounding sensitive land uses (e.g., residential, churches, schools, hospitals) from exceeding the following noise levels for exterior environments:

(a) 55 dBA L50 (7:00 AM to 10:00 PM)
(b) 45 dBA L50 (10:00 PM to 7:00 AM)

Policy P2 In order to allow for temporary construction, demolition or maintenance noise and other necessary short-term noise events, the stationary source noise standards in Policy N-1.5.P1, above, may be exceeded within the receiving land use by:

(a) 5 dBA for a cumulative period of no more than fifteen (15) minutes in any hour.
(b) 10 dBA for a cumulative period of no more than five (5) minutes in any hour.
(c) 15 dBA for a cumulative period of no more than one (1) minute in any hour.

Policy P3 In order to allow for temporary construction, demolition or maintenance noise and other necessary short-term noise events, the stationary noise standards in Policy N-1.5.P1, above, shall not be exceeded within the receiving land use by more than 15 dBA for any period of time.

Policy P4 The following sources of noise are exempt from the standard in Policy N-1.5.P1: motor vehicles on public streets; trains; emergency equipment, vehicles, devices, and activities; temporary construction, maintenance, or demolition activities conducted between the hours of 7:00 AM and 8:00 PM.

City of Livermore Municipal Code

Chapter 9.36 of the City of Livermore Municipal Code is titled “Noise”. Section 9.36.020 of the City’s Municipal Code prohibits any person to make or continue, or cause to be made or continued, any loud, disturbing, unnecessary, unusual or habitual noise, or any noise which annoys, disturbs, injures or endangers the comfort, health, repose, peace or safety of other persons within the City. Noise sources from both construction and operations of the proposed project are discussed in comparison to the foregoing general standard included in the City’s Municipal Code.

Section 9.36.060 of the City's Municipal Code prohibits the creation of loud and excessive noise in connection with loading or unloading any vehicle or the opening and destruction of bales, boxes, crates, and containers.

Pursuant to Section 9.36.080 of the Municipal Code, operation of construction equipment is prohibited between the hours of 6:00 PM Saturday to 7:00 AM Monday; 8:00 PM to 7:00 AM on Monday, Tuesday, Wednesday, and Thursday; 8:00 PM Friday to 9:00 AM on Saturday; or at all on city-observed holidays. Pursuant to Section 9.36.110, industrial areas located more than 500 feet from a residential development are exempt from noise hour restrictions.

Livermore Municipal Airport Land Use Compatibility Plan

The Livermore Municipal ALUCP is the primary document used by the Alameda County Airport Land Use Commission (ALUC) to help promote compatibility between the Livermore Municipal Airport and the surrounding area. The ALUCP also serves as a tool for the Alameda County ALUC in fulfilling its duty to review airport and land use development proposals within the AIA or referral area associated with the airport.

As previously discussed, and depicted on Figure 4.6-3, the ALUCP includes noise contours established for the purpose of evaluating the noise compatibility of land use development in the Livermore Municipal Airport AIA. According to Table 3-1 of the ALUCP, industrial uses are compatible within the 55 and 60 CNEL contours and are conditionally compatible within the 65 CNEL noise contour.

4.6.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to noise and vibration. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in any of the following:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive groundborne vibration or groundborne noise levels; or
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Summary of Applicable Noise Standards

Applicable noise level standards from the City of Livermore General Plan and the Municipal Code are summarized below.

Construction Noise Criteria

As required by Policy N-1.5.P4, temporary construction, maintenance, or demolition noise, which occurs during the hours of 7:00 AM and 8:00 PM, is exempt from the noise standards outlined in Policy N-1.5.P1. In addition, Section 9.36.080 of the Municipal Code prohibits operation of construction equipment during certain time periods; however, pursuant to Section 9.36.110, industrial areas located more than 500 feet from a residential development are exempt from the noise hour restrictions.

Although the City of Livermore does not identify quantifiable noise level standards specific to assess project-only construction noise levels, the analysis herein assumes that construction noise would be required to comply with the noise levels set forth by Policy N-1.5.P1, as well as the temporary noise increase standards presented in Policy N-1.5.P2. In order to allow for temporary construction, demolition or maintenance noise and other necessary short-term noise events, Policy N-1.5.P2 allows stationary source noise to exceed Policy N-1.5.P1 standards within the receiving land use by:

(a) 5 dBA for a cumulative period of no more than fifteen (15) minutes in any hour.
(b) 10 dBA for a cumulative period of no more than five (5) minutes in any hour.
(c) 15 dBA for a cumulative period of no more than one (1) minute in any hour.

Thus, for analysis purposes of project construction noise within this EIR, a threshold of significance for the maximum allowable construction noise level at a sensitive receptor has been assumed to be 70 dB L_{max} during daytime hours and 60 dB L_{max} during nighttime hours.

Operational Noise Criteria

Pursuant to the City's General Plan Policy N.1.1.P4, as shown in Table 4.6-3 above, the normally acceptable exterior noise level range for single-family and mobile home residential uses is less than or equal to 60 dBA L_{dn} or DNL, and the normally acceptable exterior noise level range for industrial, manufacturing, utilities, and agricultural uses is less than or equal to 75 dBA DNL. Thus, generation of exterior noise levels greater than 60 dBA DNL and 75 dBA DNL at the nearest residential or industrial uses in the project vicinity, respectively, would be considered significant.

General Plan Policy N-1.5.P1 requires that industrial and commercial uses be designed and operated so as to avoid the generation of noise effects on surrounding sensitive land uses from exceeding the following noise levels for exterior environments:

(a) 55 dBA L_{50} (7:00 AM to 10:00 PM)
(b) 45 dBA L_{50} (10:00 PM to 7:00 AM)

Thus, generation of exterior noise levels greater than 55 dBA L_{50} during daytime hours (7:00 AM to 10:00 AM) and 45 dBA L_{50} during nighttime hours (10:00 PM to 7:00 AM) at the property line of any affected sensitive receptor would be considered significant.

Furthermore, pursuant to Policy N-1.5.P4, noise generated by motor vehicles on public roadways that occurs during the hours of 7:00 AM and 8:00 PM is exempt from the noise standards outlined in Policy N-1.5.P1. Thus, any traffic generated noise occurring outside of the hours presented above would be required to comply with the temporary noise increase standards presented in Policy N-1.5.P2.

Substantial Increase Criteria

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to measurably severe noise levels. In practice, a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in transportation noise associated with the proposed project is a factor in determining significance.

The City of Livermore has not established a threshold for significant increases in ambient noise. Therefore, because the City does not have defined thresholds for what would be considered a substantial increase in ambient noise levels, Salter determined that an increase in existing ambient noise by 3 dB would be required for an impact to be significant. Salter's threshold of significance is considered conservative relative to thresholds used by other agencies in the State. For example, Caltrans requires a project related traffic noise level increase of 12 dB for a finding of significance, the Federal Interagency Commission on Noise (FICON) considers project-related noise level increases between 1.5 dB to 5.0 dB significant, depending on the existing ambient noise levels without development of the project, and the California Energy Commission (CEC) considers project related noise level increases between 5.0 to 10 dB significant, depending on local factors. Therefore, the use of Salter's 3 dB threshold for finding of significant noise impacts provides a conservative approach to impact assessment for the proposed project. Based on Salter's threshold, development of a project which results in an increase in existing ambient noise levels by 3 dB or more would result in a significant noise impact.

Vibration

The City of Livermore does not have specific policies or standards pertaining to vibration levels. However, vibration levels associated with construction activities and project operations are addressed as potential vibration impacts associated with project implementation. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events.

Construction operations have the potential to result in varying degrees of temporary ground vibration depending on the specific construction equipment used and operations involved. Caltrans provides vibration design criteria for two scenarios: human perception and construction damage. "Transient" vibrations are classified as impulsive events that are short in duration (e.g., debris falling, blasting). "Continuous" vibrations are more sustained vibration events over longer periods of time (e.g., jackhammering, drilling). Table 4.6-4 describes the typical human response to different levels of ground-borne vibration for transient and continuous events.

Table 4.6-5 provides a guideline for vibration criteria to assess the damage potential from ground vibration induced by construction equipment. Thresholds for continuous vibrations are lower than those for transient vibrations and are therefore considered more conservative. The standard of significance thresholds used in the industry to determine impacts of groundborne vibrations on structures are outlined in Table 4.6-5.

Because the industrial and residential developments in the vicinity of the project site are modern, a significant impact would occur if project construction activities or proposed on-site operations would expose sensitive receptors to excessive groundborne vibration levels. Specifically, a significant impact would be identified if groundborne vibration levels due to such sources would

exceed the Caltrans vibration impact criteria of 1.0 PPV for transient events and 0.50 PPV for continuous events.

Table 4.6-4
Caltrans Guidance Criteria for Vibration Annoyance Potential

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Severe/Very Disturbing	2.0	0.4 to 3.6
Strongly Perceptible	0.9	0.1
Distinctly Perceptible	0.24	0.035
Barely/Slightly Perceptible	0.035	0.012

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers and vibratory compaction equipment.

Source: Caltrans Transportation and Construction Vibration Guidance Manual, Tables 4 & 6, 2020.

Table 4.6-5
Caltrans Guidance Criteria for Building Structure Vibration

Structure and Condition	Limiting PPV (in/sec)
Historic and Some Old Buildings	0.5
Residential Structures	0.5
New Residential Structures	1.0
Industrial Buildings	2.0
Bridges	2.0

Source: Caltrans Transportation and Construction Vibration Guidance Manual, Table 14, 2020.

Method of Analysis

As discussed in the Project Description chapter of this EIR, the SMP 38 site and the Additional Annexation Only Parcels are not currently proposed for development. Accordingly, this chapter includes an analysis of impacts associated with development of only the SMP 39 and SMP 40 sites, as well as the off-site trail connections. Below are descriptions of the methodologies used in the Environmental Noise Studies prepared for the proposed project to measure background and ambient noise and estimate future traffic noise, construction noise, and vibration associated with development of SMP 39 and SMP 40. Further modeling details and calculations are provided in Appendix J and Appendix K to this EIR. The results of the noise and vibration impact analyses were compared to the standards of significance discussed above in order to determine the associated level of impact.

Existing Ambient Noise Levels

The existing ambient noise environment in the project vicinity is primarily defined by traffic on Isabel Avenue/SR 84, as well as nearby industrial uses, the Livermore Municipal Airport, and aggregate mining operations. To quantify existing ambient noise levels within the project vicinity, Salter conducted continuous (24-hour) noise level measurements at three locations within the vicinity of SMP 39 and SMP 40 and collected data from nearby roadways and the Livermore Municipal Airport. Noise measurement locations for SMP 39 were taken along West Jack London Boulevard between April 5th and 10th, 2023 and are shown on Figure 4.6-1. Noise measurement locations for SMP 40 were taken between November 2nd and 4th, 2021 and are shown on Figure 4.6-2. A summary of the noise level measurement survey results is provided in Table 4.6-2. SMP

40-LT-1 was placed near the nearest existing warehouse, north of SMP 40 to determine the existing ambient noise levels at the Oaks Business Park. SMP 40-LT-2 was placed on the closest accessible utility pole across from the nearest residential area located east of SMP 40, across Isabel Avenue/SR 84 to determine the existing ambient noise levels at the existing residences. Salter made adjustments, as appropriate, to estimate the change in noise levels from the long-term monitor location to the locations of the nearest residences east of Isabel Avenue/SR 84. The location for the SMP 40 measurements were selected based not only on project setbacks but also on what nearby locations were accessible via public rights-of-way.

Traffic Noise Levels

To estimate traffic noise level increases as a result of development of the proposed project, Salter relied on traffic data provided by TJKM. Specifically, for the SMP 39 noise analysis, Salter relied on the Traffic Impact Analysis (April 4, 2023) prepared by TJKM, and for the SMP 40 noise analysis, Salter relied on traffic volumes provided by TJKM in March 2022. Salter also relied on additional details provided by the applicant regarding the potential hourly distribution of trucks at SMP 40 throughout the 24-hour operation period. As discussed in Chapter 4.8, Transportation, of this EIR, TJKM's Traffic Impact Analysis determined that development of SMP 39 could generate approximately 3,596 daily vehicle trips and development of SMP 40 could generate approximately 1,062 daily vehicle trips. Based on supplemental information provided by TJKM, Salter assumed that 20 percent of the daily vehicle trips would be heavy-duty truck trips, which would result in 719 truck trips per day associated with SMP 39 and 212 truck trips per day associated with SMP 40. According to the Environmental Noise Study prepared by Salter, the increase in cumulative traffic noise levels associated with SMP 39 and SMP 40 combined was based on the peak hour traffic volumes from TJKM for the cumulative without project and cumulative with project scenarios.

Project Operational Noise Levels

Operational noise associated with the proposed project would consist primarily of future loading dock activities, employee vehicle circulation (e.g., parking lot noise), and mechanical equipment (e.g., rooftop HVAC equipment). Each of the aforementioned noise sources were analyzed separately in order to determine the combined total project operational noise levels.

Loading Dock Activity Noise

Operational noise associated with loading dock activities would consist primarily of tractor-trailers accessing the loading dock areas. To estimate loading dock activity noise, Salter referenced recently measured noise levels at a distribution facility elsewhere in California that involved semi-trucks similar in size to those that are expected to access the facilities at SMP 39 and SMP 40. Calculations for resulting noise levels due to on-site truck and employee car trip generation and durations and activities were based on the measurements at the aforementioned local distribution facility with ancillary information provided to Salter for that facility, as well as project-specific traffic data from TJKM, as discussed above.

Based on the site plan for the proposed project and discussions with the applicant, Salter made the following assumptions to estimate future loading dock noise at the SMP 39 site:

- Trucks would enter and exit the SMP 39 site from three driveways from the north off West Jack London Boulevard;
- Non-truck noises associated with loading/unloading activity (i.e., forklifts, rolling doors, carts, pallet crushing, items dropping), would be located near the dock doors and are included in the noise analysis;

- An average truck trip (not including unloading/loading) is estimated to last for a cumulative period of approximately two minutes and would be located at least 930 feet from the property line of the nearest existing industrial building;
- Trucks would occupy the loading dock that is nearest to noise-sensitive receivers, such as the existing industrial buildings, east of Discovery Drive;
- A total of 104 loading docks would be located at the SMP 39 site;
- Based on the project-specific traffic data provided by TJKM, Salter assumed the 719 daily truck trips during a 24-hour period of continuous 24/7 operations at SMP 39 would be distributed as follows:
    - 14 percent of trips would occur during the AM peak hours between 7:00 AM to 9:00 AM;
    - 58 percent of trips would occur between 9:00 AM to 4:00 PM;
    - 16 percent of trips would occur during the PM peak hours between 4:00 PM to 6:00 PM;
    - 10 percent of trips would occur between 6:00 PM to 10:00 PM; and
    - Two percent of trips would occur between 10:00 PM to 7:00 AM.
- The proposed warehouse buildings would have south-facing loading docks, which are recessed approximately 60 feet from the easternmost building's façade, providing substantial shielding for truck operation noise; and
    - This feature would be expected to obstruct the direct line of sight of the loading docks at SMP 39 from the industrial uses to the east, across Discovery Drive.
- Operations at SMP 39 would occur for 24-hours per day;
- A typical truck "trip" at SMP 39 would consist of the following events (estimated sound levels based on measurements at similar facilities):
    - Truck drive-bys (arrival, departure): 69 dBA at 30 feet;
    - Truck airbrakes: 72 dBA at 25 feet;
    - Truck backup alarm: 79 dBA at 30 feet;
    - Brief idle before engine shutoff: 70 dBA at 25 feet;
    - Truck engine ignition and airbrakes: 71 dBA at 25 feet;
    - Truck accelerating from stop: 74 dBA at 25 feet; and
    - Truck trip reference heights: (above grade)
        - Drive-by, brief idle, acceleration, and ignition: eight feet
        - Backup beeper and airbrake: 2.5 feet.

Based on the site plan for the proposed project and discussions with the applicant, Salter made the following assumptions to estimate future loading dock noise at the SMP 40 site:

- Trucks will enter and exit the site from Atlantis Street and Challenger Street, from the north (via Discovery Drive);
- Non-truck noises associated with loading/unloading activity (i.e., forklifts, rolling doors, carts, pallet crushing, items dropping) would be located near the dock doors and are included in the noise analysis;
- An average truck trip (not including unloading/loading) is estimated to last for a cumulative period of about two minutes and be at least 1,025 feet from the nearest residential property line;
- Trucks would occupy the loading dock in their loading area that is nearest to noise-sensitive receivers, such as the residences to the east, across Isabel Avenue/SR 84;
- A total of 130 loading docks would be located at the SMP 40 site, with 68 docks at Building 1 and 62 docks at Building 2;

- Based on the project-specific traffic data provided by TJKM, Salter assumed the 212 daily vehicle trips for SMP 40 would be distributed as follows:
    - 14 percent of trips would occur during the AM peak hours between 7:00 AM to 9:00 AM;
    - 60 percent of trips would occur between 9:00 AM to 4:00 PM;
    - 14 percent of trips would occur during the PM peak hours between 4:00 PM to 6:00 PM;
    - 10 percent of trips would occur between 6:00 PM to 10:00 PM; and
    - Two percent of trips would occur between 10:00 PM to 7:00 AM.
- Building 2 would provide substantial acoustical shielding for most of the operations associated with Building 1. Because of this, Building 1 is not expected to have a meaningful impact on the existing noise environment at the residences, located east of SMP 40, across Isabel Avenue/SR 84;
- Loading docks at Building 2 would be located on the north and south facades and configured to maintain the maximum possible distance away from the residences, located east of SMP 40.
    - The north-facing docks at Building 2 would have a direct line-of-sight to the warehouse to the north.
    - Some shielding would be provided by the perpendicular orientation of the docks at Building 1, which would slightly reduce the overall calculated noise contribution of the loading docks to the industrial uses, north of SMP 40, due to the partial line-of-sight.
- Operations at SMP 40 would occur for 24-hours per day;
- Loading docks not in use on each building would have closed doors; and
- A typical truck “trip” at SMP 40 would consist of the following events (estimated sound levels based on measurements at similar facilities):
    - Truck drive-bys (arrival, departure): 69 dBA at 30 feet;
    - Truck airbrakes: 72 dBA at 25 feet;
    - Truck backup alarm: 79 dBA at 30 feet;
    - Brief idle before engine shutoff: 70 dBA at 25 feet;
    - Truck engine ignition and airbrakes: 71 dBA at 25 feet;
    - Truck accelerating from stop: 74 dBA at 25 feet;
    - Truck trip reference heights: (above grade)
        - Drive-by, brief idle, acceleration, and ignition: eight feet;
        - Backup beeper and airbrake: 2.5 feet; and
        - Topographical site analysis included in the Grading and Drainage Plan for SMP 40 show approximately three feet of terrain shielding between the dock elevation and receivers to the east of Isabel Avenue/SR 84.

Based on the results of the operation noise measurements taken at a local representative loading dock site, Salter estimated that four truck trips would occur during the daytime within a nine-hour timeframe at SMP 40. Salter’s calculations assumed the backup alarms would have a source height of approximately 2.5 feet from grade. Salter’s calculations incorporated the proposed 6-foot-tall berm on the northeast corner of SMP 40 and the 10-foot-tall screening wall along the eastern property line of SMP 40. Salter estimated that the proposed berms would reduce intermittent noise levels (such as those produced by backup alarms) by up to six dB at the closest residents.

Furthermore, to estimate the L_{50} for daytime and nighttime hours at the SMP 40 site, Salter included all of the assumptions outlined above for SMP 40 and assumed that the truck backup alarms would occur more than 15 minutes per hour during the daytime and less than 15 minutes per hour during the nighttime.

Employee Vehicle Circulation Noise

Employee vehicle circulation noise would consist of traffic noise associated with future employees within the designated parking lots. Salter made the following assumptions to estimate employee vehicle circulation noise at SMP 39:

- Employees would enter and exit the SMP 39 site from the three driveways from the north via West Jack London Boulevard;
- Vehicle trips associated with SMP 39 would be split between West Jack London Boulevard and Isabel Avenue per the TJKM report's traffic projections, with 80 percent of project-generated trips occurring along West Jack London Boulevard and 20 percent of project-generated trips occurring along Isabel Avenue/SR 84;
- Once on-site, vehicles would travel an average of 15 miles per hour or less;
- Vehicles would be spread out evenly amongst the parking areas;
- An average vehicle trip would last for a cumulative period of approximately two minutes and would occur at least 900 feet from the nearest industrial property line; and
- Based on the project-specific traffic data provided by TJKM, Salter assumed the employee vehicle trip distribution for SMP 39 would be as follows:
    - 14 percent of trips would occur during the AM peak hours between 7:00 AM to 9:00 AM;
    - 58 percent of trips would occur between 9:00 AM to 4:00 PM;
    - 16 percent of trips would occur during the PM peak hours between 4:00 PM to 6:00 PM;
    - 10 percent of trips would occur between 6:00 PM to 10:00 PM; and
    - Two percent of trips would occur between 10:00 PM to 7:00 AM.

Salter made the following assumptions to estimate employee vehicle circulation noise at SMP 40:

- Employees would enter and exit the SMP 40 site from Atlantic Street and Challenger from the north via Discovery Drive;
- Once on-site, vehicles would travel an average of 15 miles per hour or less;
- Vehicles would be spread out evenly amongst the seven parking areas;
- An average vehicle trip would last for a cumulative period of approximately two minutes and would occur at least 550 feet from the nearest residential property line; and
- Based on the project-specific traffic data provided by TJKM, Salter assumed the employee vehicle trip distribution for SMP 40 would be as follows:
    - 14 percent of trips would occur during the AM peak hours between 7:00 AM to 9:00 AM;
    - 60 percent of trips would occur between 9:00 AM to 4:00 PM;
    - 14 percent of trips would occur during the PM peak hours between 4:00 PM to 6:00 PM;
    - 10 percent of trips would occur between 6:00 PM to 10:00 PM; and
    - Two percent of trips would occur between 10:00 PM to 7:00 AM.

Mechanical Equipment Noise

Based on information provided by the applicant, Salter assumed that the tenant office spaces located at the corner of each warehouse on the SMP 40 site would be mechanically ventilated with typical 5-ton package HVAC units. At the time of preparation of the Environmental Noise Studies, the exact specifications of other outdoor mechanical equipment were not provided. For SMP 39, HVAC and mechanical equipment was assumed to be placed on the building rooftop approximately 850 feet away from the nearest industrial use, Oaks Business Park, to the east, across Discovery Drive. For SMP 40, HVAC and mechanical equipment was assumed to be placed on the building rooftop approximately 884 feet away from the nearest residence to the east, across Isabel Avenue/SR 84.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to noise is based on implementation of the proposed project in comparison with the baseline and standards of significance identified above. It should be noted that development of the Additional Annexation Only Parcels or the SMP 38 site is not proposed as part of the project. As such, the discussions and mitigation measures presented below only apply to the SMP 39 and SMP 40 sites, as well as the off-site trail connection options, unless otherwise stated.

4.6-1 Generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Based on the analysis below and with implementation of mitigation, the impact is *less than significant.*

Construction activities associated with the proposed project would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., backhoes, bulldozers, excavators, front loaders) and other construction equipment (e.g., compactors, scrapers, graders). Construction worker traffic and construction-related material haul trips would raise ambient noise levels along local haul routes, depending on the number of haul trips made and types of vehicles used.

Pursuant to General Plan Policy N-1.5.P4, temporary construction, maintenance, or demolition activities conducted between the hours of 7:00 AM and 8:00 PM are exempt from the noise standards of N-1.5.P1. In addition, construction activities are prohibited during the specific time periods outlined in Section 9.36.080 of the City's Municipal Code; however, pursuant to Section 9.36.110, industrial areas located more than 500 feet from a residential development are exempt from construction noise hour restrictions. Nevertheless, a quantitative discussion related to noise generated during project construction activities is included below.

Due to the substantial distance between SMP 39 and the sensitive noise receptors, it was anticipated that construction noise associated with SMP 39 would be below the City of Livermore's exterior noise level threshold of 60 dBA DNL at the nearest sensitive receptor locations. Thus, construction noise levels for SMP 39 were not evaluated as part of the Environmental Noise Study prepared for SMP 39. Therefore, the following discussion focuses on SMP 40 and the off-site trail connections.

The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. Table 4.6-6 shows maximum noise levels associated with typical construction equipment at a reference level of 50 feet, as well as at 884 feet, which is the distance from the proposed Building 2 on the SMP 40 site to the nearest residences across Isabel Avenue/SR 84.

Table 4.6-6
Typical Construction Equipment Noise at SMP 40

Equipment	Estimated Maximum Instantaneous L_{max} Noise Level (dBA at 50 feet)	Estimated Maximum Instantaneous L_{max} Noise Level (dBA at 884 feet)
Demolition		
Concrete/Industrial Saw	76	19
Excavators	85	28
Rubber-Tired Dozer	85	28
Tractor/Loader/Backhoe	84	27
Site Preparation		
Grader	85	28
Rubber-Tired Dozer	85	28
Tractor/Loader/Backhoe	84	27
Grading/Excavation		
Drill Rig for Shoring Beams (Caisson Drilling)	85	28
Excavators	85	28
Rubber-Tired Dozer	85	28
Tractor/Loader/ Backhoe	84	27
Trenching		
Tractor/Loader/Backhoe	84	27
Excavators	85	28
Building Exterior Construction		
Crane	83	26
Fork Lift	83	26
Generator Sets	81	24
Tractor/Loader/Backhoe	84	27
Welders	73	16
Building Interior Construction/Architectural Coating		
Aerial Lift	83	26
Air Compressors	81	24
Paving/Landscaping/Site Concrete		
Cement and Mortar Mixers	85	28
Paving Equipment	89	32
Rollers	74	17
Tractor/Loader/ Backhoe	84	27

Source: Salter, 2023.

As shown in the table, construction of SMP 40 is predicted to generate noise levels ranging between 16 to 32 dBA L_{max} at the nearest noise-sensitive receptors. As discussed in detail above, for analysis purposes of project construction noise within this EIR, a threshold of significance for the maximum allowable construction noise level at a sensitive receptor has been assumed to be 70 dB L_{max} during daytime hours and 60 dB L_{max} during nighttime hours. Accordingly, the maximum construction noise level of 32 dBA L_{max} associated with SMP 40 would be below the thresholds of significance being applied.

The three potential off-site trail connection options would be located approximately 160 feet, 150 feet, and 200 feet, respectively, west of the nearest single-family residences. The anticipated construction activities required for the trail connection options would use construction equipment anticipated to generate maximum noise levels of up to 85 dB at a distance of 50 feet. As previously noted, stationary noise sources lessen at a rate of approximately six dB per doubling of distance from the source. Therefore, at a distance of 160 feet, construction equipment associated with Trail Connection Option 1 would generate maximum noise levels of up to 75 dB L_{max}; at a distance of 150 feet, construction equipment associated with Trail Connection Option 2 would generate maximum noise levels of up to 76 dB L_{max}; and at a distance of 200 feet, construction equipment associated with Trail Connection Option 3 would generate maximum noise levels of up to 73 dB L_{max}. Thus, construction activities associated with development of the off-site trail connection options would exceed the thresholds of significance being applied of 70 dB L_{max} during daytime hours and 60 dB L_{max} during nighttime hours.

Based on the above, construction-related noise associated with SMP 39 and SMP 40 would not result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. However, while construction activities are temporary in nature and would be exempt during the hours of 7:00 AM to 8:00 PM, construction-related noise associated with the off-site trail connection could result in disturbance to existing noise-sensitive land uses in the project vicinity.

Therefore, construction-related noise associated with the proposed project could be considered to result in generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and impacts would be considered ***significant***.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.6-1 *Prior to issuance of a grading permit for the chosen off-site trail connection option, the project applicant shall prepare a construction noise management plan that identifies measures to be taken to minimize construction noise on surrounding sensitive land uses and include specific noise management measures to be included within the plans and specifications for the trail connection option, subject to review and approval by the City of Livermore Community Development*

Department. The project applicant shall demonstrate, to the satisfaction of the City that the project complies with the following:

- *All heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition.*
- *All mobile or fixed noise producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulations while in the source of project activity.*
- *Where feasible, electrically-powered equipment shall be used instead of pneumatic or internal combustion powered equipment.*
- *All stationary noise-generating equipment shall be located as far away as possible from the nearest residential uses.*
- *Signs prohibiting unnecessary idling of internal combustion engines shall be posted.*
- *The use of noise-producing signals, including horns, whistles, alarms and bells shall be for safety warning purposes only.*
- *The use of temporary sound barriers shall be incorporated along the outer work area of the construction site, east of Isabel Avenue/SR 84. Barrier height and location(s) shall be determined by a qualified acoustical engineer to ensure that the resultant construction noise levels at the nearest residence would meet the applicable standard. The sound barrier fencing shall consist of 0.5-inch plywood or minimum STC 27 sound curtains placed to shield nearby sensitive receptors. The plywood barrier shall be free from gaps, openings, or penetrations to ensure maximum performance.*

4.6-2 Generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Based on the analysis below, the impact is *less than significant.*

The primary sources of operational noise associated with the proposed project would be project-generated traffic noise on local roadways, noise generated from loading dock activities, employee vehicle circulation, and rooftop HVAC equipment. Using the methodology described in the Method of Analysis section above, operational noise levels generated by the proposed project were estimated by Salter and are discussed in the sections below.

Traffic Noise at Existing Noise-Sensitive Receptors

As previously discussed, future development of SMP 39 with up to 755,500 square feet (sf) of new industrial building space, with 104 loading docks, would result in a net increase in 719 daily truck trips, and development of SMP 40 with up to 759,275 sf of

new industrial building space, with 130 loading docks, would result in a net increase in 212 daily truck trips. According to the Environmental Noise Studies prepared for the proposed project, the increase in traffic associated with SMP 39 would result in an increase in existing ambient noise levels of less than 1 dB, and the increase in traffic associated with SMP 40 would result in an increase in existing ambient noise levels of less than 1 dB. The total combined increase in existing ambient noise levels due to project traffic would be approximately 1 to 2 dB, which would result in an increase in existing ambient noise levels at the nearest receptors of less than the 3 dB increase threshold used for this analysis.

Combined Total Project Operational Noise Levels

The calculated combined noise levels associated with project operations are presented in Table 4.6-7.

Table 4.6-7
Project Operational Noise Levels at Noise Sensitive Land Uses (CNEL/DNL, dBA)

Site	Nearby Receiving Locations	Existing Noise Level at Receiver	Loading Dock Activity Noise Level at Receiver	Employee Vehicle Circulation Noise Level at Receiver	Existing Noise Level Plus Project Noise Level	Change
SMP 39	East Property Line (Office and Warehouses Across Discovery Drive)	76	50	32	76	<1
SMP 40	East Property Line (Residences Across Isabel Avenue/SR 84)	67	52	29	67	<1
	North Property Line (Neighboring warehouse)	65	62	34	67	+2

Source: Salter, 2023

According to the Environmental Noise Studies prepared for the proposed project, the rooftop parapets proposed on each building would provide acoustical shielding from any rooftop HVAC equipment to nearby sensitive receptors, as the parapets would break the line-of-sight to the nearest receivers. Therefore, because noise associated with HVAC equipment at the SMP 39 and SMP 40 sites is anticipated to be minimal, HVAC equipment noise has not been included in the combined operational noise levels presented in the table. In addition, although the new off-site trail connection options would provide a connection between SMP 40 and the existing Arroyo Mocho Trail, the improvement is not anticipated to substantially increase recreational use of the existing Arroyo Mocho Trail. Therefore, the new off-site trail connection options would not be expected to increase existing ambient noise levels.

A discussion of noise level increases at the nearest existing sensitive receptors due to operations associated with SMP 39 and SMP 40 are discussed in further detail below.

Existing Industrial Uses Nearest SMP 39

As presented in Table 4.6-7, the existing ambient noise level at the nearest existing industrial uses to the SMP 39 site is 76 dB, which, according to General Plan Policy N-1.1.P4, is conditionally acceptable for industrial uses. The noise-generating sources associated with operation of SMP 39 at the nearest industrial uses would result in a maximum noise level of approximately 76 dBA DNL, which would remain within the conditionally acceptable noise level range for industrial uses, and would not increase the existing ambient level to a normally unacceptable level. In addition, based on the applicable noise level increase significance criterion of 3 dB, the calculated increase in DNL at the industrial use closest to the property line of SMP 39 of 1 dB, as presented in Table 4.6-7, would be considered less than significant.

As previously discussed, in addition to the City's noise standards for DNL, as outlined in General Plan Policy N-1.1.P1, the City's General Plan Policy N-1.5.P1 contains day and nighttime noise standards for L_{50} at sensitive land uses in proximity to industrial uses. It should be noted that due to the substantial distance between SMP 39 and the existing residences, Salter did not estimate daytime and nighttime L_{50} for SMP 39, because the operational L_{50} noise levels are assumed to be below the threshold of 50 dBA during the daytime and 55 dBA during the nighttime for residential uses.

Existing Residential Uses Nearest SMP 40

As presented in Table 4.6-7, the existing ambient noise level at the nearest existing residences to the SMP 40 site is 67 dB, which, according to General Plan Policy N-1.1.P4, is conditionally acceptable for residential uses. The noise-generating sources associated with operation of SMP 40 at the nearest residential uses would result in a maximum noise level of approximately 67 dBA DNL, which would remain within the conditionally acceptable noise level range for residential uses, and would not increase the existing ambient level to a normally unacceptable level. In addition, based on the applicable noise level increase significance criterion of 3 dB, the calculated increase in DNL at the residential use closest to the property line of SMP 40 of less than 1 dB, as presented in Table 4.6-7, would be considered less than significant.

In addition to the City's noise standards for DNL, as outlined in General Plan Policy N-1.1.P1, the City's General Plan Policy N-1.5.P1 contains day and nighttime noise standards for L_{50} at sensitive land uses in proximity to industrial uses. Table 4.6-8 summarizes the estimated daytime and nighttime L_{50} associated with operation of SMP 40 at the nearest residential uses.

Table 4.6-8
SMP 40 Operational L_{50} Noise Levels (dBA)

Time of Day	Estimated L_{50} Value	Allowable L_{50} Value
Daytime (7:00 AM to 10:00 PM)	50 dBA	55 dBA
Nighttime (10:00 PM to 7:00 AM)	35 dBA	50 dBA

Source: Salter, 2023.

Backup alarms associated with operations at the SMP 40 site during the nighttime are predicted to occur less than 15 minutes per hour; therefore, consistent with General Plan Policy N-1.5.P2, the criterion can increase by 5 dBA and the allowable L_{50} value for nighttime noise levels is increased from 35 dBA to 50 dBA. Because backup alarms would occur more than 15 minutes per hour during the daytime, the allowable L_{50} value for daytime noise levels would remain 55 dBA.

As presented in Table 4.6-8, Salter estimated the combined total operational L_{50} noise levels associated with SMP 40 at the nearest residential uses would be 50 dBA during the daytime and 35 dBA during the nighttime. Although backup alarms could be audible from the residences, the project would not exceed the L_{50} threshold of 55 dBA during the daytime or 50 dBA during nighttime hours. Furthermore, quieter backup alarms (aka "squawkers") are becoming more prevalent in delivery vehicles for various large e-commerce websites, and other vendors and may be used by trucking operators visiting the project site in the future; therefore, beeper noise has the potential to be reduced further from what is anticipated and presented herein.

Overall, operation of SMP 40 would not result in a combined noise level in excess of the applicable City General Plan noise standards at the nearest residential receptor during project operations.

Existing Industrial Uses Nearest SMP 40

As presented in Table 4.6-7, the existing ambient noise level at the nearest existing industrial uses to the SMP 40 site is 65 dB, which, according to General Plan Policy N-1.1.P4, is within the normally acceptable range for industrial uses. The noise-generating sources associated with operation of SMP 40 at the nearest industrial uses would result in a maximum noise level of approximately 67 dBA DNL, which would remain within the normally acceptable noise level range for industrial uses. In addition, based on the applicable noise level increase significance criterion of 3 dB, the calculated increase in DNL at the industrial use closest to the property line of SMP 40 of 2 dB, as presented in Table 4.6-7, would be considered less than significant.

Conclusion

Based on the above, the proposed project would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.6-3 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Based on the analysis below, the impact is *less than significant*.

According to the Environmental Noise Studies conducted for SMP 39 and SMP 40, operations associated with SMP 39 and SMP 40 are not expected to generate significant amounts of groundborne noise or vibration. Therefore, the only source of

vibration associated with the proposed project would be construction activities at the SMP 39 and SMP 40 sites.

Project construction may include grading, excavation, paving, and building construction activities that would involve the use of heavy equipment such as concrete saws and rolling stock equipment (tracked vehicles, compactors, etc.). Heavy equipment would also be used during construction activities associated with the off-site trail connection. Use of heavy equipment associated with such would generate localized vibration in the immediate vicinity of the project site and off-site trail connection area. The aforementioned construction activities would have the potential to result in varying degrees of temporary ground vibration depending on the specific construction equipment used and operations involved. Project construction would use typical construction equipment and would not require activities or equipment that would be significant sources of vibration such as pile driving or blasting. Construction vibration levels associated with typical construction equipment at a reference distance of 50 feet are presented in Table 4.6-9 below.

Table 4.6-9
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 50 feet (in/sec)
Vibratory Roller	0.049
Hydraulic Breaker	0.03 to 0.08
Large Bulldozer	0.03
Loaded Trucks	0.03
Excavator	0.03
Caisson/pier drilling	0.03
Jackhammer	0.01
Small Bulldozer	0.001
Crane, Forklift, Bobcat	No significant vibration

Source: Salter, 2023.

Based on the vibration levels shown in Table 4.6-9, construction equipment anticipated for the proposed project would result in vibration levels less than the 1.0 PPV for transient events and 0.50 PPV for continuous events threshold of damage to buildings, as presented in Table 4.6-5, at distances of 50 feet. The nearest sensitive receptors include residences to the east, across Isabel Avenue/SR 84, which are located approximately 884 feet from the closest proposed building at the SMP 40 site. Therefore, the proposed project would not cause structural damage to structures on adjacent properties. In addition, project construction is expected to result in vibration levels within the barely/slightly perceptible range, as presented in Table 4.6-4. Therefore, vibration associated with construction of the proposed project would not cause annoyance to sensitive receptors.

In addition, the minimal construction associated with the on-site trail connection improvement is not anticipated to be a substantial source of construction vibration. Given the distance of the project site from the residences, construction vibrations associated with the SMP 39 and SMP 40 site, as well as the off-site trail connection, are not expected to cause any damage to existing structures or cause annoyance to sensitive receptors. Based on the construction equipment to be used and the distance from construction activities to the nearest structures and receptors, vibration

associated with the proposed project would not be a concern. Additionally, construction activities would be temporary in nature. Therefore, the proposed project would not result in the generation of excessive groundborne vibration or groundborne noise levels, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.6-4 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose persons residing or working in the project area to excessive noise levels. Based on the analysis below, the impact is *less than significant*.

The nearest airport to the project site is the Livermore Municipal Airport, located approximately 100 feet north of SMP 39, and approximately 3,500 feet northwest of SMP 40. The entire project site is included within the Livermore Municipal Airport ALUCP, and is located within the Airport Protection Area boundaries and the AIA boundaries (see Figure 4.6-3).[6]

As shown on Figure 4.6-3, SMP 39 is located inside the 60 and 65 CNEL noise contours. SMP 40 is located outside of the noise contours. According to Table 3-1 of the ALUCP, industrial uses are compatible within the 55 and 60 CNEL contours and are conditionally compatible with the 65 CNEL noise contour. According to the ALUCP, conditional uses must have added sound attenuation as necessary to meet the interior noise level standards indicated in Table 3-1; however, the ALUCP notes that standard construction methods are normally sufficient. In addition, the ALUCP states that for conditional uses, the CNEL is acceptable for outdoor activities, although some noise interference may occur, and caution should be exercised with regard to noise-sensitive uses, which do not typically include industrial uses.

Given that SMP 39 is within the 55-65 dB areas and SMP 40 is outside of the ALUCP's noise contours, development of the proposed project with industrial uses would not conflict with the Livermore Municipal ALUCP, or expose people residing or working in the project area to excessive noise levels. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the

[6] Alameda County Community Development Agency. *Livermore Municipal Airport Land Use Compatibility Plan* [Figure 3-1]. August 2012.

change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The following discussion of noise impacts is based on the implementation of the proposed project in combination with buildout of the adopted City of Livermore General Plan. For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.6-5 Generation of a substantial permanent increase in ambient noise levels associated with development of the proposed project in combination with buildout of the City of Livermore General Plan. Based on the analysis below, the project's incremental contribution to this cumulative impact is *less than cumulatively considerable*.

Future development projects within the General Plan area would incrementally affect the future cumulative ambient noise environment. The City's General Plan EIR determined that implementation of the General Plan would increase traffic noise levels along some road segments by over four dB, potentially exposing residences and other land uses to excessive noise. The General Plan EIR determined that the projected 2025 traffic noise levels along the nearest roadway segment to the project site, Isabel Avenue/SR 84 between West Jack London Boulevard and Stanley Boulevard, would experience a traffic noise increase of more than four dBA and would be potentially significant. As such, the adopted General Plan EIR concluded that despite the General Plan's goals and policies to minimize effects of development on traffic noise, implementation of the adopted General Plan would result in a significant and unavoidable cumulative impact on noise.

However, as further discussed in Chapter 5 of this EIR, CEQA Guidelines Section 15064(h)(5), states, "[…] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Stationary noise from reasonably foreseen development projects in the vicinity of the proposed project would increase existing ambient noise levels; however, future development in the project vicinity is not anticipated. Thus, any increase to the future cumulative ambient noise environment would be the result of future traffic noise on the local roadway network rather than increases in stationary noise.

As noted previously, the increase in cumulative traffic noise levels associated with SMP 39 and SMP 40 combined was calculated based on the peak hour traffic volumes under the cumulative without project and cumulative with project scenarios. According to the Environmental Noise Study, the total combined increase in cumulative ambient noise levels due to project traffic would be up to 2 dB, which would be below the 3 dB increase threshold used for this analysis. Therefore, the increase in traffic noise due to the proposed project under cumulative conditions would not be considered significant.

The above discussion provides evidence that, while the combined effects of traffic noise resulting from approved/planned development throughout the City of Livermore General Plan Area could be considered significant, the proposed project's incremental contribution to the significant cumulative effect would be considered ***less than cumulatively considerable***.

Mitigation Measure(s)

None required.

4.7 Public Services, Utilities, and Service Systems

4.7 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS

4.7.1 INTRODUCTION

The Public Services, Utilities, and Service Systems chapter of the EIR summarizes the setting information and identifies potential new demands resulting from the proposed project on public services and utilities, including fire protection and law enforcement services, as well as water, sanitary sewer, electric power, natural gas, telecommunication, and solid waste disposal services. The chapter evaluates the sufficiency of water supplies to meet the project's water demand and assesses the adequacy of the wastewater treatment system required to serve the project. Pursuant to Section XV of CEQA Guidelines Appendix G, potential impacts to public services are identified if the proposed project would require the development of new facilities or expansion of existing facilities, the construction of which could have adverse physical effects on the environment. Information for the Public Services, Utilities, and Service Systems chapter related to water supply and sewer conveyance was primarily drawn from the Water Supply Assessment (WSA) (see Appendix L of this EIR)[1] and Airport Lift Station Analysis (see Appendix M of this EIR)[2] prepared, respectively, for the proposed project by West Yost Associates. In addition, information was sourced from the City of Livermore General Plan,[3] the associated General Plan EIR,[4] and the City of Livermore General Plan Update Existing Conditions Report prepared as part of the City's current 2045 General Plan Update.[5]

It should be noted that the potential for the proposed project to result in the need for new or expanded school, park, and other public facilities was evaluated in Section XV, Public Services, of the Initial Study prepared for the proposed project, and impacts related to such were determined to be less than significant (see Appendix A of this EIR). Thus, the aforementioned topics/public services are not discussed further in this chapter. In addition, impacts related to wildfire were addressed in Section XX, Wildfire, of the Initial Study, and found to be less than significant. Impacts related to groundwater supplies, recharge, and quality, and stormwater drainage facilities are addressed in Chapter 4.5, Hydrology and Water Quality, of this EIR.

4.7.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing fire and law enforcement services in the project vicinity, as well as the existing utilities and service systems in the project area, including water supply, wastewater conveyance and treatment, solid waste, and gas, electric, and telecommunication infrastructure.

As discussed in the Project Description chapter of this EIR, neither the SMP 38, nor the Additional Annexation Only Parcels located east of SMP 40, would be developed as part of the proposed

1 West Yost Associates. *SMP-38, SMP-39 and SMP-40 Water Supply Assessment*. June 2023.
2 West Yost Associates. *Technical Memorandum: Airport Lift Station Analysis*. September 15, 2022.
3 City of Livermore. *General Plan 2003-2025*. Adopted February 9, 2004.
4 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038)*. June 2003.
5 City of Livermore. *City of Livermore General Plan Update Existing Conditions Report*. March 2022.

project. Accordingly, the following sections provide further details regarding the existing environmental setting occurring in relation to SMP 39 and SMP 40.

Fire Protection Services

The SMP 39 and SMP 40 sites are currently located within the unincorporated portion of Alameda County, which is provided fire protection services by the Alameda County Fire Department. Upon annexation into the City of Livermore, the sites would be served by the Livermore-Pleasanton Fire Department (LPFD) Joint Powers Authority (JPA).

The City of Livermore is provided fire prevention, fire suppression, emergency medical care, rescue services, and public education services by the LPFD, whose services are divided between the cities of Livermore and Pleasanton through a cost-sharing plan that enables each City to pay its fair share of operating expenses. The Livermore and Pleasanton Fire Departments consolidated through a JPA in 1996. The cities build and maintain their own fire stations and purchase and maintain their own light-duty vehicles and fire apparatus. The LPFD is an "all-risk" department that provides response to all types of fires, medical emergencies, rescues, and hazardous material incidents. In addition to fire and emergency response, LPFD also participates in development activities in the City by reviewing development projects and inspecting new construction and tenant improvements through the LPFD Fire Prevention Division.

The LPFD is organized into three branches: Administration, Fire Prevention, and Emergency Operations. The Administration branch includes the Office of the Fire Chief, the Finance Division, and the Disaster Preparedness Division. The Finance Division partners with the Finance Departments of both Livermore and Pleasanton to oversee the LPFD budget, including tracking and reporting on all revenues and expenses, developing long-term budget forecasts, and presenting finance information to departmental and City personnel. The Fire Prevention Division focuses on risk reduction to the community through a performance-based approach and application of applicable State and local codes and laws pertaining to fire, hazardous materials, and use of buildings and facilities. In addition, the Fire Prevention Division is responsible for the enforcement of applicable codes and standards, including those related to fire protection and suppression systems, hazardous materials inventory reporting, aboveground and underground storage of petroleum products, and community fire education programs.

Currently, the LPFD maintains 10 fire stations, five of which are located within Livermore, and is staffed by approximately 121 fire suppression staff. The LPFD operates eight engine companies and two truck companies.[6] Each fire engine or truck is staffed with at least one paramedic, which allows the department to provide first responder advanced life support services. The LPFD headquarters is located at 3560 Nevada Street in Pleasanton. The LPFD seeks to respond to fire incidents and medical emergencies within seven minutes from receipt of the call by the dispatch center at least 90 percent of the time. In 2020, the LPFD had a compliance rate of 72 percent; LPFD has indicated that more staffing, additional stations, changes to the deployment model, and more equipment could decrease the response times.[7]

The overall LPFD service area consists of 49.45 square miles. Within the City of Livermore, the LPFD provides core services to approximately 89,000 residents over an area of 26 square miles. During 2020, the LPFD responded to 13,544 total incidents across its service area. Of the total,

[6] Livermore-Pleasanton Fire Department. *Year End Report – 2020*. 2020.
[7] City of Livermore. *City of Livermore General Plan Update Existing Conditions Report* [pg. 17-10]. March 2022.

7,579 were in the Livermore service area and were comprised by 4,922 emergency medical incidents, 314 fires, 164 hazmat and/or hazardous conditions incidents, and 2,179 other incidents (i.e., service requests, false alarms, good intent responses, and canceled enroute incidents).[8] Station 10 is the nearest LPFD station to the project site, located 0.43-mile to the north of the SMP 39 site at 330 Airway Boulevard.

The LPFD provides contract and automatic aid outside the cities of Livermore and Pleasanton within Alameda County and adjacent areas. The LPFD also provides reimbursed mutual aid at State of California and federal incidents.

The City of Livermore funds its portion of the LPFD budget through the City's General Fund, which in turn, is funded through various sources of revenue, including, but not limited to, property taxes, local sales taxes, franchise taxes, business license taxes, and license and permit fees.[9] Fees for the City of Livermore are contained in the City's Master Fee Schedule, which is annually adjusted on July 1st. In addition, as noted in the City's Capital Improvement Plan, LPFD facility repair and rehabilitation projects are generally funded by the City's Facility Rehabilitation Fee.[10] Combined, the City's General Fund and Facility Rehabilitation Fee finance the LPFD facilities, apparatus, and equipment necessary to maintain adequate service levels. As discussed further in Section 4.7.3, Regulatory Context, of this chapter, General Plan Policies INF-6.1.P2 and INF-6.1.P5 establish the City's commitment to ensuring the LPFD has the necessary levels of facilities, apparatus, equipment, and staffing.

Law Enforcement Services

The SMP 39 and SMP 40 sites are currently located within the unincorporated portion of Alameda County, which is provided law enforcement services by the Alameda County Sheriff's Office. Upon annexation into the City of Livermore, the sites would be served by the City of Livermore Police Department (LPD).

The LPD operates one station, located in the Civic Center at 1110 South Livermore Avenue. The LPD is supported by 95 sworn officers, 50.5 professional staff members, and more than 100 volunteers.[11]

According to the City's General Plan Update Existing Conditions Report, the LPD operates through an Area Policing model. The model is often used by public safety agencies to expand their community policing efforts by assigning patrol personnel to a geographic area known as "Area Commands" for extended periods of time. Area Commands are larger than the traditional beat area. A command-level officer, known as an Area Commander, is typically assigned to each area and responsible for understanding the issues specific to their Area Command. Livermore is comprised of four Area Command Districts. The SMP 39 and SMP 40 sites are contiguous with District 1.

LPD is organized into two divisions: Support Services and Operations. The Support Services Division is comprised of various components, including the Communication Center, Records Unit, Animal Control Unit, Training Unit, Business Services, Information Technology Unit, Volunteer and Reserve Officers, and Explorer Units. The Operations Division consists of the Patrol Bureau,

8 Livermore-Pleasanton Fire Department. *Year End Report – 2020*. 2020.
9 City of Livermore. *Financial Plan Update, Fiscal Years 2021-22 & 2022-23*. Adopted June 13, 2022.
10 City of Livermore. *Fiscal Years 2021-23, Capital Improvement Plan*. 2021.
11 City of Livermore. *City of Livermore General Plan Update Existing Conditions Report* [pg. 17-12]. March 2022.

Traffic, Criminal Investigations Bureau (CIB), Special Operations Unit (SOU), and School Resource Officer (SRO). The Patrol Bureau is the largest division of the LPD and is made up of uniformed officers who patrol the City of Livermore in traditional black-and-white police vehicles. The Patrol Bureau, in addition to assigned patrol tasks, officers, and supervisors, are also assigned supplemental duties (i.e., K-9 Unit, the Tactical Operations Unit, and the Force Options Unit). As of October 2021, the ratio of LPD employees to population is 1.6 employees per 1,000 residents and 1.0 officers per 1,000 residents. Although the LPD has indicated the staffing ratios are currently acceptable, the LPD anticipates growth from future development projects to potentially require an increase in staffing by at least three officers and one professional staff per year.[12]

In 2020, the LPD received 56,317 emergency and non-emergency calls.[13] Approximately 73 percent were non-emergency and 27 percent were emergency calls. LPD prioritizes the response to calls based on the following factors:

- Priority 1 indicates a response is immediate; red lights and sirens are authorized. Either a serious crime is in progress or just occurred, a serious injury accident has taken place, or a crime where a citizen is detaining a suspect with a potential for violence is transpiring.
- Priority 2 calls are urgent, but do not authorize lights and sirens unless specific expectations are noted. The calls may include any non-serious crimes in progress.
- Priority 3 calls are routine and may hold depending on higher-priority needs.

Table 4.7-1 shows the 2020 (January to December) and 2021 (January to September) average response times for Priority 1, 2, and 3 calls in minutes and seconds. Although response times for all three types of priority calls have increased from 2020 to 2021, according to the City's General Plan Update Existing Conditions Report, the LPD response times are currently acceptable.

Table 4.7-1
Livermore Police Department 2020-2021 Average Response Time

Priority	Average Response Time	
	2020	2021
1	5 minutes 6 seconds	7 minutes 11 seconds
2	12 minutes 21 seconds	15 minutes 24 seconds
3	36 minutes 35 seconds	50 minutes 2 seconds

Source: City of Livermore General Plan Update Existing Conditions Report, 2022.

In addition, police services are provided outside of the City limits by the Alameda County Sheriff's Office. In the instance that an unusual occurrence becomes or is beyond the control of the LPD, the LPD's Chief of Police or a designee may request mutual aid from the Operational Area Law Enforcement Coordinator, also known as the Alameda County Sheriff.

The LPD is funded primarily through the City's General Fund. As previously discussed, the General Fund is funded through various sources of revenue, including, but not limited to, property taxes, local sales taxes, franchise taxes, business license taxes, and license and permit fees. Fees collected from the aforementioned sources finance the LPD facilities, apparatus, and equipment necessary to maintain adequate service levels. As discussed further in Section 4.7.3,

[12] *Ibid*.
[13] City of Livermore. *City of Livermore General Plan Update Existing Conditions Report* [pg. 17-14]. March 2022.

Regulatory Context, of this chapter, General Plan Policy INF-5.1.P3 establishes the City's commitment to ensuring the LPD has the necessary levels of facilities, equipment, and staffing. Pursuant to the City's General Plan Update Existing Conditions Report, the LPD has indicated the need for 44,000 square feet (sf) of space for additional storage, training, and office facilities over the next decade. A March 2020 Police Facility Analysis Report recommended a three-phase project to meet the foregoing LPD facilities and equipment deficiencies. The first two phases of the project are already included in the City's Fiscal Year 2023-2028 Capital Improvement Plan as Police Facility Expansion, Project No. 200028, for which the City has allocated a total of $220,000.[14]

Water Supply and Delivery Infrastructure

The City of Livermore receives potable water and raw water from a number of different sources. The Zone 7 Water Agency provides wholesale water for the entire Tri-Valley, including the cities of Livermore, Pleasanton, Dublin, and, through special agreement with the Dublin San Ramon Services District, to the Dougherty Valley area. Zone 7 Water Agency anticipates providing all of Livermore's water over the next 20 years. The Zone 7 Water Agency manages the Livermore Valley Groundwater Basin and is the designated Groundwater Sustainability Agency (GSA) for the basin in accordance with the Sustainable Groundwater Management Act (SGMA) (discussed further in Chapter 4.5, Hydrology and Water Quality, of this EIR).

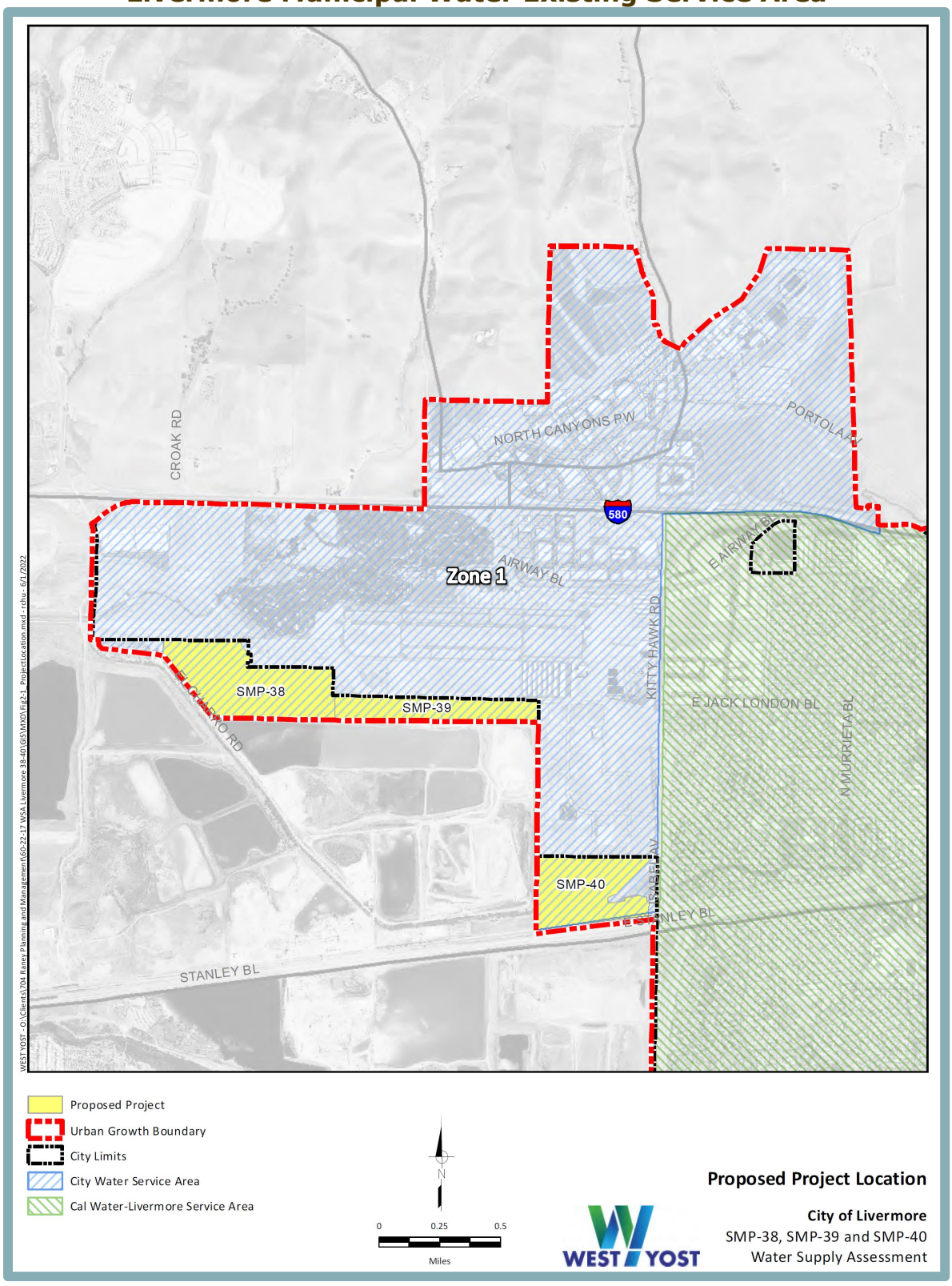
The California Water Service (Cal Water), a private utility company that serves districts throughout the State, and Livermore Municipal Water (LMW), the City's water utility, purchase water from the Zone 7 Water Agency and provide service to customers within the City limits. Cal Water provides water to the City's downtown, central, and southern regions. LMW serves the northwest, northeast, and east portions of the City limits. LMW and Cal Water own the distribution water pipes in their respective service areas and are in charge of maintenance.

According to the City of Livermore Water Master Plan, LMW's water service area consists of three water service area zones within the City's urban growth boundary (UGB): the Zone 1 Water Service Area on the west side of the City, which encompasses 2,530 acres, and the Zone 2 and Zone 3 Water Service Areas on the east side of the City, which encompass 5,740 acres.[15] In total, the water service area zones encompass approximately 8,270 acres, or about 13 square miles. As shown in Figure 4.7-1, the SMP 38, 39, and 40 sites are within the Zone 1 Water Service Area.

The Zone 7 Water Agency acquires more than 80 percent of its raw water supply from the California State Water Project (SWP), a multi-purpose water storage and delivery system comprised of canals, pipelines, reservoirs, and hydroelectric power facilities that extends more than 705 miles.[16] SWP surface water is treated at the Patterson Pass Water Treatment Plant (PPWTP) and the Del Valle Water Treatment Plant (DVWTP) and conveyed through a network of Zone 7 Water Agency transmission pipelines to the City's service areas and other retail customers.

[14] City of Livermore. *Fiscal Year 2023-2028 5-Year Capital Improvement Plan*. 2023.
[15] City of Livermore. *City of Livermore Water Master Plan* [pg. 2-1]. December 2017.
[16] California Department of Water Resources. *State Water Project*. Available at: https://water.ca.gov/programs/state-water-project. Accessed May 2023.

Figure 4.7-1
Livermore Municipal Water Existing Service Area



The quantity of water available from Zone 7 Water Agency's supply sources varies annually depending on hydrologic conditions. Table 4.7-2 summarizes the estimated water supply from each source in acre-feet per year (AFY), based on normal, single dry, and multiple dry year conditions. Further details regarding how Zone 7 Water Agency determines water supply during the foregoing hydrologic conditions is provided in the Method of Analysis section below.

Table 4.7-2
Estimated Water Supply from Zone 7 Water Agency Sources

Water Source	Yield (AFY)		
	Normal Year	Single Dry Year	Five Consecutive Dry Years
SWP – Table A[1]	43,500	4,000	8,100-54,000
SWP – Carryover[2]	10,000	15,500	1,800-15,500
Water Transfers[3]	5,000	5,000	5,000
Arroyo Valle	5,500	0	1,500-1,700
Sites Reservoir[4]	10,000	15,300	15,800-17,700
BARDP and/or Potable Reuse[5]	5,000	5,000	5,000
From Storage			
Main Basin[6]	29,200	27,600	9,700-27,600
Semitropic[7]	13,000	6,500	10,000-10,100
Cawelo[7]	9,700	7,100	9,700
Chain of Lakes[8]	10,100	8,300	5,200-8,800

1 Based on 2040 future SWP reliability Table A allocations.
2 Zone 7's operational target is typically 10,000 AF for normal years.
3 Zone 7 is pursuing water transfer agreements for the period through 2030. Annual amounts may vary, but variability has not been quantified.
4 Supplies from Sites Reservoir are assumed to be available by 2030.
5 Supplies from the sources are assumed to be available by 2030.
6 The projections include estimated supplies, not necessarily what would be pumped. Zone 7's typical operational target is around 9,200 AF for normal years.
7 Semitropic and Cawelo supplies are typically not used during normal years.
8 The Chain of Lakes Pipeline, which provides access to water stored in the Chain of Lakes, is assumed to be completed around 2025. Water stored in the Chain of Lakes is assumed to be available by 2030 and would not be used during normal years.

Source: West Yost Associates, 2023.

The City receives potable water from the Zone 7 Water Agency by way of seven active turnouts, which divert water from the Zone 7 Water Agency transmission pipelines into the LMW's water system. The City additionally contains two inactive turnouts. The Zone 1 Water Service Area receives water from Turnouts 5 and 9 (and can also receive water from Turnout 11). From the turnouts, potable water enters into City Pressure Zones 605, 638, 670 and 800, from which water is then distributed into the City's other pressure zones. Pump stations are required to fill storage tanks and provide adequate pressure within the LMW's distribution system by transferring water from the City's turnouts to the various pressure zones. The City operates the five pump stations based on the water levels in storage reservoirs to which the stations pump. Water is then distributed through approximately 190 miles of distribution pipelines in the City's potable water system that range in size from two inches to 24 inches in diameter. Within the project vicinity, an existing 12-inch potable water line is within West Jack London Boulevard. In addition, existing water lines are within Atlantis Street and Challenger Street to the north of SMP 40.

The City also produces and distributes recycled water from the Livermore Water Reclamation Plant. Recycled water is provided to commercial and industrial customers within the City's Zone 1 Water Service Area for the following primary uses: landscape and agricultural irrigation, construction, street sweeping, and irrigation use at the Las Positas College and Las Positas Golf Course. In addition, recycled water is provided for limited fire protection use, as well as toilet and urinal flushing uses within the City's Zone 1 Water Service Area. The City's recycled water program is relatively well-developed and distributes an average of two million gallons per day (mgd) of recycled water within the Zone 1 Water Service Area. The City includes approximately 22 miles of distribution pipelines in the City's recycled water system that range in size from two inches to 42 inches in diameter.

Water Supply and Demand

Table 4.7-3 summarizes the LMW's current and projected water supplies and demands in AFY under normal year conditions, as detailed in Tables 5-4 and 4-1, respectively, of the WSA, which incorporates projections from the City of Livermore 2020 Urban Water Management Plan (UWMP).[17] As presented in the City's 2020 UWMP, the LMW's projected potable water supplies from Zone 7 Water Agency are assumed to equal projected potable water demands, while projected recycled water supplies are assumed to equal projected recycled water demands. As detailed in the City's 2020 UWMP, projections are developed based on expected retailer demands on Zone 7 Water Agency from an analysis conducted by Zone 7 Water Agency. Projected retailer demands were based on 2020 deliveries, retailer delivery requests for 2022 to 2025, and projected buildout demands. Retailers, including LMW, submit five-year delivery requests to Zone 7 Water Agency annually, and the requests form the basis of Zone 7 Water Agency's contractual obligations. LMW's 2022 to 2025 delivery requests, therefore, make up the Zone 7 Water Agency's projections for LMW water usage for 2022 to 2025. Demand projections for 2026 through 2040 are linearly interpolated between the 2025 delivery request and the estimated buildout demand. The projected water supplies and demand during single-dry and five consecutive multiple-dry years are presented in Table 4.7-7 under Impact 4.7-4 below.

Table 4.7-3
Livermore Municipal Water Existing and Projected Future Water Supplies and Demand (AFY)

Water Source	2020	2025	2030	2035	2040	2045
Potable Water from Zone 7	6,549	6,445	6,613	6,779	6,945	6,945
Recycled Water	2,179	1,890	1,949	2,004	2,059	2,059
Total	8,728	8,335	8,562	8,783	9,004	9,004

Source, West Yost Associates, 2023.

Wastewater Conveyance and Treatment

Pursuant to the City's General Plan Update Existing Conditions Report, the City of Livermore's wastewater collection and treatment system consists of over 300 miles of sewer pipes, three miles of force mains, 7,000 cleanouts and manholes, and about 30,000 sewer service connections citywide.[18] The 30,000 sewer connections are comprised predominantly of approximately 2,700 permitted residential laterals, which include a two-way cleanout near the curb, and another 27,000 laterals. The collection pipes are composed primarily of polyvinyl chloride (PVC) and vitrified clay pipe (VCP) materials, which includes more than 90 percent of the pipes in the City's sewer system.

[17] City of Livermore. *2020 Urban Water Management Plan*. June 28, 2021.
[18] City of Livermore. *City of Livermore General Plan Update Existing Conditions Report* [pg. 18-20]. March 2022.

The City's system also includes four lift stations and two siphons. The project vicinity is served by the Airport Lift Station located north of West Jack London Boulevard to the north of the SMP 39 site, which, according to the 2017 Sewer Master Plan, has two pumps, each with a capacity of 1,145 gallons per minute (gpm), which equates to a firm capacity of 1,145 gpm. However, the City has indicated that a field test performed in 2020 showed that the two pumps have capacities of 1,096 and 1,092 gpm, which equates to a lift station firm capacity of 1,092 gpm. Currently, 1,023 feet of the Airport Lift Station force main is eight inches in diameter, and 4,300 feet of the force main is 10 inches in diameter.

The sewage generated within the City limits is typically collected and then routed for treatment at the Livermore Water Reclamation Plant, which is located within the project vicinity, northwest of the intersection of Isabel Avenue/SR 84 and West Jack London Boulevard. The Livermore Water Reclamation Plant is owned and maintained by the City's Water Resources Division. Following treatment, effluent is either used as recycled water or sent to the Livermore Amador Valley Water Management Agency (LAVWMA) to be routed to and disposed of in the San Francisco Bay by way of a deep-water outfall.

The Livermore Water Reclamation Plant was originally constructed in 1958 with a capacity of 2.5 mgd average dry weather flow. Four major plant expansions and/or modifications have occurred since 1958 to match influent flow increases and changing discharge regulations. The last major expansion occurred in 1991. The Livermore Water Reclamation Plant is currently designed to treat 8.5 mgd average daily flow and current daily flow is 5.5 mgd. According to the Airport Lift Station Analysis, the influent pumps at the Livermore Water Reclamation Plant have a pumping limit of approximately 12 mgd. The Livermore Water Reclamation Plant is equipped with an influent holding basin that would be used in the event that influent flows exceed the 12 mgd pumping limit of the Livermore Water Reclamation Plant influent pumps, with any flows above 12 mgd directed straight to the holding basin.

In addition, the City's allocated peak wet weather capacity in the LAVWMA system increased from 8.728 mgd to 12.4 mgd in 2005 after Livermore voters approved participation in the LAVWMA expansion project. Since then, LAVWMA has completed major expansion projects, including a wastewater pump station at the Livermore Water Reclamation Plant and construction of a new export pipeline between the Pleasanton pump station and the San Francisco Bay. With the expanded capacity, the City's General Plan Update Existing Conditions Report notes that the City has adequate wastewater disposal capacity to meet the buildout sewer flow of the currently adopted General Plan.[19]

Solid Waste

Solid waste, recyclable materials, and compostable material collection within the City of Livermore is provided through a franchise agreement with Livermore Sanitation, Inc. Recyclables collected and processed by Livermore Sanitation, Inc. are bundled and transported to recycling centers. Solid waste from the City is ultimately disposed of at the Republic Services Vasco Road Landfill, located at 4001 North Vasco Road. Pursuant to the California Department of Resources Recycling and Recovery (CalRecycle), the Republic Services Vasco Road Landfill is permitted to accept a maximum of 40,207,100 cubic yards of waste.[20] The landfill has a remaining capacity of

[19] City of Livermore. *City of Livermore General Plan Update Existing Conditions Report* [pg. 18-20]. March 2022.
[20] California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details Vasco Road Sanitary Landfill (01-AA-0010)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/9?siteID=8. Accessed May 2023.

11,560,000 cubic yards and is anticipated to cease operations by 2051. In addition, the Vasco Road Landfill retains ownership of 102 additional acres of land that has been set aside to facilitate future expansion of the landfill, if required.

The City of Livermore administers a variety of waste reduction and recycling programs to divert the amount of waste transported to the Republic Services Vasco Road Landfill, including curbside recycling, commercial recycling, commercial and residential organics recycling, school waste programs, green waste disposal options, and universal waste recycling.

Gas, Electric, and Telecommunication Infrastructure

Pacific Gas and Electric Co. (PG&E) provides electricity within the Livermore area. Most of Livermore's electric power is delivered by way of a 230-kilovolt (kV) transmission line, which originates from the Contra Costa Power Plant just north of the City of Antioch. Power is then distributed to local substations, which reduce the power to a lower voltage. PG&E operates several 69-kV electrical substations within and in the vicinity of Livermore, including the Livermore Substation near the Stanley Boulevard/First Street intersection, the Las Positas Substation near First Street/Interstate 580 (I-580) interchange, and the Vasco Substation south of I-580 and east of Vasco Road. The Livermore Substation supplies electricity to customers in the Central Livermore area. The Las Positas Substation serves customers in the City of Livermore and surrounding unincorporated areas of Alameda County. The Vasco Substation serves customers in the area east of Vasco Road.

In addition, PG&E supplies natural gas to residential, commercial, and industrial customers in Livermore. PG&E has several natural gas pipelines that traverse the east Alameda County area and five oil pipelines that traverse the northeastern portion of the County. The City is supplied natural gas through three main pipelines. A 24-inch natural gas pipeline main traverses the City from the southwest to the northeast. Natural gas pipeline mains, 36 and 22 inches in diameter, enter the City limits north of Vasco Road and extend south until reaching Tesla Road, where the pipelines proceed west through the City. PG&E also maintains six natural gas regulator stations within the City that reduce gas pressure, prior to urban use distribution.

Telecommunications infrastructure in the area is provided by AT&T. Existing electrical and telecommunication distribution lines are located along Isabel Avenue/State Route (SR) 84 and West Jack London Boulevard in the project vicinity.

4.7.3 REGULATORY CONTEXT

The following discussion contains a summary of regulatory controls pertaining to public services and utilities, including State and local laws and ordinances.

Federal Regulations

The federal environmental laws and policies relevant to public services and utilities are primarily related to water quality, which is addressed in Chapter 4.5, Hydrology and Water Quality, of this EIR.

State Regulations

The following are applicable State regulations associated with public services and utilities related to the proposed project.

Uniform Fire Code

The Uniform Fire Code with the State of California Amendments contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code (CFC) include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 15000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Code [CBC]), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California Green Building Standards Code

The 2022 California Green Building Standards Code, otherwise known as the CALGreen Code (California Code of Regulations [CCR] Title 24, Part 11) is a portion of the California Building Standards Code (CBSC), which became effective on January 1, 2023. The CBSC is adopted every three years by the Building Standards Commission (BSC).

The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CALGreen standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the current CALGreen Code include, but are not limited to, the following measures:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' (DWR's) Model Water Efficient Landscape Ordinance (MWELO);
- 65 percent of construction and demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;
- Inclusion of electric vehicle (EV) charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent

permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs. The City of Livermore does not require compliance with Tier 1 or Tier 2 CALGreen standards at this time.

California Water Code

The California Water Code requires coordination between land use lead agencies and public water purveyors. The purpose of this coordination is to ensure that prudent water supply planning has been conducted and that planned water supplies are adequate to meet both existing demands and the demands of planned development.

Water Code Sections 10910 to 10915 (inclusive), sometimes referred to as Senate Bill (SB) 610, require land use lead agencies: 1) to identify the responsible public water purveyor for a proposed development project, and 2) to request from the responsible purveyor, a "Water Supply Assessment." The purposes of the WSA are (a) to describe the sufficiency of the purveyor's water supplies to satisfy the water demands of the proposed development project, while still meeting the current and projected water demands of customers, and, (b) in the absence of a currently sufficient supply to describe the purveyor's plans for acquiring additional water. Water Code Sections 10910 to 10915 delineate the specific information that must be included in the WSA.

According to CEQA Guidelines Section 15155, a "water-demand project" means:

A. A residential development of more than 500 dwelling units.
B. A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
C. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
D. A hotel or motel, or both, having more than 500 rooms.
E. An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
F. A mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.
G. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.
H. For public water systems with fewer than 5,000 service connections, a project that meets the following criteria:

    1. A proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of a public water system's existing service connections; or
    2. A mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

Development of SMP 39 and SMP 40 would include construction within approximately 92.4 acres of land and result in more than one million sf of new industrial buildings. Therefore, the project meets criterion E.

Assembly Bill 1327

Assembly Bill (AB) 1327, the Solid Waste Reuse and Recycling Access Act of 1991, requires jurisdictions to adopt ordinances requiring development projects to provide adequate storage area for collection and removal of recyclable materials. The City of Livermore has adopted such an ordinance (Livermore Municipal Code Chapter 8.08).

Assembly Bill 1881

AB 1881, the Water Conservation in Landscaping Act of 2006 required the DWR to update the MWELO. Furthermore, AB 1881 required local agencies to adopt the updated model ordinance or an equivalent ordinance by January 1, 2010. If local jurisdictions failed to adopt the updated model ordinance or an equivalent by January 1, 2010, the DWR's updated model ordinance would automatically be adopted by statute. The City of Livermore has adopted such an ordinance (Livermore Municipal Code Chapter 13.25).

Senate Bill 1016

Enacted in 2007, SB 1016 amended portions of the California Integrated Waste Management Act, allowing the California Integrated Waste Management Board (CIWMB) to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle.

According to CalRecycle's jurisdiction disposal records, Livermore disposed of 77,910.03 tons in 2021.[21] The City's per capita waste disposal rate for residents was 4.9 pounds per day (lbs/day); the per capita disposal rate target for residents according to CalRecycle was 8.3. The per capita waste disposal rate for Livermore employees in 2015 was 8.5 lbs/day; the CalRecycle per capita disposal rate target was 18.1 lbs/day.

California Integrated Waste Management Act – Assembly Bill 939

AB 939, the California Integrated Waste Management Act of 1989, contains requirements affecting solid waste disposal in California. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to $10,000-per-day fines.

Local Regulations

The following are applicable local public service and utility regulations related to the proposed project.

City of Livermore General Plan

The following goals, objectives, and policies from the adopted City of Livermore 2025 General Plan related to public services and utilities are applicable to the proposed project.

[21] California Department of Resources Recycling and Recovery. *Jurisdiction Diversion/Disposal Rate Detail*. Available at: https://calrecycle.ca.gov/lgcentral/datatools/reports/divdisprtsum/. Accessed June 2023.

Infrastructure and Public Services Element

Goal INF-1 Provide sufficient water supplies and facilities to serve the City in the most efficient and financially sound manner, while maintaining the highest standards required to enhance the quality of life for existing and future residents.

Objective INF-1.1 Plan, manage and develop the public water treatment, storage and distribution systems in a logical, timely and appropriate manner.

Policy P1 Potable water shall be available to the City's residents and businesses.

Policy P2 The City shall maintain a water system capable of sustaining required fire flows at all times. The City shall work with California Water Service Company to insure its system also meets required fire flows.

Objective INF-1.2 Require coordination between land use planning and water facilities and service to ensure that adequate water supplies are available for proposed development.

Policy P1 The potable water distribution and storage system shall be sized to serve development anticipated under the General Plan and shall not provide for additional growth and development beyond that anticipated under the General Plan.

Policy P2 The approval of new development shall be conditioned on the availability of sufficient water supply, storage and pressure requirements from the City, California Water Service Company and Zone 7 for the project as applicable.

Policy P3 Structures with plumbing that are located within City limits shall connect to the water system, unless distance from public water system or other factors indicate a need for an exemption.

Policy P4 Extensions of water service beyond the City-approved service area shall be prohibited. Exceptions shall be made for unusual public health and safety hazards, as determined by the City Council.

Policy P5 Water storage and distribution system extensions beyond the approved service area shall be prohibited unless such water services

are needed to serve properties within the City's Urban Growth Boundary (UGB).

Objective INF-1.3 Identify potential water conservation and recycling opportunities that could be served by the City's existing recycled water system.

Policy P2 Projects deemed appropriate for the use of recycled water shall be required to use recycled water, when available, for uses outlined in the State Water Code.

Goal INF-2 Collect, treat and dispose of wastewater in ways that are safe, sanitary, environmentally acceptable and financially sound while maintaining the highest standards required to enhance the quality of life for existing and future residents.

Objective INF-2.1 Plan, manage and develop wastewater collection, treatment and disposal systems in a logical, timely and appropriate manner.

Policy P1 Municipal sewer treatment shall be available to the City's residents and businesses.

Policy P3 The approval of new development shall be conditioned on the availability of adequate long-term capacity of wastewater treatment, conveyance and disposal sufficient to service the proposed development.

Policy P5 All new development shall demonstrate to the City that the downstream sanitary sewer system is adequately sized and has sufficient capacity to accommodate anticipated sewage flows. If the downstream mains are found to be inadequate, the developer shall provide additional facilities to accept the additional sewage expected to be generated by the development.

Policy P6 Structures with plumbing that are located within City limits shall connect to the public wastewater collection system, unless topography, or distance from the public sewer system indicate a need for an exemption.

Policy P10 All new development projects shall be responsible for construction of a sanitary sewer collection and conveyance system as part of the Citywide infrastructure plan. This system shall be designed to serve developments within the

approved General Plan only and shall not be extended to serve uses outside of the Urban Area.

Policy P11 The sanitary sewer system shall be designed and constructed in such a manner as to minimize potential environmental impacts.

Goal INF-5 Maintain a safe environment in Livermore through enforcement of the law, prevention of crime and the function of partnerships with the community.

Objective INF-5.1 Promote coordination between land use planning and law enforcement.

Policy P1 Major land use development proposals shall be reviewed for site design criteria and other law enforcement concerns.

Goal INF-6 Minimize loss of life and property from fires, medical emergencies and public emergencies.

Objective INF-6.1 Plan for ongoing management and development of fire protection services.

Policy P2 The City shall continue to provide fire fighting equipment, facilities and manpower sufficient to assure:

a. quick response to all calls by the "first due" company
b. availability of additional companies for serious fires in high value areas
c. capability for handling simultaneous fires
d. a water system capable of sustaining prerequisite fire flow at all times.

Policy P3 The City shall maintain its mutual aid agreements with both Lawrence Livermore National Laboratory and Alameda County in order to provide adequate fire protection to unincorporated parts of the Planning Area.

Objective INF-6.3 Enforce codes related to fire protection.

Policy P1 The City shall continue to cooperate with State, County and LLNL fire protection agencies.

Goal INF-8 Collect, store, transport, recycle and dispose of solid waste in ways that are safe, sanitary and environmentally acceptable.

Objective INF-8.1 Promote the recovery of recyclable materials and energy from solid waste generated within Livermore.

Policy P1 The City will seek to meet or exceed State requirements with regard to waste diversion and recycling.

Policy P2 The City shall seek to meet the Alameda County Measure D waste diversion goal.

City of Livermore Municipal Code

The following sections of the adopted Livermore Municipal Code related to public services and utilities are applicable to the proposed project.

Title 15 – Buildings and Construction

Buildings constructed within the project site would be subject to the current building standards established by the CBC (CCR Title 24, Part 2). The LPFD enforces standards associated with the installation of automatic fire sprinkler systems and the installation of Class A roofing materials. Both State and local requirements would significantly assist in reducing the threat of a fire spreading from undeveloped land to a nearby building.

The City adopted the CFC (CCR Title 24, Part 9) through Livermore Municipal Code Chapter 15.06, which addresses emergency access, access gates, sprinkler systems, fire alarms within buildings, and construction of access roads to accommodate fire apparatus. The CFC requires that an automatic fire sprinkler and/or fire extinguishing system be installed in all new buildings and structures 3,600 sf and larger.

Chapter 13.48 – Underground Utility Facilities

Livermore Municipal Code Section 13.48.050 provides that any persons applying for a building permit or other permit or permission to improve land located within any underground utility district, or desiring electric power or communication service to serve any such land, are responsible for compliance with the applicable provisions of Livermore Municipal Code Chapter 13.48. A building permit or other permit or permission will not be issued or given unless and until such person has submitted satisfactory proof that necessary arrangements have been made with utility companies (or agents involved) for underground installation of facilities, as required.

Chapter 13.25 – Water Efficient Landscape

The City's WELO is codified in Livermore Municipal Code Chapter 13.25 and contains requirements for new construction projects requiring a permit with an aggregate landscape area equal to or greater than 500 sf, as well as rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf, existing landscapes, and cemeteries. Projects subject to the City's WELO must submit a landscape documentation package consisting of project information, water budget calculations, a landscape design plan, and a grading design plan. The WELO includes standards related to plant material, water features, and soil preparation and mulch.

City of Livermore Standard Details

The City of Livermore Standard Details provide supplemental design considerations for utility line improvements, including those related to new water, sanitary sewer, and storm drain lines and laterals. New construction, trenching, excavation, and improvement work must conform with the applicable standards set forth therein.

4.7.4 IMPACTS AND MITIGATION MEASURES

The section below describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential project-specific impacts related to public services, utilities, and service systems. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to public services, utilities, and service systems would occur if the proposed project would result in any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection;
    - Police protection;
    - Schools;
    - Parks;
    - Other public facilities;
- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Impacts related to groundwater supplies, recharge, and quality, and stormwater drainage facilities are addressed in Chapter 4.5, Hydrology and Water Quality, of this EIR.

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A of this EIR) determined that development of the proposed project would result in no impact or a less-than-significant impact related to the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Schools;
    - Parks; and
    - Other public facilities.

For the reasons cited in the Initial Study (Section XV, Public Services), the potential impacts associated with the above are not analyzed further in this EIR.

Method of Analysis

As noted above and discussed in the Project Description chapter of this EIR, neither SMP 38 nor the Additional Annexation Only Parcels would be developed as part of the proposed project. Accordingly, the analysis within this chapter focuses on the evaluation of potential impacts related to public services, utilities, and service systems associated with development of SMP 39 and SMP 40.

In order to determine the potential for the proposed project to result in substantial adverse impacts associated with the provision of new or altered government facilities, relevant public services and utilities planning documents were reviewed, including, but not limited to, the adopted City of Livermore General Plan, the certified Livermore General Plan EIR, and the City of Livermore General Plan Update Existing Conditions Report prepared as part of the City's current 2045 General Plan Update.

In addition, information related to water supply and sewer conveyance was primarily drawn from the WSA (see Appendix L of this EIR) and Airport Lift Station Analysis (see Appendix M of this EIR) prepared for the proposed project, respectively, by West Yost Associates. The method of analysis used in each technical assessment is discussed further below.

Water Supply Assessment

The methodology to determine the water use factors and assumptions, water demand calculations, and projected water supply for SMP 39 and SMP 40 in the WSA are discussed further below.

Hydrologic Conditions

Pursuant to the WSA prepared for the proposed project, the reliability of the City's potable water supply depends on Zone 7 Water Agency's supplies. The quantity of water available from the water agency's supply sources varies annually depending on hydrologic conditions. Consequently, the water agency reviewed historical data and developed a projected yield for each water source supply source under normal, single dry, and multiple dry years in a five-consecutive-year drought. Each condition is defined as follows:

- Normal Year: The year in the historical sequence most closely representing average runoff or allocation levels and patterns;
- Single Dry Year: The year in the historical sequence with the lowest annual runoff or allocation; and

- Five-Consecutive-Year Drought: Zone 7 Water Agency considers a six-year "design drought" as part of its water supply analyses. Selection of the design drought corresponds with the driest six-year sequence on record, 1987 to 1992. The same sequence was utilized in the Zone 7 2020 UWMP to maintain consistency with the agency's water supply planning efforts and is more conservative than the minimum required five-year drought scenario.

In both the City's 2020 UWMP and the project-specific WSA, dry year water demands are assumed to be unconstrained when compared to projected supplies. In other words, when evaluating future water supplies, neither the City's 2020 UWMP nor the WSA assume the City's Water Shortage Contingency Plan (WSCP) would be implemented (which would reduce demands) during dry years. The City's WSCP defines six water shortage stages with associated demand reduction and supply augmentation actions and operational changes. This conservative assumption means that demands in single-dry years and the first years of multiple-dry year periods are equal to normal year demands. Consistent with the City's 2020 UWMP, demands in multiple-dry years included in the WSA are linearly interpolated.

Water Use Factors and Assumptions

As part of the City's Water Master Plan, the City adopted unit water use factors (also referred to as unit water demand factors) to project potable water demand using proposed future land uses within the City's General Plan. The WSA estimates potable and recycled water demands for the proposed project based on the aforementioned factors, as well as the following assumptions:

- Potable water demands assume Low Intensity Industrial (LII) land use, for which the unit water use factor is 1,150 gallons per acre per day (gpad);
- Because the proposed project is in the City's Zone 1 Water Service Area, the proposed project's landscaped area (assumed to be 15 percent of the total site acreage) is anticipated to be irrigated with recycled water;
- While the LII unit water use factor from the Water Master Plan does not assume recycled water use, the WSA added the anticipated recycled water use to anticipated potable water demands for the proposed project to calculate total potable water demands for the proposed project. However, as recycled water would be used for the project for irrigation, the proposed project's actual potable water demands would be lower than estimated in the WSA. Thus, the proposed project's estimated potable water demands in the WSA are conservative.
- Recycled water demands are based on the MWELO Maximum Applied Water Allowance (MAWA) for landscaping. The MAWA for non-residential landscaping is 1,570 gpad (1.76 acre-feet per acre per year, af/ac/yr). The foregoing unit water use factor determines the recycled water demands for the proposed project's landscaped areas.
- Non-revenue water (NRW) is assumed to be 11 percent of water demands (potable water demands and recycled water) for the proposed project.

Projected Water Demand Calculations

Table 4.7-4 presents the estimated potable and recycled water demands for the proposed project in gallons per day (gpd) and AFY. The unit water use factors presented above were applied to the corresponding use areas (potable water or landscaped) within each SMP site. As shown in the table, the potable and recycled water demands for the proposed project are approximately 78,900 and 19,000 gpd (88 and 21 AFY), respectively.

Table 4.7-4
Projected Potable and Recycled Water Demand for the Proposed Project

Site	Use Area, acres[1]	Water Use Factor, gpad[2]	Total Water Demand	
			gpd	AFY
Potable Water				
SMP-39	26.6	1,150	30,602	34.3
SMP-40	34.4	1,150	39,595	44.4
Potable Water Subtotal	61.0	--	70,196	78.6
Non-Revenue Water[3]			8,676	9.7
Total Potable Water Demand			78,872	88.3
Recycled Water[4]				
SMP-39	4.7	1,570	7,379	8.3
SMP-40	6.1	1,570	9,546	10.7
Recycled Water Subtotal	10.8	--	16,925	19.0
Non-Revenue Water[3]			2,092	2.3
Total Recycled Water Demand			19,016	21.3

1 Refer to Table 2-1 in the WSA.
2 Potable water use factor is based on LII land use from Table 3-5 of the Water Master Plan. Recycled water use factor is based on the MWELO MAWA for landscaping in non-residential areas.
3 Pursuant to the Water Master Plan, non-revenue water is assumed to be 11 percent of the total water demand for the proposed project.
4 Pursuant to the Water Master Plan, new development within the Zone 1 Water Service Area is assumed to be supplied with recycled water for irrigation uses.

Source: West Yost Associates, 2023.

Projected Water Supply

The City's existing and future portfolio of water supplies will serve the proposed project, as allowed by the Water Code:

> Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

Airport Lift Station Analysis

SMP 39 and SMP 40 are in an area of the City where the wastewater collection system flows to the Airport Lift Station. Accordingly, the Airport Lift Station Analysis presents analysis of the effects of developing SMP 39 and SMP 40 on the capacity of the Airport Lift Station, an associated force main, and the influent pump station at the Livermore Water Reclamation Plant.

The criteria used to evaluate the capacity of the Airport Lift Station were taken from the City's 2017 Sewer System Master Plan, which was prepared by West Yost Associates. The criteria state that a lift station must have sufficient capacity to pump the peak design flow with the largest pump out of service (firm capacity) and that force mains must have a maximum velocity of seven feet per second (fps) under peak operating conditions and two fps under minimum flow conditions.

When flow projections were performed for the 2017 Sewer System Master Plan, the SMP 39 and SMP 40 sites were designated with a land use code of Parks, Trailways, Recreation Areas, which is a zero flow-producing land use category. As such, any flow calculated for the proposed buildout of SMP 39 and SMP 40 would be in addition to the buildout flow projections in the 2017 Sewer

System Master Plan. According to a June 1, 2022 memorandum from Kier + Wright, the proposed uses on the SMP 39 and SMP 40 sites would be considered a land use code of LII. The 2017 Sewer System Master Plan projects a dry weather flow factor for the LII land use code of 420 gpad and a flow factor of 800 gpad for rainfall-dependent inflow and infiltration. Table 4.7-5 shows the dry and wet weather flows in units of gallons per minute (gpm) calculated for SMP 39 and SMP 40, based on the LII flow factors from the 2017 Sewer System Master Plan.

Table 4.7-5
Projected Flow Calculations for SMP 39 and SMP 40

Site	Area (acres)	Dry Weather Flow (gpm)	Wet Weather Flow (gpm)	Manhole Assignment
SMP 39	54.9	16.0	30.5	ACS5C4010
SMP 40	40.5	11.8	22.5	ACS5C4025

Source: West Yost Associates, 2022.

Subsequent to the calculation of flows for the existing scenario of the 2017 Sewer System Master Plan, several parcels have been developed within the area tributary to the Airport Lift Station. The parcels that have been developed are summarized in Table 4.7-6 and are included in Table 3-5 of the 2017 Sewer System Master Plan as Reasonably Foreseeable Development Projects (RFDPs) with parcel areas and estimated sewer flows. The RFDPs were included in the buildout scenarios of the 2017 Sewer System Master Plan but were not included in the existing scenarios. The RFDPs in Table 4.7-6 were added to the existing conditions scenario, as part of the Airport Lift Station Analysis.

The Airport Lift Station Analysis includes the evaluation of the impacts of the proposed buildout of SMP 39 and SMP 40 on the available firm capacity at the Airport Lift Station and force main velocities under existing and buildout peak flow conditions.

Table 4.7-6
Projected Flows for Recently Developed Projects

Planning Area	Name	Area (acres)	Dry Weather Flow (gpm)	Wet Weather Flow (gpm)
1a	Outlets – Phase 1	17	7.0	9.4
1b	Outlets – Phase 2	46	19.9	25.6
2	The Shoppes	12	8.8	6.7
3	Crosswinds	25	18.7	13.9
4	Sywest Driving Range	21	7.5	11.7

Source: West Yost Associates, 2022.

Project-Specific Impacts and Mitigation Measures

As previously discussed, neither SMP 38 nor the Additional Annexation Only Parcels would be developed as part of the proposed project. The proposed project would consist of buildout of SMP 39 and SMP 40, as well as construction of a new off-site trail connection to the existing Arroyo Mocho Trail. However, the off-site trail connection would not necessitate additional provision of public services or utilities. Accordingly, the following discussion of impacts is based on development of SMP 39 and SMP 40 in comparison with the standards of significance identified above.

4.7-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. Based on the analysis below, the impact is *less than significant*.

SMP 39 and SMP 40 are currently served by the Alameda County Fire Department. Following annexation into the City of Livermore, the LPFD would provide fire prevention, fire suppression, emergency medical care, rescue services, and public education services to the SMP 39 and SMP 40 sites. Station 10 is the nearest LPFD station to the sites and is located 0.43-mile to the north of the SMP 39 site at 330 Airway Boulevard.

The relevant CEQA threshold for this discussion is whether new or physically altered fire stations are needed to meet response times or other performance objectives, the construction of which could cause environmental impacts. The LPFD seeks to respond to fire incidents and medical emergencies within seven minutes from receipt of the call by the dispatch center, at least 90 percent of the time. As discussed further in Chapter 4.8, Transportation, of this EIR, development of SMP 39 could generate 207 office employees and 579 warehouse employees, for a total of 786 new employees, while development of SMP 40 could generate 78 office employees and 614 warehouse employees, for a total of 692 new employees. Overall, the proposed project is anticipated to result in a total of 1,478 employees. Due to the industrial nature of the project, the potential exists for work-related injuries that necessitate emergency medical care to occur during project operation.

Given the proximity of SMP 39 and SMP 40 to Station 10, the LPFD is anticipated to be capable of responding to emergency medical and fire incidents at the project site within the seven-minute standard. In addition, the LPFD maintains automatic and mutual aid agreements with other fire protection providers in Alameda County and adjacent areas, which would ensure the most efficient fire protection service is available to the project site. All structures included as part of the proposed project would be constructed in accordance with the applicable standards set forth by the CBC and CFC. Consistent with the CBC, the design of the SMP 39 and SMP 40 buildings would include the installation and use of automatic fire sprinklers. Fire alarm systems would be incorporated pursuant to CFC requirements. Such features would reduce the potential for fires to occur and spread within the proposed structures, thereby reducing the demand for fire protection services associated with the project. Thus, the project would not result in the need for new or physically altered LPFD stations to meet response times or other performance objectives, the construction of which could cause environmental impacts.

General Plan Policies INF-6.1.P2 and INF-6.1.P5 establish the City's commitment to ensuring the LPFD has the necessary levels of facilities, apparatus, equipment, and staffing. The City of Livermore funds its portion of the LPFD budget through the City's General Fund, which in turn, is funded through various sources of revenue, including,

but not limited to, property taxes, local sales taxes, franchise taxes, business license taxes, and license and permit fees. Fees for the City of Livermore are contained in the City's Master Fee Schedule. Furthermore, as noted in the City's Capital Improvement Plan, LPFD facility repair and rehabilitation projects are generally funded by the City's Facility Rehabilitation Fee. Combined, the City's General Fund and Facility Rehabilitation Fee finance the LPFD facilities, apparatus, and equipment necessary to maintain adequate service levels. Buildout of SMP 39 and SMP 40 would be subject to applicable taxes and fees, including, but not limited to, property taxes, franchise taxes, business license taxes, and license and permit fees. Additionally, employees residing in the area would be subject to local sales taxes. Revenues generated through payment of applicable taxes and fees by the proposed project would ensure the project pays a fair share for fire protection and emergency medical services from the LPFD.

Finally, pursuant to CEQA Guidelines Section 15002(g), a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by the proposed project. "Environment" means the physical conditions that exist within the area that will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance (see Public Resources Code Section 21060.5). The courts have affirmed this understanding. In the case *City of Hayward v. Board of Trustees of the California State University,* the First District Court of Appeal affirmed that the focus of CEQA analysis should be limited to physical environmental impacts related to a project.[22] The court held that, "[t]he need for additional fire protection services is not an *environmental* impact that CEQA requires a Project Proponent to mitigate." As such, the creation of additional demand for LPFD fire protection services as part of the proposed project would not constitute an impact on the environment, as established by the CEQA Guidelines.

Based on the above, development of SMP 39 and SMP 40 would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection services and/or facilities, the construction of which could cause significant environmental impacts, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.7-2 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Based on the analysis below, the impact is *less than significant*.

[22] First District Court of Appeal. *City of Hayward v. Board of Trustees of the California State University*. (November 30, 2015) 242 Cal.App.4th 833.

SMP 39 and SMP 40 are currently provided law enforcement services by the Alameda County Sheriff's Office. Following annexation into the City of Livermore, the SMP 39 and SMP 40 sites would be provided police protection services by the LPD. The department's headquarters are located at 1110 South Livermore Avenue, 2.8 miles to the east of SMP 40.

The Livermore General Plan does not establish a response time standard for emergency calls for the LPD; however, according to the City's General Plan Existing Conditions Report, the LPD has indicated current response times are acceptable (see Table 4.7-1). As of October 2021, the ratio of LPD employees to population is 1.6 employees per 1,000 residents and 1.0 officers per 1,000 residents. Development of SMP 39 and SMP 40 is estimated to result in a total of 1,478 employees. Conservatively estimating that all permanent positions associated with SMP 39 and SMP 40 would be filled by new residents to the Livermore region would result in a 1.7 percent increase to the existing Livermore population.

While such an increase could incrementally increase demand for police protection services by the LPD, as previously discussed, in the case *City of Hayward v. Board of Trustees of the California State University,* the First District Court of Appeal affirmed that the focus of CEQA analysis should be limited to physical environmental impacts related to a project.[23] As such, the incremental increase in demand for LPD police protection services generated by the proposed project would not constitute an impact on the environment, as established by the CEQA Guidelines. For instance, the LPD's headquarters is located 2.8 miles to the east of SMP 40, which would allow the LPD to capably respond to service calls from SMP 39 and SMP 40, which are contiguous with the LPD's current District 1 boundaries. In addition, General Plan Policy INF-5.1.P3 establishes the City's commitment to ensuring the LPD has the necessary levels of facilities, equipment, and staffing. As such, revenues generated through payment of applicable taxes and fees by the proposed project would ensure the project pays a fair share for police protection services from the LPD. Additionally, although the LPD has indicated the need for 44,000 sf of space for additional storage, training, and office facilities over the next decade, the first phase of a three-phase project is already included in the City's Fiscal Year 2021-2023 Capital Improvement Plan as Police Facility Expansion, Project No. 2000-28. The proposed project's payment of applicable taxes and fees would thereby contribute towards the identified improvements in the City's Capital Improvement Plan, including the aforementioned Police Facility Expansion project.

Finally, Livermore Municipal Code Chapter 15.18 requires various security measures for commercial/industrial uses, including those related to exterior doors, loading and unloading areas, windows, as well as special security measures such as security personnel and silent alarms. Applicable security personnel and systems would be incorporated into the design and operation of SMP 39 and SMP 40, pursuant to Municipal Code Chapter 15.18 requirements. Such features would reduce the demand for police protection services associated with the proposed project. Thus, any increase in demand associated with the proposed project, including new residents indirectly attracted to the City by the project, would not result in the need for new or physically

[23] First District Court of Appeal. *City of Hayward v. Board of Trustees of the California State University*. (November 30, 2015) 242 Cal.App.4th 833.

altered LPD facilities to meet response times or other performance objectives, the construction of which could cause environmental impacts.

Based on the above, development of SMP 39 and SMP 40 would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection services and/or facilities, the construction of which could cause significant environmental impacts, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.7-3 Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Based on the analysis below, the impact is *less than significant*.

Impacts on the water, wastewater treatment, electric power, natural gas, and telecommunications facilities associated with buildout of SMP 39 and SMP 40 are discussed separately below. Stormwater drainage facilities are addressed in Chapter 4.5, Hydrology and Water Quality, of this EIR.

Water Supply Infrastructure

Water service for SMP 39 would be provided to the site by an existing 12-inch potable water line within West Jack London Boulevard. Currently, the existing water line runs along West Jack London Boulevard to within 1,250 feet of the westernmost SMP 39 boundary, at which point the line proceeds north through the Livermore Municipal Airport. As part of the proposed project, the line would be extended west to serve the westernmost proposed parcel. Each proposed SMP 39 building parcel would have two 12-inch fire flow lines from the West Jack London Boulevard main. The domestic water services would be installed from at least one of the fire service connections using a City of Livermore standard manifold connection. Additionally, recycled water for SMP 39 would be supplied to the site by extending the existing 12-inch recycled water line located within West Jack London Boulevard from the western boundary of the Oaks Business Park (Tract 7300) west approximately 3,800 feet. New four-inch service laterals would be connected to each proposed lot, with recycled water used for all site irrigation and potentially for non-potable uses, as determined on a project-by-project basis.

Water service for SMP 40 would be provided to the site by an extension of the existing water lines within Atlantis Street and Challenger Street to the north. In addition, fire hydrants are proposed throughout the SMP 40 site (see Figure 3-7 and Figure 3-8 in the Project Description chapter of this EIR).

Installation of the new water supply infrastructure, including new fire water lines and hydrants, would occur either in existing road rights-of-way (ROWs) or in areas

proposed for disturbance as part of development of SMP 39 and SMP 40. All potential physical environmental impacts that could result from development of the proposed project, including new on- and off-site utility infrastructure, have been evaluated throughout the technical chapters of this EIR, as well as in the Initial Study prepared for the proposed project (see Appendix A of this EIR). In addition, the new water infrastructure would be designed and constructed in accordance with the applicable standards set forth in the City of Livermore Standard Details (W-1E through W-27), ensuring the new water lines are constructed in conformance with proper materials and sizing. All necessary water conveyance infrastructure for the proposed project would be financed by the project applicant. Furthermore, based on the analysis presented under Impact 4.7-4 below, sufficient water supplies exist to serve the proposed project.

Based on the above, development of SMP 39 and SMP 40 would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects, and a less-than-significant impact would occur.

Wastewater Conveyance Infrastructure

All project-generated wastewater would be conveyed to the Airport Lift Station, located on West Jack London Boulevard. The lift station serves Doolan Road, the area located southwest of I-580, Livermore Municipal Airport, Las Positas Golf Course, Airway Boulevard, and the area south of West Jack London Boulevard, between Discovery Drive and Voyager Street. As previously discussed, the criteria used to evaluate the capacity of the Airport Lift Station, which were taken from the 2017 Sewer System Master Plan, establishes that a lift station must have sufficient firm capacity and that force mains must have a maximum velocity of seven fps under peak operating conditions. Table 4.7-7 summarizes the evaluation of available firm capacity at the Airport Lift Station and force main velocities under various peak flow scenarios. Based on the hydraulic analysis, under existing flow conditions, the Airport Lift Station has adequate firm capacity to accommodate the additional flows that would be generated from buildout of SMP 39 and SMP 40.

Table 4.7-7
Analysis of Airport Lift Station Capacity

Flow Scenario	Design Flow (gpm)	Remaining Capacity (gpm)[1]	8-Inch Force Main Velocity (fps)	10-inch Force Main Velocity (fps)
Existing[1]	874	218	5.6	3.6
Existing + SMP 40	921	171	5.9	3.8
Existing + SMP 39 + SMP 40	984	108	6.3	4.0

[1] Existing conditions include RFDPs 1a, 1b, 2, 3, and 4, as shown in Table 4.7-6.

Source: West Yost Associates, 2022.

Pursuant to the 2017 Sewer System Master Plan, 1,023 feet of the Airport Lift Station force main is eight inches in diameter, and 4,300 feet of the force main is 10 inches in diameter. Under existing and existing plus project conditions, velocities in the eight-

inch-diameter and 10-inch-diameter portions of the force main would remain below the maximum peak velocity criterion of seven fps.

Sanitary sewer service for SMP 39 would be provided through a new connection to the existing eight-inch public sanitary sewer main within West Jack London Boulevard. New service laterals would then be installed to each proposed lot. With respect to SMP 40, the proposed project would include construction of new sanitary sewer lines throughout the SMP 40 site that would extend to the existing line in Atlantis Street. The proposed sanitary sewer lines within the site would direct wastewater from Buildings 1 and 2 to a new six-inch line between the buildings, which would ultimately connect to an existing manhole and eight-inch line within Atlantis Street.

Installation of the new sewer infrastructure would occur either in existing road ROWs or in areas proposed for disturbance as part of development of SMP 39 and SMP 40. As previously discussed, all potential physical environmental impacts that could result from the proposed project have been evaluated throughout the technical chapters of this EIR, as well as in the Initial Study prepared for the project. In addition, the new sewer infrastructure would be designed and constructed in accordance with the applicable standards set forth in the City of Livermore Standard Details (S-1 through S-11), ensuring the new sewer lines are constructed in conformance with proper materials and sizing. All necessary sewer conveyance infrastructure for the proposed project would be financed by the project applicant. Furthermore, based on the analysis provided under Impact 4.7-5 below, adequate capacity exists for the wastewater treatment facilities to serve the proposed project.

Based on the above, development of SMP 39 and SMP 40 would not require or result in the relocation or construction of new or expanded sewer facilities, the construction or relocation of which could cause significant environmental effects, and a less-than-significant impact would occur.

Electricity, Natural Gas, and Telecommunications Infrastructure

The proposed project would include new connections to existing underground electricity and telecommunications infrastructure located in the vicinity of SMP 39 and SMP 40 within West Jack London Boulevard and Atlantis Street. Installation of the new electricity and telecommunications infrastructure would occur either in areas that have been previously disturbed or in areas proposed for disturbance as part of development of the proposed project. Consistent with the provisions set forth in Livermore Municipal Code Chapter 13.48, new electricity and telecommunications infrastructure would be required to be installed underground. Additionally, according to Section 15.26.200 of the City of Livermore Municipal Code, all newly constructed buildings within the City are required to be all-electric. The project applicant has committed to the prohibition of natural gas infrastructure in the proposed project design, in compliance with Section 15.26.200 of the City of Livermore Municipal Code.

Based on the above, development of SMP 39 and SMP 40 would not require or result in the relocation or construction of new or expanded electricity, natural gas, and telecommunications facilities, the construction or relocation of which could cause significant environmental effects, and a less-than-significant impact would occur.

Conclusion

Based on the above, development of SMP 39 and SMP 40 would not require or result in the relocation or construction of new or expanded water, wastewater, electricity, natural gas, and telecommunications facilities, the construction or relocation of which could cause significant environmental effects, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.7-4 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Based on the analysis below, the impact is *less than significant*.

Based on the WSA, the total projected water supplies determined to be available for the proposed project and other development served by Zone 7 Water Agency, as well as the anticipated demand, during normal, single dry, and multiple dry years during a 20-year projection is summarized in Table 4.7-8. The WSA determined anticipated demand within the LMW service area through incorporation of projections from the City's 2020 UWMP, which included the expected buildout of the Livermore General Plan planning area, as well as Isabel Neighborhood Specific Plan. As detailed in the City's 2020 UWMP, projections are developed based on expected retailer demands on Zone 7 Water Agency from an analysis conducted by Zone 7 Water Agency. Projected retailer demands were based on 2020 deliveries, retailer delivery requests for 2022 to 2025, and projected buildout demands. According to the WSA, in 2020, the City's potable and raw water demand was approximately 2,134 million gallons per year (mgy), or 6,549 AFY. The City is anticipated to be built out by 2040, when potable and raw water demands are projected to reach 2,263 mgy (6,945 AFY). The growth in potable and raw water demands equates to six percent, which reflects the City's status as being mostly built out already.

Table 4.7-8
Potable and Raw Water Supply and Demand During Normal, Single Dry, and Multiple Dry Years (AFY) in the LMW Service Area

Hydrologic Condition	2025	2030	2035	2040	2045
Normal Year					
Potable and Raw Water Supply[1]	6,533	6,702	6,868	7,033	7,033
Total Water Demand[2]	6,533	6,702	6,868	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Single Dry Year					
Potable and Raw Water Supply[1]	6,533	6,702	6,868	7,033	7,033
Total Water Demand[2]	6,533	6,702	6,868	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Multiple Dry Year 1					
Potable and Raw Water Supply[1]	6,533	6,702	6,868	7,033	7,033
Total Water Demand[2]	6,533	6,702	6,868	7,033	7,033

(Continued on next page)

Table 4.7-8
Potable and Raw Water Supply and Demand During Normal, Single Dry, and Multiple Dry Years (AFY) in the LMW Service Area

Hydrologic Condition	2025	2030	2035	2040	2045
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Multiple Dry Year 2					
Potable and Raw Water Supply[1]	6,567	6,735	6,901	7,033	7,033
Total Water Demand[2]	6,567	6,735	6,901	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Multiple Dry Year 3					
Potable and Raw Water Supply[1]	6,601	6,768	6,934	7,033	7,033
Total Water Demand[2]	6,601	6,768	6,934	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Multiple Dry Year 4					
Potable and Raw Water Supply[1]	6,634	6,801	6,967	7,033	7,033
Total Water Demand[2]	6,634	6,801	6,967	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**
Multiple Dry Year 5					
Potable and Raw Water Supply[1]	6,668	6,834	7,000	7,033	7,033
Total Water Demand[2]	6,668	6,834	7,000	7,033	7,033
Shortfall?	**NO**	**NO**	**NO**	**NO**	**NO**

1 Based on excess supplies presented in Zone 7 Water Agency's 2020 UWMP and the relatively small demand from the proposed project, Zone 7 Water Agency's supplies are assumed to equal projected demands.
2 Equals the City's total projected potable and raw water demand with the proposed project (see Tables 4-2 and 4-4 of the WSA).

Source: West Yost Associates, 2023.

As shown in Table 4.7-8, water demand within the LMW's service area is not expected to exceed supplies in any year or hydrologic condition. In addition, the WSA determined that the recycled water demand associated with the proposed project would be approximately 21 AFY, or about one percent of the City's annual projected recycled water demand through 2045, which would, similarly, not exceed anticipated recycled water supplies (see Table 4.7-4). Given the high reliability of the City's recycled water supply and the relatively small recycled water demand associated with the proposed project, the WSA concluded the City would be capable of meeting the recycled water demand associated with the project under all hydrologic conditions.

Based on the above, Zone 7 Water Agency and the LMW would have sufficient water supplies available to serve buildout of the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.7-5 Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Based on the analysis below, the impact is *less than significant*.

The Livermore Water Reclamation Plant is designed to treat 8.5 mgd average daily flow, and due to slow population growth and water conservation efforts, the current daily flow is 5.5 mgd. The City has confirmed that sufficient capacity exists to accommodate flows from the proposed project.[24] Additionally, according to the 2017 Sewer System Master Plan, the influent pumps at the Livermore Water Reclamation Plant have a pumping limit of approximately 12 mgd. The Livermore Water Reclamation Plant is equipped with an influent holding basin that would be used in the event influent flows exceed the 12 mgd pumping limit of the Livermore Water Reclamation Plant influent pumps, with any flows above 12 mgd directed straight to the holding basin. The City has confirmed that the addition of project-generated flows would not cause an exceedance of the 12 mgd pumping limit of the influent pumps, and the holding basin would have adequate volume to accommodate the peak wet weather flows associated with the proposed project.

Furthermore, development of SMP 39 and SMP 40 would be subject to the City's wastewater connection fee, established by Livermore Municipal Code Chapter 13.28. The purpose of the connection fee is to assure that new development within the City pays a fair share towards the cost of constructing and expanding the City's wastewater system. Developers must pay the connection fee prior to issuance of a building permit. Revenues generated by payment of the connection fee would ensure the project pays a fair share towards any expansions to the wastewater system deemed necessary by the City, including any projects identified within the City's Capital Improvement Plan.

Based on the above, the proposed project would not result in a determination by the wastewater treatment provider serving the project that it does not have adequate wastewater treatment capacity to serve the project's projected demand in addition to the provider's existing commitments. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

[24] Vera, Ashley, Senior Planner, Community Development Department, City of Livermore. Personal Communication [email] with Angela DaRosa, Division Manager/Air Quality Specialist, Raney Planning & Management, Inc. June 21, 2023.

4.7-6 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Based on the analysis below, the impact is *less than significant*.

As previously discussed, solid waste from the City is disposed of at the Republic Services Vasco Road Landfill, located at 4001 North Vasco Road. According to CalRecycle, the Republic Services Vasco Road Landfill is permitted to accept a maximum of 40,207,100 cubic yards of waste.[25] The landfill has a remaining capacity of 11,560,000 cubic yards and is anticipated to cease operations by 2051. In addition, the Vasco Road Landfill retains ownership of 102 additional acres of land that has been set aside to facilitate future expansion of the landfill, if required.

Overall, following development of SMP 39 and SMP 40, the proposed project would result in a maximum building square footage of 1,514,775 sf. According to the U.S. Environmental Protection Agency (USEPA) report, Estimating 2003 Building-Related Construction and Demolition Materials Amounts, non-residential construction activities generate an average of 4.34 pounds per square foot (lbs/sf) of waste.[26] Therefore, applying such an amount to buildout of the proposed project would produce approximately 6,574,123.5 lbs (3,287.1 tons) of construction waste (4.34 lbs/sf X 1,514,775 sf).

The construction waste estimate presented above represents a conservative analysis of the maximum potential waste production from construction of the proposed project. The CALGreen Code requires at least 65 percent diversion of construction waste for projects permitted after January 1, 2017. As such, a minimum of 2,136.6 tons of waste would be diverted away from landfill disposal during construction. Considering the applicable CALGreen Code requirements, buildout of the proposed project would be anticipated to produce up to 1,150.5 tons of waste during construction. Construction waste generation represents a short-term increase in waste generation. Considering that the Vasco Road Landfill has a remaining capacity of nearly 29 percent of the total permitted capacity of the landfill, the proposed project's construction waste would represent only an incremental contribution to the waste received at the landfill, and a less-than-significant impact would occur.

Operational solid waste generation from the proposed project has been estimated based on an average waste generation rate for employees of industrial uses, as published by CalRecycle.[27] The total number of employees would produce

[25] California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details Vasco Road Sanitary Landfill (01-AA-0010)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/9?siteID=8. Accessed May 2023.

[26] U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

[27] California Department of Resources Recycling and Recovery. *Estimated Solid Waste Generation Rates*. Available at: https://www2.calrecycle.ca.gov/wastecharacterization/general/rates. Accessed June 2023.

approximately 13,198.5 lbs/day (6.6 tons/day) of operational solid waste. Considering that the Vasco Road Landfill has a remaining capacity of 29 percent and a maximum permitted throughput of 2,518 tons/day, the proposed project's operational waste would represent only an incremental contribution to the waste received at the landfill.

Based on the above, the proposed project would not generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. In addition, the project would not conflict with applicable federal, State, and local management and reduction statutes and regulations related to solid waste. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative setting for impacts related to public services and utilities encompasses buildout of the applicable service areas of public service and utility providers discussed in this chapter. Additional detail regarding the cumulative project setting can be found in Chapter 5, Statutorily Required Sections, of this EIR.

4.7-7 Cumulative impacts to public services. Based on the analysis below, the cumulative impact is *less than significant*.

Potential cumulative impacts related to fire and police protection services are discussed below.

Fire Protection Services

Cumulative development, in conjunction with the proposed project, would increase the demand for fire protection services provided by the LPFD. As discussed above, the LPFD seeks to respond to fire incidents and medical emergencies within seven minutes from receipt of the call by the dispatch center, at least 90 percent of the time.

General Plan Policies INF-6.1.P2 and INF-6.1.P5 establish the City's commitment to ensuring the LPFD has the necessary levels of facilities, apparatus, equipment, and staffing. The City of Livermore funds its portion of the LPFD budget through the City's General Fund, which is funded through various sources of revenue, including, but not limited to, property taxes, local sales taxes, franchise taxes, business license taxes, and license and permit fees. Additionally, as noted in the City's Capital Improvement Plan, LPFD facility repair and rehabilitation projects are generally funded by the City's Facility Rehabilitation Fee. Combined, the City's General Fund and Facility

Rehabilitation Fee finance the LPFD facilities, apparatus, and equipment necessary to maintain adequate service levels. Similar to the proposed project, cumulative development within the City's General Plan planning area would be subject to applicable taxes and fees, including, but not limited to, property taxes, franchise taxes, business license taxes, and license and permit fees. Additionally, new residents generated by cumulative development would be subject to local sales taxes. Thus, revenues generated through fee payments associated with cumulative development would pay fair shares toward any new LPFD facilities deemed necessary by the City, all of which would be required to be designed and constructed in accordance with applicable regulations and standards, and if necessary, undergo CEQA review.

Finally, as discussed above, the LPFD maintains automatic and mutual aid agreements with other fire protection providers in Alameda County and adjacent areas, which would ensure the most efficient fire protection service is available to the City. All structures included as part of buildout of the adopted General Plan would be constructed consistent with the CBC and CFC. Compliance with the CBC and CFC would reduce the potential for fires to occur within the planning area, which would reduce the demand for fire protection services in the City.

Based on the above, cumulative development within the City of Livermore, in conjunction with the proposed project, would result in a less-than-significant impact related to the need for new or improved fire protection facilities, the construction of which could cause significant environmental impacts.

Police Protection Services

Cumulative development, in conjunction with the proposed project, would increase the demand for law enforcement services provided by the LPD. As discussed above, the Livermore General Plan does not establish a response time standard for emergency calls for the LPD; however, according to the City's General Plan Existing Conditions Report, the LPD has indicated current response times are acceptable (see Table 4.7-1). In addition, as of October 2021, the LPD maintains service ratios of 1.6 employees per 1,000 residents and 1.0 officers per 1,000 residents.

General Plan Policy INF-5.1.P3 establishes the City's commitment to ensuring the LPD has the necessary levels of facilities, equipment, and staffing. The LPD is funded through the City's General Fund, which is funded through various sources of revenue. Fees for the City of Livermore are contained in the City's Master Fee Schedule. Cumulative development within the General Plan planning area would be subject to applicable taxes and fees, including, but not limited to, property taxes, franchise taxes, business license taxes, and license and permit fees. Additionally, new residents generated by cumulative development would be subject to local sales taxes. Thus, revenues generated through fee payments associated with cumulative development would pay fair shares toward any new LPD facilities deemed necessary by the City, all of which would be required to be designed and constructed in accordance with applicable regulations and standards, and if necessary, undergo CEQA review. Additionally, the first phase of a three-phase project is included in the City's Fiscal Year 2019-2021 Capital Improvement Plan as Police Facility Expansion, Project No. 2000-28, to meet the LPD's need for 44,000 sf of space for additional storage, training, and office facilities over the next decade.

Based on the above, cumulative development within the City of Livermore would not result in the need for new or improvements to existing police protection facilities, the construction of which could cause significant environmental impacts, and a less-than-significant impact would occur.

Conclusion

Based on the above, the proposed project, in combination with future buildout of the General Plan planning area, would result in a ***less-than-significant*** cumulative impact related to public services.

Mitigation Measure(s)

None required.

4.7-8 Increase in demand for utilities and service systems associated with the proposed project, in combination with future buildout of the Livermore General Plan. Based on the analysis below and with implementation of mitigation, the cumulative impact is *less than significant*.

The following discussions provide an analysis of the proposed project's contribution to cumulative impacts associated with water supply, wastewater treatment, dry utilities, and solid waste within the City of Livermore.

Water Supply

Cumulative development, in conjunction with the proposed project, would result in increased demand for water supplies provided by the Zone 7 Water Agency. However, as discussed under Impact 4.7-4 and summarized in Table 4.7-6, demand within the LMW's service area is not expected to exceed supplies in any year or hydrologic condition through 2045. In addition, new water infrastructure required as part of cumulative development within the City would be required to be designed and constructed in accordance with the applicable standards set forth in the City of Livermore Standard Details (W-1 through W-27). Compliance with the foregoing standards would ensure new water lines installed as part of buildout of the General Plan planning area are constructed in conformance with proper materials and sizing. Therefore, adequate water supply would be available to serve cumulative development within the City of Livermore, in conjunction with the proposed project, and a less-than-significant impact would occur.

Wastewater Treatment

Cumulative development, in conjunction with the proposed project, would result in increased demand for wastewater treatment services provided by the City of Livermore. Based on the hydraulic analysis within the Airport Lift Station Analysis and as summarized in Table 4.7-9, the Airport Lift Station does not have adequate firm capacity under buildout (cumulative) conditions, even without consideration of the additional flows that would be generated from development of SMP 39 and SMP 40. Thus, the additional flows from SMP 39 and SMP 40 would worsen the expected capacity deficiency of the Airport Lift Station under buildout conditions.

Table 4.7-9
Cumulative Analysis of Airport Lift Station Capacity

Flow Scenario	Design Flow (gpm)	Remaining Capacity (gpm)[1]	8-Inch Force Main Velocity (fps)	10-inch Force Main Velocity (fps)
Buildout	1,480	(388)	9.4	6.0
Buildout + SMP 39 + SMP 40	1,590	(498)	10.1	6.5

Source: West Yost Associates, 2022.

In addition, under buildout conditions, velocities in the eight-inch-diameter portion of the lift station's associated force main would exceed the maximum peak velocity criterion of seven fps, and the additional flows generated by development of SMP 39 and SMP 40 would exacerbate the exceedance. However, the 2017 Sewer System Master Plan previously recommended that the eight-inch-diameter force main be upsized to 10 inches. Accordingly, Project BO-CIP-P07, which would implement the recommended upsizing, is included in the Sewer Collection System Capital Improvement Program. The proposed project would be subject to the City's wastewater connection fee, established by Livermore Municipal Code Chapter 13.28. Revenues generated by payment of the connection fee would ensure the proposed project pays a fair share towards any expansions to the wastewater system deemed necessary by the City, including costs associated with Project BO-CIP-P07. When the additional flows from SMP 39 and SMP 40 are added to buildout flows at the Airport Lift Station, velocities in the 10-inch-diameter force main would be approximately 6.5 fps, which would not exceed the seven fps threshold.

Furthermore, the City has confirmed that projected buildout of the City would result in total average daily flows of less than seven mgd, which would not exceed the 8.5 mgd capacity of the Livermore Water Reclamation Plant.[28] The addition of project-generated flows would also not cause an exceedance of the 12 mgd pumping limit of the influent pumps at the Livermore Water Reclamation Plant under cumulative conditions, and the holding basin would, similarly, have adequate volume to accommodate the peak wet weather flows associated with the proposed project in conjunction with cumulative development.

New development, including the proposed project, would be subject to the City's wastewater connection fee, established by Livermore Municipal Code Chapter 13.28. Revenues generated by payment of the connection fee would ensure cumulative development, as well as the proposed project, pays a fair share towards any expansions to the wastewater system deemed necessary by the City, including costs associated with Project BO-CIP-P07. Furthermore, new sanitary sewer conveyance infrastructure required as part of cumulative development of the City, similar to the proposed project, would be required to be designed and constructed in accordance with the applicable standards set forth in the City of Livermore Standard Details (S-1 through S-11). Compliance with the foregoing standards would ensure new sewer

[28] Vera, Ashley, Senior Planner, Community Development Department, City of Livermore. Personal Communication [email] with Angela DaRosa, Division Manager/Air Quality Specialist, Raney Planning & Management, Inc. June 21, 2023.

lines installed as part of buildout of the General Plan are constructed in conformance with proper materials and sizing.

Based on the above, the proposed project would exacerbate an exceedance of the firm capacity of the Airport Lift Station, as well as of the velocities in the eight-inch-diameter portion of the lift station's associated force main, under cumulative conditions. Therefore, impacts related to the increase in demand for wastewater treatment services and facilities associated with the proposed project, in combination with future buildout of the Livermore General Plan, would be considered a significant impact.

Electricity, Natural Gas, and Telecommunications Facilities

Environmental effects associated with the construction of new or expanded electricity and telecommunications facilities would primarily be project-specific, rather than cumulative. As noted under Impact 4.7-3 above, while the project would include new connections to existing electrical and telecommunications infrastructure located in the project vicinity, substantial extension of existing off-site infrastructure would not be required. In addition, the proposed project would be built all-electric, and, thus, would not require the provision of natural gas infrastructure. Therefore, the proposed project would result in a less-than-significant cumulative impact related to construction of new or expanded electricity, natural gas, and telecommunications facilities.

Solid Waste

As noted previously, according to CalRecycle, the Vasco Road Landfill has a remaining capacity of 11,560,000 cubic yards and an estimated closure date of 2051. Construction waste generated by development facilitated by buildout of the General Plan planning area would be required to comply with the applicable provisions of the CALGreen Code. The CALGreen Code requires at least 65 percent diversion of construction waste for projects permitted after January 1, 2017. In addition, recyclables collected and processed by Livermore Sanitation, Inc. would be bundled and transported to recycling centers, further preserving remaining capacity at the Vasco Road Landfill. Considering the remaining capacity at the landfill to serve future development, adequate capacity would be available to serve cumulative development within the City of Livermore, in conjunction with the proposed project, and a less-than-significant impact would occur.

Conclusion

Based on the above, adequate water supply, electricity, natural gas, telecommunication facilities, and landfill capacity would be available to serve cumulative development in conjunction with the proposed project. However, impacts related to the increase in demand for wastewater conveyance services and facilities associated with the proposed project, in combination with future buildout of the Livermore General Plan, would be considered a ***significant*** cumulative impact.

Mitigation Measure(s)

Pursuant to CEQA Guidelines Section 15130(a)(3), the payment of a "fair share fee" is permissible as effective mitigation for cumulative impacts. Thus, Mitigation Measure 4.7-8(a) requires the proposed project to include payment of such fees, which would

ensure the project contributes a fair share towards public improvements to wastewater infrastructure, including Project BO-CIP-P07 in the Sewer Collection System Capital Improvement Program. Together with Mitigation Measure 4.7-8(b), the mitigation measures below would be considered sufficient mitigation to reduce the projects' incremental contribution to the significant cumulative impact to a *less than cumulatively considerable* level.

4.7-8(a) *Prior to approval of improvement plans, the project applicant shall pay the applicable sewer fair share fees to the City of Livermore Community Development Department. Payment of such fees shall be made in compliance with Livermore Municipal Code Chapter 13.28.*

4.7-8(b) *In conjunction with submittal of improvement plans for SMP 39 or SMP 40, whichever is developed second as part of the proposed project, the project applicant shall submit an analysis of the pumping capacity available at the Airport Lift Station to convey additional flows generated by SMP 39 and SMP 40. The lift station capacity analysis shall be prepared by a registered civil engineer. According to the 2022 Airport Lift Station Analysis prepared by West Yost Associates, the City of Livermore has indicated that the pumping capacity necessary to accommodate SMP 39 and SMP 40 would be 2,088 gallons per minute (gpm). The subsequent evaluation shall confirm the aforementioned estimate and be submitted for review and approval to the City of Livermore Community Development Department.*

If the Airport Lift Station pumping capacity is determined to be inadequate, the project applicant shall ensure the pumping capacity is increased to the necessary gpm determined by the subsequent analysis, with all design recommendations contained therein incorporated into the improvement plans for SMP 39 or SMP 40, whichever is developed second as part of the proposed project. Incorporation of the design recommendations to increase the Airport Lift Station pumping capacity shall be submitted for review and approval to the City Engineer.

4.8 Transportation

4.8 TRANSPORTATION

4.8.1 INTRODUCTION

The Transportation chapter of the EIR addresses the transportation conditions within the project vicinity, including consideration of proposed project impacts related to transit facilities and services, bicycle facilities, pedestrian facilities, vehicle miles traveled (VMT), and traffic safety issues. The information contained within this chapter is primarily based on the Traffic Impact Analysis Report (TIA) prepared for the proposed project by TJKM Transportation Consultants (see Appendix N of this EIR)[1], as well as the City of Livermore General Plan[2] and associated General Plan EIR.[3] It should be noted that only SMP 39 and SMP 40 are currently proposed for development. As such, the analysis within this chapter is focused on the transportation impacts related to the development of the SMP 39 and SMP 40 sites, as well as the off-site trail connections.

4.8.2 EXISTING ENVIRONMENTAL SETTING

The section below describes the physical and operational characteristics of the existing transportation system within the project vicinity, including the surrounding roadway network, transit, bicycle, and pedestrian facilities.

Existing Roadways

The following sections provide a summary of the existing roadways in the project vicinity:

Interstate 580

Interstate 580 (I-580) is an east-west, eight- to 13-lane freeway with four mixed-flow lanes, one auxiliary lane, two eastbound express lanes, and one westbound express lane located approximately 4,000 feet north of the SMP 39 site. Access from I-580 to the project site is provided via eastbound and westbound ramps at Isabel Avenue/State Route (SR) 84 and at eastbound and westbound ramps at El Charro Road.

Isabel Avenue/State Route 84

Isabel Avenue/SR 84 is a north-south, six-lane highway that is located immediately east of the SMP 40 site. The posted speed limit along Isabel Avenue/SR 84 is 40 to 50 miles per hour (mph).

Airway Boulevard

Airway Boulevard is a generally east-west, two- to four-lane major roadway located approximately 2,000 feet north of the SMP 39 site. The posted speed limit along Airway Boulevard is 45 mph.

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1 TJKM Transportation Consultants. *Traffic Impact Analysis Report: SMP 39 & 40 Development.* August 16, 2023.
2 City of Livermore. *General Plan 2003-2025.* Adopted February 9, 2004.
3 City of Livermore. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report (SCH No. #2003032038).* June 2003.

West Jack London Boulevard

West Jack London Boulevard is an east-west, four-lane, divided major roadway that runs along the SMP 39 site's northern boundary. The speed limit along West Jack London Boulevard is 35 mph east of Isabel Avenue/SR 84 and 45 mph west of Isabel Avenue/SR 84. West Jack London Boulevard provides direct access to the SMP 39 site.

Stanley Boulevard

Stanley Boulevard is an east-west, four-lane, divided major roadway located approximately 650 feet south of the SMP 40 site. The speed limit along Stanley Boulevard is 45 to 55 mph.

Voyager Street

Voyager Street is a north-south, two-lane local street that provides direct access to the SMP 40 site from West Jack London Boulevard through Oaks Business Park to Discovery Drive, north of the SMP 40 site. The speed limit on Voyager Street is 25 mph. The eastern side of the roadway is currently unimproved along the SMP 40 site frontage.

Discovery Drive

Discovery Drive is a two-lane local street that curves north-south from an intersection with West Jack London Boulevard to an east-west direction before intersecting with Isabel Avenue/SR 84, approximately 1,000 feet north of the SMP 40 site. The speed limit on Discovery Drive is 25 mph.

El Charro Road

El Charro Road is a four- to six-lane facility located approximately 2,700 feet west of the SMP 39 site providing a connection to I-580 and continuing north of I-580 as Fallon Road in the City of Dublin.

Existing Pedestrian Facilities

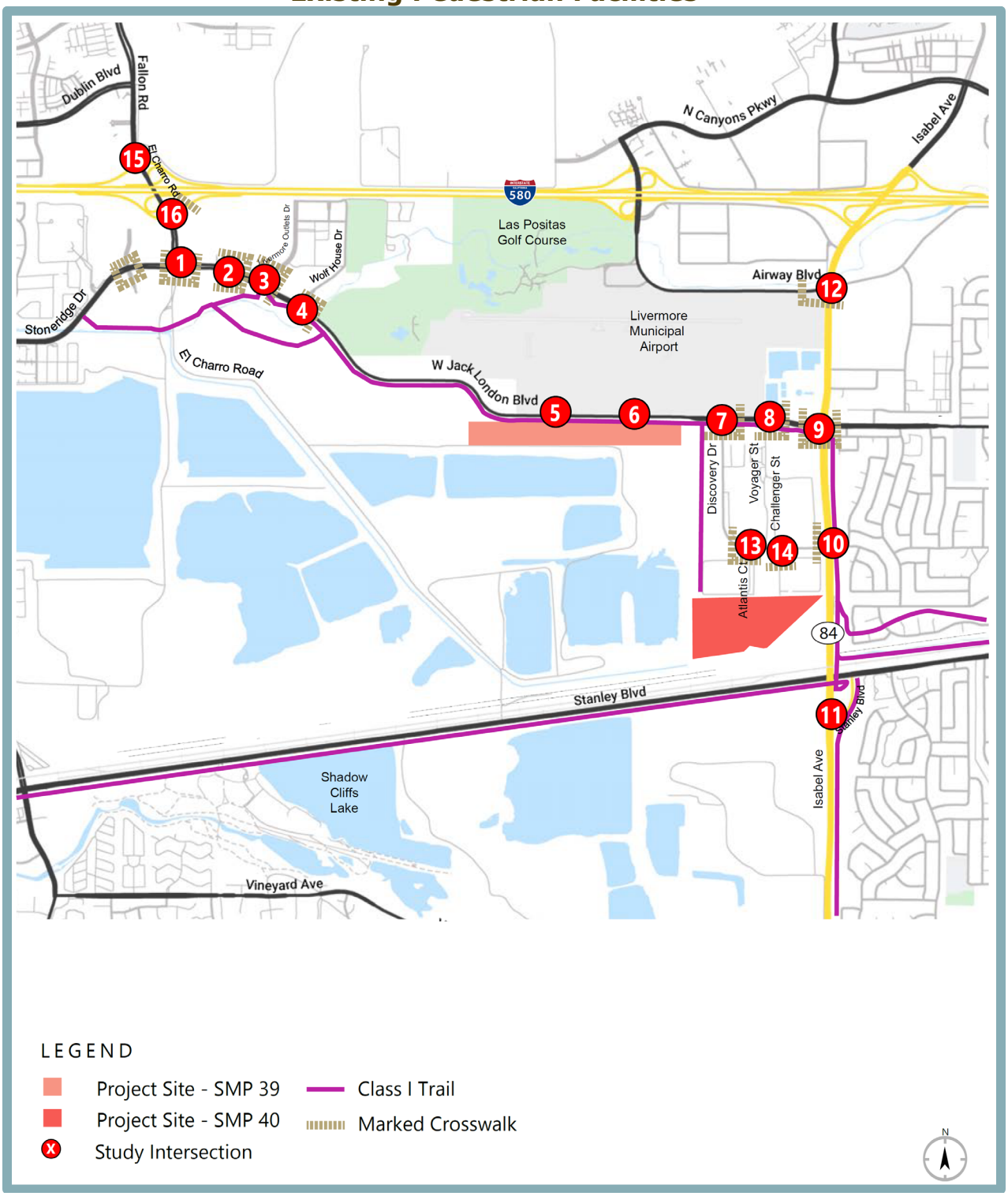
Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities. Existing pedestrian facilities in the project vicinity are presented in Figure 4.8-1. An approximately 10-foot-wide Class I trail that is accessible by pedestrians and bicycles is located along the SMP 39 site frontage. The trail provides connectivity from the San Francisco Premium Outlets and the surrounding shopping centers to the Oaks Business Park. Approximately six-foot-wide sidewalks are present along Atlantis Street and Challenger Street, both of which are located within the Oaks Business Park, north of the SMP 40 site. In addition, all signalized intersections, except those located at the intersection of Isabel Avenue/SR 84 and Stanley Boulevard, and at the El Charro Interchange, have marked crosswalks and pedestrian signal heads.

Existing Bicycle Facilities

Existing bicycle facilities in the project vicinity are illustrated in Figure 4.8-2, and described below.

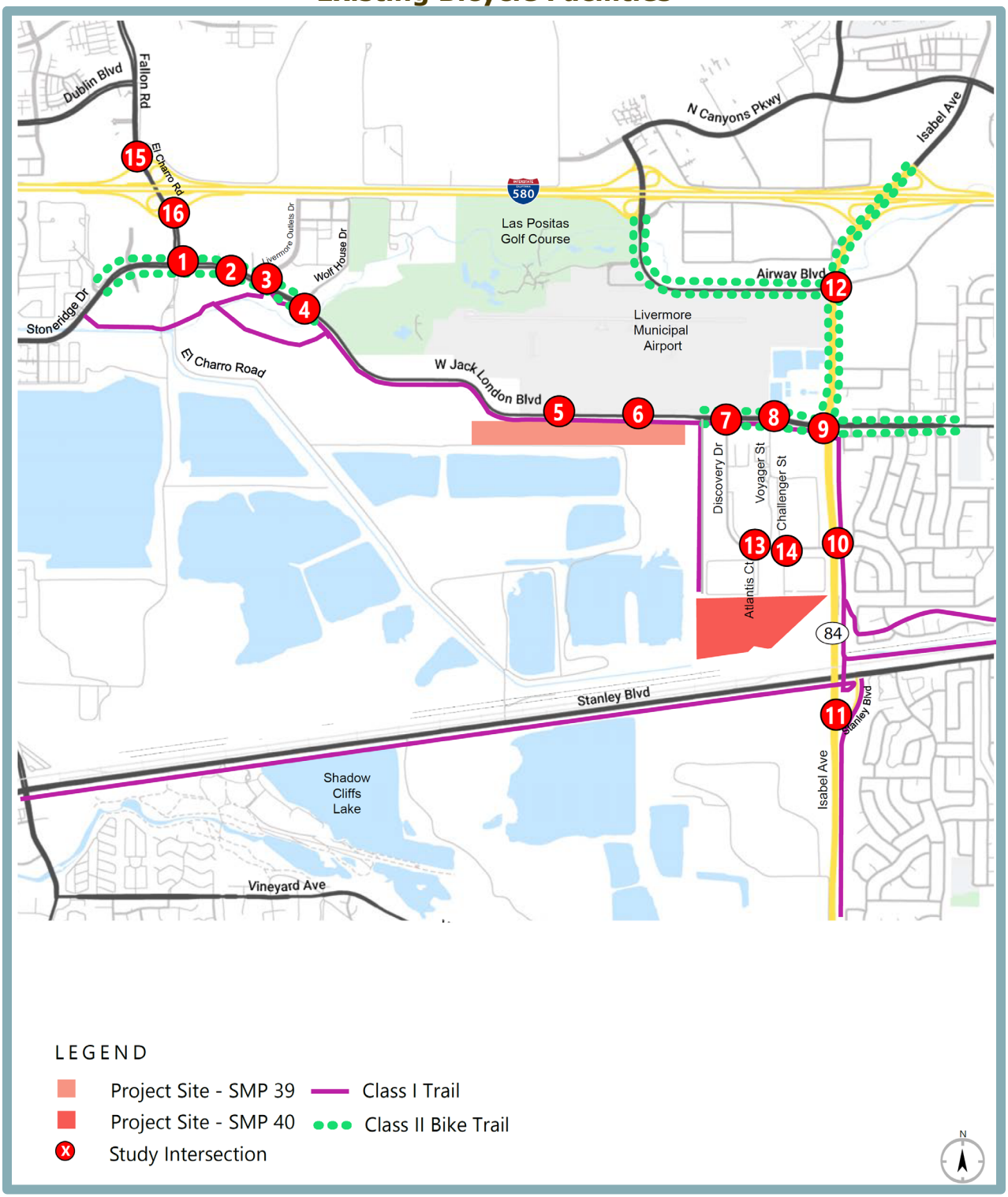
- **Class I Bikeways (Bike Paths or Shared-Use Path)**: Class I bikeways provide a completely separated right-of-way for bicycles and pedestrians with minimal crossflow by motorized vehicles. The bikeways provide a recreational opportunity or can serve as commute routes, and are often located along creeks, canals, and rail lines. In the project vicinity, Class I facilities exist along West Jack London Boulevard, Isabel Avenue/SR 84, and Stanley Boulevard.

Figure 4.8-1
Existing Pedestrian Facilities



Note: The Study Intersections shown above correspond to the level of service (LOS) analysis presented in the TIA prepared for the proposed project (see Appendix N of this EIR). LOS is outside the scope of CEQA analysis.
Source: TJKM Transportation Consultants, 2023.

Figure 4.8-2
Existing Bicycle Facilities



Note: The Study Intersections shown above correspond to the LOS analysis presented in the TIA prepared for the proposed project (see Appendix N of this EIR). LOS is outside the scope of CEQA analysis.
Source: TJKM Transportation Consultants, 2023.

- **Class II Bike Lanes**: Class II bike lanes use special lane markings, pavement legends, and signage. Bike lanes provide designated street space for bicyclists, typically adjacent to outer vehicle travel lanes. Buffered bike lanes increase separation through painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (e.g., driveways or intersections). Class II bike lanes are available along Stoneridge Drive, West Jack London Boulevard, Airway Boulevard, and Isabel Avenue/SR 84, north of the intersection of West Jack London Boulevard and Isabel Avenue/SR 84.
- **Class III Bike Routes**: Bike routes provide enhanced mixed-traffic conditions for bicyclists through signage, sharrow striping, and or traffic calming treatments, and provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes, or along low-volume, low-speed streets. Bicycle boulevards further enhance bike routes by encouraging slower speeds and discouraging non-local vehicle traffic using traffic diverters, chicanes, traffic circles, and speed tables. Class III bike routes do not exist in the project vicinity.
- **Class IV Separated Bikeways or Cycle Tracks**: Bikeways, also known as cycle tracks or separated bikeways, are set aside for the exclusive use of bicycles and physically separated from vehicle traffic. Separated bikeways were adopted by Caltrans in 2015. Separation may include grade separation, flexible posts, physical barriers, or on-street parking. Class IV bikeways do not exist in the project vicinity.

Existing Transit Facilities

Tri-Valley Wheels provides transit service throughout Livermore, Dublin, Pleasanton, and unincorporated Alameda County. The main transit center in Livermore is the Livermore Transit Center, located in Downtown Livermore. From the Transit Center, riders can connect to Dublin/Pleasanton Bay Area Rapid Transit (BART), Lawrence Livermore National Lab (LLNL), Las Positas College, and other local destinations. Table 4.8-1 summarizes the existing Tri-Valley Wheels service, and Figure 4.8-3 illustrates the existing transit facilities, in the project vicinity.

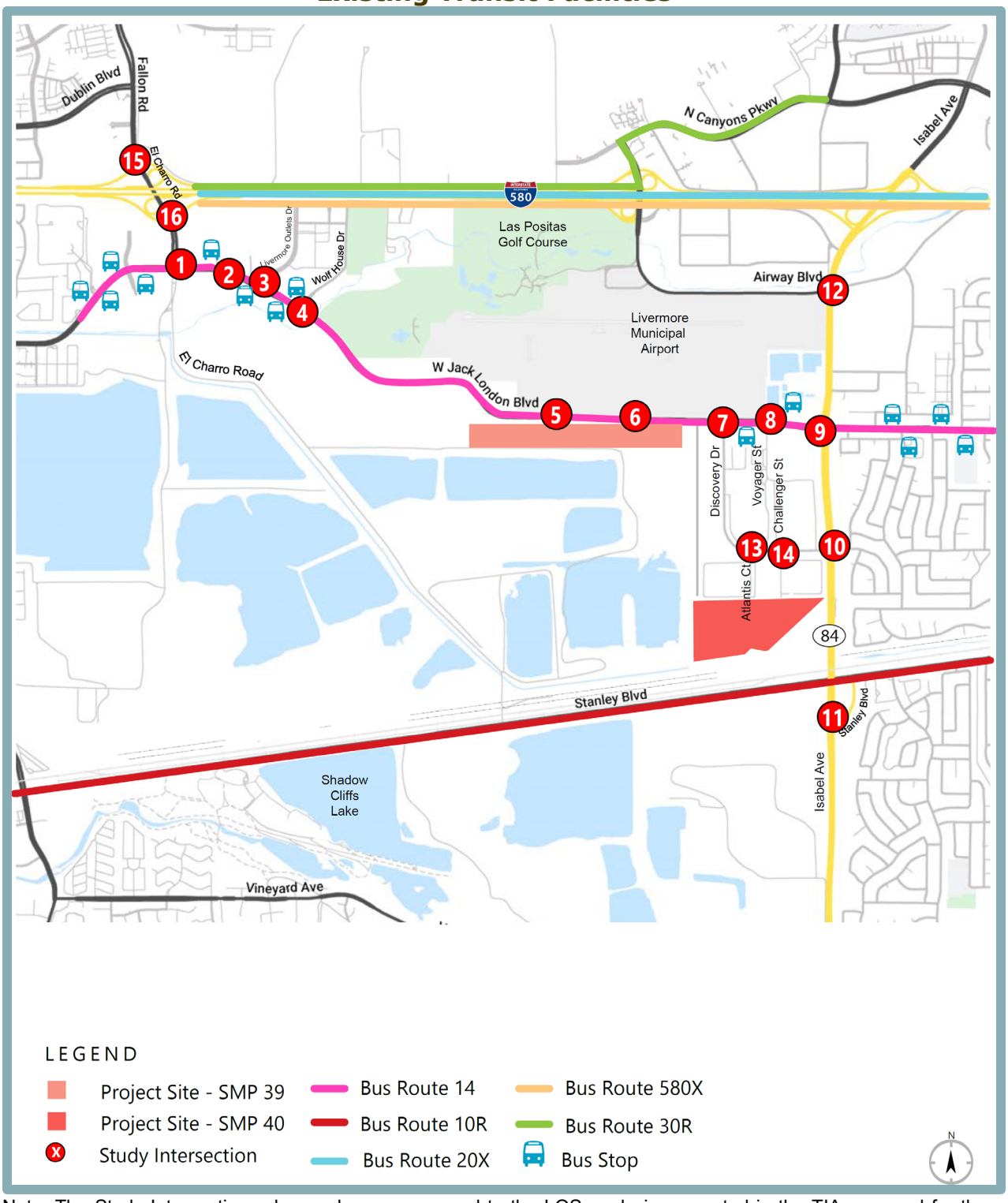
Table 4.8-1
Existing Tri-Valley Wheels Transit Service

Route	From	To	Weekdays		Weekends	
			Operating Hours	Headway (minutes)	Operating Hours	Headway (minutes)
14	East Dublin/ Pleasanton BART	Livermore Transit Center	6:26 AM – 9:40 PM	30 to 60	7:59 AM – 9:52 PM (Saturday) 7:51 AM – 9:44 PM (Sunday)	60
10R	East Dublin/ Pleasanton BART	Livermore Transit Center	4:24 AM – 11:17 PM	30 to 60	5:08 AM – 11:10 PM (Saturday) 5:40 AM – 11:10 PM (Sunday)	30 to 40
30R	West Dublin BART	East/Vasco & LLNL	5:14 AM – 10:50 PM	30	5:24 AM – 10:53 PM (Saturday) 5:16 AM – 10:45 PM (Sunday)	30 to 60

Note: Although operational in the project vicinity and shown in Figure 4.8-3, Routes 20X and 580X are Express Service routes that operate only four times a day, and, thus, are not included in this analysis.

Source: TJKM Transportation Consultants, 2023.

Figure 4.8-3
Existing Transit Facilities



Note: The Study Intersections shown above correspond to the LOS analysis presented in the TIA prepared for the proposed project (see Appendix N of this EIR). LOS is outside the scope of CEQA analysis.
Source: TJKM Transportation Consultants, 2023.

Vehicle Miles Traveled

VMT is a measure of the total amount of vehicle travel occurring on a given roadway system. VMT is a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. For analysis purposes, VMT refers to automobile VMT, specifically passenger vehicles and light trucks; heavy truck traffic is typically excluded. VMT does not directly measure traffic operations; instead, VMT is a measure of transportation network use and efficiency, especially when expressed as a function of population (i.e., VMT per capita).

As a result of Senate Bill (SB) 743, passed in 2013, local jurisdictions may not rely on vehicle level of service (LOS) and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA. Thus, consistent with the CEQA Guidelines, VMT is the primary metric used to identify transportation impacts to roadway systems within this chapter. Although the City of Livermore has not adopted VMT procedures or standards, methodology and implementation guidelines were adopted by the Alameda County Transportation Commission (ACTC) in July 2020. The City of Livermore has an average VMT per employee of 16.20

4.8.3 REGULATORY CONTEXT

Existing transportation policies, laws, and regulations that would apply to the proposed project are summarized below and provide a context for the impact discussion related to the project's consistency with the applicable regulatory conditions. Federal plans, policies, regulations, or laws related to transportation and circulation are not directly applicable to the proposed project. Rather, the analysis presented herein focuses on State and local regulations, which govern the regulatory environment related to transportation and circulation at the project level.

State Regulations

The following are the regulations pertinent to the proposed project at the State level, organized chronologically.

Senate Bill 743

In 2013, SB 743 was passed to amend Sections 65088.1 and 65088.4 of the Government Code, amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of the Public Resources Code (PRC), to add Section 21155.4 to the PRC, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of the PRC, to add and repeal Section 21168.6.6 of the PRC, and to repeal and add Section 21185 of the PRC, relating to environmental quality. In response to SB 743, the Office of Planning and Research (OPR) has updated the CEQA Guidelines to include new transportation-related evaluation metrics. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package along with an updated Technical Advisory related to Evaluating Transportation Impacts in CEQA. Full statewide compliance with the Guidelines became effective July 2020. As a result of SB 743, and Section 15064.3 of the CEQA Guidelines, as discussed in further detail below, local jurisdictions may no longer rely on vehicle LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA, and instead a VMT metric should be evaluated.

Technical Advisory on Evaluating Transportation Impacts in CEQA

In December of 2018, the OPR published the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), which is a guidance document to provide advice and

recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory is intended to be a resource for the public to use at their discretion, and the OPR does not enforce any part of the recommendations contained therein. The Technical Advisory includes recommendations regarding methodology, screening thresholds, and recommended thresholds per land use type.

Vehicle Miles Traveled-Focused Transportation Impact Study Guide

In May of 2020, Caltrans adopted the Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG) to provide direction to lead agencies regarding compliance with SB 743. The TISG replaces the Caltrans' 2002 Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System. The objectives of the TISG are to provide:[4]

a) Guidance in determining when a lead agency for a land use project or plan should analyze possible impacts to the State Highway System, including its users.
b) An update to the Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) that is consistent with SB 743 and the CEQA Guidelines adopted on December 28, 2018.
c) Guidance for Caltrans land use review that supports state land use goals, state planning priorities, and greenhouse gas (GHG) emission reduction goals.
d) Statewide consistency in identifying land use projects' possible transportation impacts, to the State Highway System, and to identify potential non-capacity increasing mitigation measures.
e) Recommendations for early coordination during the planning phase of a land use project to reduce the time, cost, and/or frequency of preparing a Transportation Impact Study or other indicated analysis.

Caltrans has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, and any improvements to such roadways require Caltrans approval.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is a non-profit association of the Air Pollution Control Officers from all 35 local air quality agencies throughout California. Given the connection between air pollution emissions and the use of motor vehicles, the CAPCOA has issued recommendations that can be used by development projects to reduce project-wide VMT. One such document, the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, provides methods to quantify the efficacy of certain methods in their ability to reduce VMT and, in turn, greenhouse gas emissions.

Local Regulations

The following are the regulations pertinent to the proposed project on a local level.

Alameda County Transportation Commission

The ACTC is a joint powers authority that plans, funds, and delivers transportation programs and projects that expand access and improve mobility within Alameda County. As discussed above, VMT procedures, standards, methodology, and implementation guidelines were adopted by the

[4] Caltrans. *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*. May 20, 2020.

ACTC in July 2020. The ACTC guidelines include a screening process that describes five scenarios in which a project would be exempted from a VMT analysis requirement:

1. Projects exempt from CEQA analysis;
2. Small projects;
3. Local serving projects;
4. Projects in transit priority areas; or
5. Projects in low VMT areas.

It should be noted that even if a project satisfies one or more of the screening criteria, lead agencies may still require a VMT analysis if there is evidence that the project has characteristics that might lead to a significant amount of VMT.

Under the ACTC VMT methodology, a low VMT area is defined as a city or unincorporated portion within one of the ACTC subregions where home-based VMT per resident is at least 15 percent below the countywide average for a residential project, or where the commute VMT per employee is at least 15 percent below the regional average for an office project. A conservative reading of the methodology would indicate that when the citywide average VMT per resident is above the countywide average, projects cannot be screened out based on location, and a VMT analysis must be completed. In such cases, the appropriate significance thresholds based on countywide or regional average would be applied. The methodology also permits the applicable average VMT for the subject municipality or unincorporated ACTC subregion to be utilized instead of the countywide or regional average, if it is less stringent. Under ACTC guidelines, an office project would have a significant impact on VMT if it would generate employee VMT per employee higher than 85 percent of the Alameda County average.

ACTC also serves as the County's congestion management agency. The most relevant plans, including the Alameda Countywide Transportation Plan and the Alameda County Congestion Management Plan, are discussed below.

Alameda Countywide Transportation Plan

The 2020 Countywide Transportation Plan (CTP) was adopted by the Alameda County Transportation Commission in November 2020, along with the Community-Based Transportation Plan and the New Mobility Roadmap.[5] The CTP establishes near-term priorities and guides long-term decision-making for the ACTC. The CTP establishes a vision for the County's complex transportation system that supports vibrant and livable communities. The CTP is updated every four years and serves as a key input into the region's transportation plan, Plan Bay Area. The 2020 CTP covers transportation projects, policies, and programs out to the year 2050 for Alameda County.

Alameda County Congestion Management Program

Pursuant to state legislation, ACTC (formerly the Alameda County Congestion Management Agency) has been required to update the Congestion Management Plan (CMP) every two years since 1991. The CMP is a technical document that describes strategies and procedures to measure the performance of the County's multimodal transportation system, address roadway congestion and improve the performance of a multimodal system, and connect transportation and land use. The CMP is aligned with other long-range planning efforts including the Countywide

[5] Alameda County Transportation Commission. *2020 Alameda Countywide Transportation Plan*. December 2020.

Transportation Plan and the 2040 Regional Transportation Plan and Sustainable Communities Strategy (Plan Bay Area 2040). The CMP specifically describes strategies to monitor and improve the performance of every mode of travel in Alameda County, which includes monitoring congestion, transit performance, bicycle and pedestrian activity throughout the County, and major new land use developments. ACTC also maintains a countywide travel model in compliance with the 2040 Regional Transportation Plan and Sustainable Communities Strategy (Plan Bay Area 2040), and CMP legislation.

Current CMP legislation is in conflict with SB 743. CMP legislation requires use of a delay-based metric, Level of Service, to measure roadway performance. However, recently amended CEQA guidelines based on SB 743 require VMT as the primary metric for traffic impacts. ACTC is evaluating strategies to resolve this legislative conflict.

City of Livermore General Plan

The relevant goals, objectives, and policies from the adopted City of Livermore General Plan related to transportation are presented below.

Goal CIR-1 Provide safe, efficient, comfortable, and convenient mobility for all users.

Objective CIR-1.3 Make Complete Streets practices a routine part of everyday operations.

Policy P1 The City shall incorporate Complete Streets into all planning, funding, design, approval, and implementation processes for any construction, reconstruction, retrofit, expansion, maintenance, operations, alteration, or repair of streets.

Policy P3 The City shall approach transportation projects, programs, and practices as opportunities to improve streets and the transportation network for all categories of users.

Policy P5 The City shall consider Complete Streets when adopting or amending the General Plan, Specific Plans, Zoning Ordinances, Master Plans, or the Capital Improvement Program.

Goal CIR-2 Promote multi-modal transportation.

Objective CIR-2.3 Provide a bicycle, pedestrian, and trails network.

Policy P1 Develop a comprehensive bikeway and trails system as a viable alternative to the automobile for all trip purposes in order to maximize the number of daily trips made by

non-motorized means for residents of all abilities.

Policy P2 Consider bicycle, pedestrian, and equestrian access in all aspects of City Planning and coordinate with other agencies to improve non-motorized access within the City of Livermore and to surrounding regional areas and facilities.

Policy P3 Provide related facilities and services necessary to allow bicycle and pedestrian travel to assume a significant role as a local alternative mode of transportation.

Policy P4 Improve the safety of bicyclists and pedestrians by educating all Livermore residents about bicycle and pedestrian safety and by enforcing bicycle and motorist laws and regulations effecting bicycle and pedestrian safety. Increase bicycle and pedestrian mode share by increasing public awareness of benefits of bicycling and walking and of the available bike and trail facilities and programs.

Policy P5 Maintain all roadways and multi-use trails so that they provide safe and comfortable bicycling, walking, and equestrian conditions.

Policy P6 Implement a bikeway system with community input on the priorities and with a minimal impact on the environment.

Objective CIR-2.4 Provide a pedestrian network that encourages walking for transportation and recreation.

Policy P1 The City shall ensure the safe and convenient movement of pedestrians throughout the City and within neighborhoods.

Policy P2 The City's design guidelines for public and private facilities shall aid and encourage pedestrian activity.

Policy P3 The City shall require development to meet the requirements of the Americans with

Disabilities Act to further facilitate the mobility of persons with accessibility needs.

Goal CIR-3 Identify and develop a circulation system consistent with the Land Use Element.

Objective CIR-3.1 Plan, manage, and develop the local circulation system to support the Land Use Element.

Policy P1 The City shall consider the impacts to the existing and proposed circulation system when considering changes in land use.

Policy P2 Development projects shall be reviewed for impacts on the adjacent circulation system. Identified impacts shall be addressed and mitigated to the greatest extent feasible.

Policy P3 High traffic-generating land uses shall be located along or close to major streets.

Goal CIR-4 Provide a local roadway system for the safe, efficient, and convenient movement of vehicular traffic.

Objective CIR-4.1 The City shall provide adequate road linkages throughout Livermore.

Policy P1 The City shall maximize the carrying capacity of major streets by providing a well-coordinated traffic/signal control system, controlling the number of intersections and driveways, limiting residential access points, and requiring sufficient off-street parking.

Policy P2 The City shall ensure that adequate roadway connections are provided between areas north of I-580 and areas south of I-580.

Policy P3 The City shall pursue and protect adequate right-of-way to accommodate future circulation system improvements.

Policy P4 The City shall provide neighborhoods and commercial areas with adequate freeway access.

Goal CIR-6 Protect neighborhood quality and community character through circulation planning.

Objective CIR-6.2 Plan and maintain the circulation system to prevent or minimize environmental impacts.

	Policy P1	Require local roadway improvements to minimize adverse land use, air quality, noise, community appearance, health, safety, vegetation and wildlife, drainage, and other environmental impacts.
	Policy P2	The City shall evaluate the effects on transportation systems of public utility improvements, including extensions of underground pipelines and overhead transmission lines and associated utility rights-of-way.
	Policy P3	Require all residential, commercial, and industrial areas to provide efficient and safe access for emergency vehicles.
Objective CIR-8.2		Implement measures to support and plan for the transfer of State Route 84 to the Isabel Avenue/I-580 Interchange.
	Policy P3	Prevent new access points to Isabel Avenue/Kitty Hawk.
	Policy P5	Preserve the integrity of Isabel Avenue as a future expressway by prohibiting the installation of additional longitudinal utilities and by partnering with State and regional agencies on developing future projects to relocate existing longitudinal utilities.
Goal CIR-10		Provide adequate safe and convenient short- and long-term vehicle and bicycle parking for all land uses in the City.
Objective CIR-10.1		Minimize spillover vehicle parking impacts by ensuring adequate parking enforcement and requiring sufficient parking for new development.
	Policy P1	The City shall ensure that new developments provide adequate safe and convenient short- and long-term parking.
Objective CIR-10.3		Strive to expand bicycle parking facilities throughout the City.
	Policy P1	On- and off-street bicycle parking facilities should be provided near destinations for all bicycle users, including commuters, residents, shoppers, students, and others.

Goal CIR-11 Support goods movement within the City.

Objective CIR-11.2 Minimize adverse impacts to residents or businesses from rail and truck traffic.

Policy P1 No through truck traffic shall be allowed in residential areas.

Livermore Active Transportation Plan

Adopted in 2018 by the City of Livermore, the Livermore Active Transportation Plan (ATP) includes policies guiding new development projects to include trail and bikeway and pedestrian facilities to facilitate on-site circulation for non-motorized modes of travel. The ATP also guides the implementation of connections to the bikeways and trails system from all existing and future transit facilities, stations, and terminals in Livermore; safe and efficient off-street and on-street crossings of I-580 that make logical connections to the bikeways and trails; and connections between school/work/public facility areas to residential areas.

4.8.4 IMPACTS AND MITIGATION MEASURES

The standards of significance to be used in identifying transportation impacts are presented below. In addition, the methods used to analyze the impacts of the project on the roadway, bicycle, pedestrian, and transit systems are provided in the following section. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to transportation would occur if the proposed project would result in any of the following:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

VMT Standards of Significance

As of June 2023, the City of Livermore has not adopted VMT procedures standards. According to Section 15064.3(b)(3) of the CEQA Guidelines, a Lead Agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in any other measure. Thus, a Lead Agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. Additionally, OPR recommends that for most instances, a per service population threshold should be adopted and that a 15 percent reduction below that of existing development would be a reasonable threshold.

The ACTC guidelines are based on OPR recommendations and have been adopted by Alameda County. Because neither the OPR nor ACTC include guidelines that apply specifically to industrial projects such as the proposed project, the analysis was performed using the guidelines for office projects. Under ACTC guidelines, an office project would have a significant impact on VMT if it

would generate VMT per employee higher than 85 percent of the Alameda County average. However, similar to several other local agencies in the San Francisco Bay Area, considering the characteristics of industrial projects, which tend to generate higher VMT than typical office projects, the City of Livermore recommends using the City average without a 15 percent reduction as the significance criteria for the proposed project. Thus, if the proposed project would result in VMT per employee in excess of the City average of 16.20, a significant impact would occur.

Method of Analysis

As noted previously, because the SMP 38 site and the Additional Annexation Only Parcels are not currently proposed for development, this chapter includes an analysis of impacts associated with development of the SMP 39 and SMP 40 sites, as well as the off-site trail connections. The information contained within this chapter is primarily based on the TIA prepared for the proposed project by TJKM Transportation Consultants (see Appendix N of this EIR), particularly the analysis of bicycle, pedestrian, and transit facilities, as well as VMT. It should be noted that the TIA also includes an analysis of consistency with City plans and standards, including LOS; however, because such an analysis is not within the scope of CEQA, the details of which are not presented in this chapter. Please refer to Appendix N for more details. Further details regarding the methodology used in the TIA for the CEQA analysis presented within this chapter is presented below.

Project Trip Generation

The trip generation for the proposed project was calculated based on data contained in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition manual (2021). Specifically, the TIA used published trip rates for the ITE land use Manufacturing for SMP 39 and High Cube Warehouse for SMP 40.

Development of the SMP 39 site is anticipated to generate 3,596 daily trips, including 515 AM peak hour trips (391 inbound trips, 124 outbound trips) and 560 PM peak hour trips (174 inbound trips, 386 outbound trips). Development of the SMP 40 site is anticipated to generate 1,062 daily trips, including 61 AM peak hour trips (47 inbound trips, 14 outbound trips) and 76 PM peak hour trips (21 inbound trips, 55 outbound trips). Table 4.8-2 below presents the project trip generation expected for SMP 39 and SMP 40.

Table 4.8-2
Project Trip Generation

Site	ITE Land Use and Code	Daily		AM Peak				PM Peak			
		Rate*	Trips	In:Out	In	Out	Total	In:Out	In	Out	Total
SMP 39	Manufacturing (ITE 140)	4.75	3,596	76:24	391	124	515	31:69	174	386	560
SMP 40	High Cube Warehouse (ITE 154)	1.40	1,062	77:23	47	14	61	28:72	21	55	76
Net Trips			**4,658**				**576**				**636**

* Per 1,000 sf.

Source: TJKM Transportation Consultants, 2023.

Vehicle Miles Traveled Assessment

To conduct the VMT assessment for the TIA, TJKM Transportation Consultants followed ACTC guidance. ACTC guidance on VMT analysis for industrial projects, such as the proposed project, require a base year condition travel demand model run along with a baseline plus project model run to extract VMT data for the traffic analysis zone (TAZ) that the project site is located within. The project site is located within two different TAZs in the ACTC model, TAZ #1201 and TAZ #1202. The proposed land uses were added to the land use input file and the base year ACTC model was run to generate the VMT for the proposed project.

The proposed development on the SMP 39 and SMP 40 sites consists of office and warehouse uses. Development of the SMP 39 site, which is located in TAZ #1201, would add an estimated 207 office employees and 579 warehouse employees, for a total of 786 new employees. Development of the SMP 40 site, which is located in TAZ #1202, would add an estimated 78 office employees and 614 warehouse employees, for a total of 692 new employees. Overall, the proposed project would add an estimated total of 1,478 employees to the region. A base year plus project model run was conducted with the land use changes added.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to transportation is based on implementation of the proposed project in comparison to the existing conditions and the standards of significance presented above. It should be noted that development of the Additional Annexation Only Parcels or the SMP 38 site is not proposed as part of the proposed project. As such, the discussions and mitigation measures presented below only apply to the SMP 39 and SMP 40 sites, as well as the off-site trail connection options, unless otherwise stated.

4.8-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction activities associated with the proposed project would include use of construction equipment, including vehicles removing or delivering fill material, bulldozers, and other heavy machinery, as well as building materials delivery, and construction worker commutes. The transport of heavy construction equipment to the site, haul truck trips, and construction worker commutes could affect the local roadway network.

Construction workers typically arrive before the morning peak hour and leave before the evening peak hours of the traditional commute time periods. Deliveries of building material (lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional commute time periods. In addition, any truck traffic to the site would follow designated truck routes established by Caltrans, such as I-580 and Isabel Avenue/SR 84, and project construction would likely stage any large vehicles (i.e., earth-moving equipment, cranes, etc.) on the site prior to beginning site work and remove such vehicles at project completion. However, detailed information related to the construction schedule during site development, or a construction management plan, is not available. As a result, construction activities associated with development of the SMP 39 and SMP 40 sites, as well as the off-site trail connection, particularly Trail Option 3 - Overcrossing of Isabel Avenue/SR 84, could include disruptions to the

transportation network near the project site, such as along West Jack London Boulevard or Isabel Avenue/SR 84.

Based on the above, without proper planning of construction activities, construction traffic and potential street closures could interfere with existing roadway operations, including pedestrian, bicycle, and transit facilities, during the construction phase. Therefore, the proposed project has the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.8-1 *Prior to grading permit issuance for the SMP 39 and SMP 40 sites, as well as the chosen off-site trail connection option, the project applicant shall prepare a Construction Traffic Management Plan for review and approval by the City Engineer. The plan shall include the following:*

- *A project staging plan to maximize on-site storage of materials and equipment;*
- *A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure proceedings; signs, cones and other warning devices for drivers; and designation of construction access routes;*
- *Provisions for maintaining adequate emergency access to the project site;*
- *Permitted construction hours, per City of Livermore standards;*
- *Designated locations for construction staging areas;*
- *Identification of parking areas for construction employees, site visitors, and inspectors, including on-site locations;*
- *Signs posted at the entrances to the construction sites noting who to contact if there are questions or concerns, along with a contact phone number; and*
- *Provisions for street sweeping to remove construction-related debris on public streets.*

4.8-2 Conflict with a program, plan, ordinance or policy addressing the circulation system during operations. Based on the analysis below, the impact is *less than significant*.

As discussed throughout this chapter, LOS is no longer the applicable metric when evaluating transportation impacts of a project. The evaluation of VMT is discussed in Impact 4.8-3 of this chapter. Therefore, the following discussion focuses on whether the proposed project would result in impacts to existing or planned pedestrian, bicycle, or transit facilities and services within the project area.

Pedestrian and Bicycle Facilities

Pedestrian and bicycle access to the SMP 39 site would be facilitated by the existing paved multi-use trail along West Jack London Boulevard. In addition, as part of the proposed frontage improvements to the SMP 39 site, the project includes an at-grade, paved shared-use path within a 38.5-foot-wide trail easement along West Jack London Boulevard, which would provide connection to the existing path along the western boundary of the Oaks Business Park and eventually to the Arroyo Mocho Trail. Three driveways are proposed to access West Jack London Boulevard from the SMP 39 site: between Buildings 2 and 3, between Buildings 4 and 5 and east of Building 6. These driveways will interface with the Class I bike facility in a similar manner to the driveway interfaces to the east at the Oaks Business Park. The proposed path would be similar to the existing path along the Oaks Business Park site and would be consistent with the City's ATP.

Pedestrian access to the SMP 40 site would be facilitated by existing sidewalks along the west side of Atlantis Street and the east side of Challenger Street, both of which are located within the Oaks Business Park, north of the SMP 40 site. In addition, the proposed project would include a paved at-grade, on-site trail along the boundaries of the SMP 40 site, consistent with the City's ATP. Specifically, the on-site trail would extend from the northeastern corner of the site, along the project site's eastern, southern, and western boundaries, before connecting to an off-site existing paved shared-use path at the northwestern corner of the site, which extends along the west side of the Oaks Business Park to the north and connects to West Jack London Boulevard.

Furthermore, the proposed project would include a new off-site trail connection to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue/SR 84. Three trail connection options for the proposed off-site Isabel Avenue/SR 84 crossing to the existing Arroyo Mocho Trail are being considered and evaluated. Trail Connection Option 1 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and north along the western side of Isabel Avenue/SR 84 to Discovery Drive, where a new pedestrian crossing would be added to connect to the existing Arroyo Mocho Trail, across Isabel Avenue/SR 84. Trail Connection Option 2 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site to a grade-separated undercrossing of Isabel Avenue/SR 84 at the existing Isabel Bridge, where the trail would connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. Trail Connection Option 3 would include the extension of the proposed on-site trail from the northeastern-most point of the SMP 40 site within a Zone 7 easement, off-site and south through the Additional Annexation Only Parcels to just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard). As part of Trail Connection Option 3, a new above-grade crossing over Isabel Avenue/SR 84 is proposed to connect to the existing Arroyo Mocho Trail at the northeast corner of Stanley Boulevard and Isabel Avenue/SR 84.

As shown in Figure 5-1 of the City's ATP, the ATP proposed the development of a trail on the SMP 40 site that would connect to the existing Arroyo Mocho Trail.[6] Thus, all

[6] City of Livermore. *Bicycle, Pedestrian, & Trails Active Transportation Plan* [pg. 55]. June 11, 2018.

of the off-site trail connection options would be generally consistent with what has been anticipated by the City's ATP and would serve to improve the connectivity of the surrounding area. As such, the proposed project would not conflict with a program, plan, ordinance, or policy addressing pedestrian facilities or bicycle facilities, and a less-than-significant impact would occur.

Transit Facilities and Services

As shown in Figure 4.8-4, public transit in the project vicinity includes two Tri-Valley Wheels bus stops on West Jack London Boulevard, east of Discovery Drive. The bus stops are within walking distance of both the SMP 39 and SMP 40 sites, and the existing pedestrian facilities in the project vicinity would provide adequate connectivity for pedestrians to the transit stops. Additionally, the proposed project would not include features that would conflict with existing or planned transit services. Therefore, operations of the proposed project would not conflict with a program, plan, ordinance, or policy addressing transit facilities, and a less-than-significant impact would occur.

Conclusion

Based on the above, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian, bicycle, and transit facilities during operations, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.8-3 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Table 4.8-3 summarizes the results of the VMT analysis prepared for the proposed project.

Table 4.8-3
Project VMT Per Employee

Site	Existing Conditions[1]	Existing Plus Project Conditions[1]	Threshold[2]
SMP 39 (TAZ #1201)	17.97	17.01	16.20
SMP 40 (TAZ #1202)	0[3]	16.45	16.20

1. Measured as Average Daily VMT per Employee.
2. The applicable threshold is the average VMT per employee for the City of Livermore.
3. Under existing conditions, TAZ #1202 does not contain uses generating employee trips.

Source: TJKM Transportation Consultants, 2023.

The average VMT per employee for the City of Livermore was identified to be 16.20. As discussed previously, the City of Livermore recommends using the City average as the significance criteria. Therefore, the VMT threshold applied to the proposed project is 16.20 average daily VMT per employee. As shown in Table 4.8-3, development of SMP 39 would result in an average daily VMT per employee of 17.01, and development of SMP 40 would result in an average daily VMT per employee of 16.45; overall, the average of the two TAZs would be 16.73 average daily VMT per employee, which is higher than the applicable significance threshold of 16.20.

Therefore, the project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a ***significant*** impact could occur.

Mitigation Measure(s)

Using the ACTC VMT mitigation tool, the TIA calculated that implementation of Mitigation Measure 4.8-3 would reduce the project-specific VMT per employee by a minimum of four percent, or to 16.06, which would be below the applicable VMT per employee significance criteria of 16.20. Therefore, implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.8-3 *Prior to the issuance of the first building permit, the project applicant shall be required to develop a Transportation Demand Management (TDM) Program for SMP 39 and SMP 40. The TDM Program shall be monitored by the project applicant/operator on an annual basis to determine the efficacy of the selected TDM strategies in achieving the reduction below the average VMT per employee of three percent (i.e., the performance target). An Annual Status Report on the TDM Program shall be submitted to the City of Livermore Engineering Division beginning a year after the issuance of any certificate of occupancy and shall include details on the TDM strategies, including an Employer Carpool Program which has a goal to reduce VMT per employee by approximately four percent and, thus, would meet and exceed the performance target. The Employer Carpool Program shall implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. Data shall be collected in October of each year and the Annual Status Report shall be submitted by December 31st of each year. The report shall be prepared in the form and format designated by the City. The data shall include project-generated VMT estimates compatible with the methodology used to estimate the benchmark VMT so that performance comparisons can be made. If the Annual Status Report demonstrates that the project is not in compliance with the performance target set forth in this mitigation measure, the project must incorporate additional TDM strategies to meet the performance target in coordination with City staff. The project applicant/operator may propose new TDM strategies that develop over time to further reduce project-generated VMT if substantial evidence is provided to support the efficacy of the strategy. If the Annual Status Reports demonstrate that the performance target has been achieved for three consecutive years*

once SMP 39 and SMP 40 are both fully occupied and operational, the project shall no longer need to provide annual reporting.

4.8-4 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access. Based on the analysis below, the impact is *less than significant*.

The proposed project would not include the installation of any sharp curves or dangerous intersections. Given the proposed land uses, the use of incompatible equipment would not occur. For example, farming does not occur in the project vicinity, and, as a result, farming equipment would be unlikely to operate on roadways in the project area. During construction, equipment would be staged on-site. Furthermore, the project site is not located in a central area of the City, and construction on the project site would not be anticipated to result in substantial road closures or otherwise interfere with citywide vehicle circulation. Nonetheless, as required by Mitigation Measure 4.8-1, a Traffic Management Plan would be implemented during construction, which would ensure that temporary roadway hazards associated with construction activities would not occur. As a result, impacts related to hazards and vehicle safety due to a geometric design feature would not occur.

Several factors determine whether a project has sufficient access for emergency vehicles, including the following:

1. Number of access points (both public and emergency access only);
2. Width of access points; and
3. Width of internal roadways.

Vehicular access to the SMP 39 site would be provided through three new 40-foot-wide driveways from West Jack London Boulevard. Two of the driveways would be full-access, whereas one would be right-in and right-out only. Although not required to reduce an impact under CEQA, the TIA recommends that the two full-access driveways be signalized to maintain acceptable intersection operations. As such, implementation of the foregoing recommendation would be included as a City condition of approval for the project.

Vehicular access to the SMP 40 site would be provided through new roadway connections to Atlantis Street and Challenger Street to the north, which currently serve the existing Oaks Business Park.

Internal circulation within both the SMP 39 and SMP 40 sites would be provided with 30- to 40-foot-wide roadways. According to the TIA, on-site roadways would be adequately sized to allow two-way circulation and truck circulation, as well as emergency vehicle access and circulation.

Based on the above, the proposed project would not substantially increase hazards due to a geometric feature or incompatible use, or result in inadequate emergency access, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

It should be noted that increased traffic volumes on local roadway facilities under cumulative conditions would not substantially alter performance related to bicycle facilities, pedestrian facilities, transit facilities and services, and emergency vehicle access. Rather, impacts to such facilities under cumulative plus project conditions would be similar to those discussed above under Impacts 4.8-1, 4.8-2, and 4.8-4. In addition, construction activities associated with the project would be complete prior to the cumulative analysis year. Therefore, such topics are not discussed further in the cumulative analysis presented herein.

Similarly, the VMT impact analysis presented under Impact 4.8-3 would also apply to cumulative plus project conditions. The VMT significance threshold compares project-generated VMT per unit of development to that of existing local development. The VMT comparison is useful because the comparison provides information regarding how the project aligns with long-term environmental goals related to VMT established based on existing development levels. Use of VMT significance thresholds based on existing development levels is recommended in the OPR's Technical Advisory. The Technical Advisory indicates that VMT efficiency metrics, such as VMT per service population or VMT per unit of development, may not be appropriate for CEQA cumulative analysis because they employ a denominator. Instead, the Technical Advisory recommends that an impact finding from an efficiency-based project-specific VMT analysis (i.e., existing plus project conditions) would imply an identical impact finding for a cumulative VMT analysis.[7] An example provided by OPR explains that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Therefore, an analysis of VMT is not presented in this cumulative discussion as the conclusion would remain identical to that presented under Impact 4.8-3.

[7] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA* [pg. 6]. December 2018.

5. Statutorily Required Sections

5. STATUTORILY REQUIRED SECTIONS

5.1 INTRODUCTION

The Statutorily Required Sections chapter of the Draft EIR includes discussions regarding those topics that are required to be included in an EIR, pursuant to CEQA Guidelines, Section 15126.2. The chapter includes a discussion of the proposed project's potential to result in growth-inducing impacts; the cumulative setting analyzed in this EIR; significant irreversible environmental changes; and significant and unavoidable impacts caused by the proposed project.

5.2 GROWTH-INDUCING IMPACTS

State CEQA Guidelines Section 15126.2(e) requires an EIR to evaluate the potential growth-inducing impacts of a proposed project. Specifically, an EIR must discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped.

The CEQA Guidelines are clear that while an analysis of growth-inducing effects is required, it should not be assumed that induced growth is necessarily significant or adverse. This analysis examines the following potential growth-inducing impacts related to implementation of the proposed project and assesses whether these effects are significant and adverse (see CEQA Guidelines, Section 15126.2[e]):

1. Foster population and economic growth and construction of housing.
2. Eliminate obstacles to population growth.
3. Affect service levels, facility capacity, or infrastructure demand.
4. Encourage or facilitate other activities that could significantly affect the environment.

Foster Population and Economic Growth and Construction of Housing

The proposed project would include the development of six light industrial buildings on SMP 39 and two industrial buildings on SMP 40, as well as associated internal roadways and other improvements. Because of the industrial nature of the proposed project, buildout would not directly result in an increase in population or construction of housing.

While construction of the proposed project would result in a limited increase in construction employment opportunities, construction would be temporary, and jobs would likely be filled by the local employee base. Therefore, an increase in permanent population and a demand for housing in the vicinity of the project site as a result of the construction-related employment opportunities associated with the proposed project would not occur. Buildout of the proposed project would also provide long-term employment opportunities associated with the proposed industrial facilities. The proposed project would employ approximately 1,478 employees, which would also likely be filled

from the local employee base. Given that the City of Livermore had an approximate population of 86,803 people in 2022,[1] the proposed project could result in a 1.7 percent increase in population if all employees were considered new residents, which is an overly conservative assumption. Therefore, the proposed project would not result in a substantial increase in permanent population or demand for housing in the vicinity of the project site.

The proposed project has the potential to foster economic growth due to the employment opportunities of the proposed project. However, it is reasonable to assume that the magnitude of economic growth would not be substantial such that new business growth would result elsewhere in the region which could necessitate additional housing to support the employment base. Thus, while the project would foster economic growth, a less-than-significant impact related to population and economic growth would occur.

Eliminate Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

As discussed in Chapter 4.7, Public Services, Utilities, and Service Systems, of this EIR, the project site is currently undeveloped and would require new connections to the water and sewer infrastructure in the project vicinity. However, the proposed on-site water and wastewater infrastructure would be sized to accommodate the proposed project only. In addition, land in the project vicinity has already been developed or is used for industrial ponds, and is not planned for future redevelopment. Therefore, the proposed infrastructure improvements would not result in the elimination of obstacles to population growth in the project vicinity.

Based on the above, all utility infrastructure improvements involved in the proposed project would exclusively serve the proposed project, and, therefore, the project would not be anticipated to eliminate any obstacles to population growth.

Affect Service Levels, Facility Capacity, or Infrastructure Demand

Increases in population that occur as a result of a project may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental impacts. However, as discussed in Chapter 4.7, Public Services, Utilities, and Service Systems, of this EIR, increased demands for fire and police protection services attributable to the proposed project would not necessitate the construction of new or expanded facilities that could cause significant environmental impacts. In addition, through implementation of Mitigation Measures 4.7-5(a) through 4.7-5(c), wastewater generated by the proposed project would be accommodated by wastewater infrastructure proposed as part of the project, and/or by existing infrastructure facilities. Furthermore, water supply exists to accommodate the water demand associated with the proposed project and future anticipated development.

The landfill that would serve the proposed project has adequate capacity to manage the solid waste generated as result of the project. Furthermore, mitigation measures set forth in Chapter

[1] United States Census Bureau. *QuickFacts: Livermore city, California*. Available at: https://www.census.gov/quickfacts/livermorecitycalifornia. Accessed May 2023.

4.5, Hydrology and Water Quality, of this EIR would ensure that the proposed project would not create or contribute runoff water that would exceed the capacity of the City's stormwater drainage systems. Therefore, the proposed project would not substantially affect service levels, facility capacity, or infrastructure demand, and would not require construction of new facilities that could cause significant environmental impacts.

Encourage or Facilitate Other Activities That Could Significantly Affect the Environment

A comprehensive assessment of the potential for environmental impacts associated with implementation of the proposed project is provided in the Initial Study (see Appendix A) and this EIR. Please refer to Chapters 4.1 through 4.8 of this EIR, which comprehensively address the potential for impacts from development on the project site. As discussed therein, development of the proposed project would not encourage or facilitate other activities that could significantly affect the environment.

5.3 CUMULATIVE IMPACTS

CEQA Guidelines, Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that would adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects" (CEQA Guidelines, Section 15355, subd. [a]). "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines, Section 15355, subd. [b]).

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and, thus, significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines, Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). Accordingly, particular impacts may be less than significant on a project-specific basis but significant on a cumulative basis if their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable. However, it should be noted that CEQA Guidelines, Section 15064, subdivision (h)(4) states, "[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Section 15130(b) of CEQA Guidelines indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, but that analysis should reflect the severity of the impacts and their likelihood of occurrence, and that the analysis should be focused, practical, and reasonable. To be adequate, a discussion of cumulative effects must include the following elements:

> (1) Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency's control, or (b) a summary of projections contained in an

adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such documents shall be referenced and made available to the public at a location specified by the lead agency;

(2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.;

(3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used;

(4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

(5) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.(Section 15130[b]).

For some projects, the only feasible mitigation measures will involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis (Section 15130[c]). Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund the project's fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

A discussion of cumulative impacts is provided within each of the technical chapters of this EIR pursuant to CEQA Guidelines Section 15130.

Cumulative Setting

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect" or "in an adopted or certified prior environmental document for such a plan…"" (id., subd. [b][1]).

As discussed above, multiple approaches exist for identifying cumulative projects and their associated impacts. The "list" approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The "projection" approach uses a summary of projections in adopted General Plans or related planning documents

to identify potential cumulative impacts. The majority of the cumulative analysis in this EIR is based upon the buildout projections included in the adopted City of Livermore General Plan.

Limited situations exist where the geographic setting differs for the various resource areas. For example, the cumulative geographic setting for hydrology is the Livermore Valley Watershed, in which the project site is located. In addition, the cumulative geographic setting for air quality is the San Francisco Bay Area Air Basin (SFBAAB), which is the air basin that the proposed project is located within. Global climate change is, by nature, a cumulative impact. Emissions of greenhouse gases (GHG) contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). A single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, the GHG emissions from a project in combination with other past, present, and future projects could contribute substantially to the world-wide phenomenon of global climate change and the associated environmental impacts. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA, and due to the regulatory context pertaining to GHG emissions and global climate change applicable to the proposed project, the geographical context for global climate change in this EIR is limited to the State of California.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As established in CEQA Guidelines Section 15126.2(d), this EIR is required to include consideration of significant irreversible environmental changes that would be caused by the proposed project, should the project be implemented. An impact would be determined to be a significant and irreversible change in the environment under Section 15126.2(d) if:

- Buildout of the project area could involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of development could generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project could involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project could result in an unjustified consumption of resources (e.g., the wasteful use of energy).

The proposed project would likely result in, or contribute to, the following significant irreversible environmental changes:

- Conversion of predominantly vacant land to industrial uses, thus precluding alternative land uses in the future;
- Irreversible consumption of goods and services, such as fire and police services, associated with project buildout; and
- Irreversible consumption of energy and natural resources, such as water and electricity, associated with project buildout.

5.5 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to CEQA Guidelines, an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented (CEQA Guidelines Section 15126.2[c]). Such impacts would be considered unavoidable when the determination is made that either mitigation is not feasible or only partial mitigation is feasible such that the impact

is not reduced to a level that is less than significant. This section identifies any significant impact that could not be eliminated or reduced to a less-than-significant level by mitigations imposed by the City. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the City as part of the City certification action. The significant and unavoidable impacts of the proposed project are summarized below.

Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. (Impact 4.1-2)

While the portions of the project site proposed for development are not considered Farmland pursuant to the Farmland Mapping and Monitoring Program (FMMP), annexation of the proposed project would be subject to approval by Alameda Local Agency Formation Commission (LAFCo) as a responsible agency. The Alameda LAFCo has specific policies related to agricultural land, including those related to the loss of important agricultural, open space, or resource land, and conversion of areas containing prime soils or productive agricultural operations to uses that are not conducive to agricultural production. Because the SMP 39 and SMP 40 sites, as well as the Additional Annexation Only Parcels, are proposed to be annexed into the City of Livermore, the foregoing parcels are evaluated in comparison to the Alameda LAFCo's definition of prime agricultural land, as presented in Table 4.1-5 in Chapter 4.1, Agricultural Resources, of this EIR. As discussed therein, the SMP 39 and SMP 40 sites have on-site soils that meet the Alameda LAFCo's definition of prime agricultural land.

The LAFCo discourages city annexations of prime agricultural land, as defined by Government Code Section 56064, if such areas are not needed for urbanization within five years. The City has identified a need for additional industrial uses within the City of Livermore, and vacant land that would be viable for development of industrial uses similar to the proposed project does not exist within current Livermore city limits. Further, given the existing surrounding land uses, the project site is generally a suitable location for the proposed project, and a reasonable assumption can be made that other properties within the City may not be as well suited for the proposed project as the project site. Therefore, urbanization of the project site within the next five years would be needed to allow for the development of additional light industrial uses within the City. It should, however, be noted that annexation is ultimately subject to approval by Alameda LAFCo.

Therefore, implementation of the proposed project would result in the conversion of prime agricultural land, pursuant to the Alameda LAFCo definition, to non-agricultural use, and the impact would be significant. Because feasible mitigation measures do not exist to reduce the foregoing impact to a less-than-significant level, the impact would remain significant and unavoidable.

Impacts related to the cumulative loss of agricultural land. (Impact 4.1-3)

The City of Livermore General Plan EIR determined that buildout of the General Plan would result in less-than-significant impacts related to the conversion of agricultural land. In addition, the General Plan EIR notes that implementation of the General Plan would not result in any development beyond the City's UGB and, as a result, would not result in the conversion of farmland in the greater vicinity of the City to non-agricultural use. However, although the entire project site is located within the South Livermore UGB, the project site was designated by the City as Open Space Sand and Gravel and was, therefore, not anticipated or analyzed for development.

As discussed under Impact 4.1-2, the SMP 39 and SMP 40 sites have on-site soils that are considered prime agricultural land by Alameda LAFCo. Therefore, implementation of the proposed project would result in the conversion of prime agricultural land, pursuant to Alameda LAFCo, to non-agricultural use and could be considered to conflict with Alameda LAFCo policies related to prime agricultural land. Accordingly, the proposed project would permanently convert prime agricultural land to other uses, preventing further use of the site for agricultural uses, and the project-specific impact would be considered significant and unavoidable, as feasible mitigation measures do not exist to reduce the impact to a less-than-significant level. Overall, implementation of the proposed project would represent a significant incremental contribution to the cumulative impact related to the loss of agricultural land when viewed in conjunction with other development in the region. Because feasible mitigation measures do not exist to reduce the foregoing impact to a less-than-significant level, the impact would remain significant and unavoidable.

6. Alternatives Analysis

6. ALTERNATIVES ANALYSIS

6.1 INTRODUCTION

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required per CEQA Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; a reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

6.2 PURPOSE OF ALTERNATIVES

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[…] describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, "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." Section 15126.6(f) of CEQA Guidelines further states:

> 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 determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), 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 would be more costly (CEQA Guidelines Section 15126.6[b]).

- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- 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 (CEQA Guidelines Section 15126.6[d]).
- 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 (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Project Objectives

Based on the above, reasonable alternatives to the project must be capable of feasibly attaining most of the basic objectives of the project. The proposed project is being pursued with the following objectives:

1. Promote light industrial development that is consistent with the goals, policies, and objectives set forth in both the existing City of Livermore General Plan and General Plan update, including development that will provide jobs with competitive salaries; reduce vehicle miles traveled; and provide necessary off-site and on-site improvements to the area roadway system, public works, power, and telecommunications infrastructure consistent with planned infrastructure systems;
2. Support an innovation driven economy, generate high wage jobs, and provide an environment exclusively for and conducive to the development and protection of modern professional and administrative facilities, research institutions, manufacturing operations, warehouse and distribution facilities, experimental and testing laboratory and related uses, which are compatible with surrounding land uses in the area, the City's General Plan, and the Alameda County Airport Land Use Compatibility Plan;
3. Develop industrial facilities with high-quality architectural design, landscaping, and signage that are consistent with the City's design standards and guidelines;

4. Create logical and future city boundaries in cooperation with the City of Pleasanton and Alameda County that align with the City of Livermore's General Plan and Urban Growth Boundary, including ensuring compatible development with existing and planned land uses and adequate infrastructure capacity;
5. Implement the City's goal of revitalizing underutilized lands that are appropriate for infill development;
6. Dedicate, widen, and improve West Jack London Boulevard, as envisioned in the City's General Plan and Capital Improvement Program;
7. Development of the property should generate long term sustainable property tax and sales tax revenue for the City of Livermore via annexation of SMP-39 and SMP-40; and
8. Construct on-site and off-site trail improvements and connections to existing trail network, as identified in the Active Transportation Plan.

Impacts Identified in the EIR

In addition to attaining the majority of project objectives, reasonable alternatives to the project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the proposed project. The significance level of impacts identified in the EIR are presented below.

Less Than Significant or No Impact

As discussed in each respective section of this EIR, the proposed project would result in no impact or a less-than-significant impact related to the following topics associated with the resource area indicated, and mitigation would not be required:

- ***Agricultural Resources.*** The EIR determined that the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. As such, the impact was determined to be less than significant.

- ***Air Quality, Greenhouse Gas Emissions, and Energy.*** The EIR determined that implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations, result in other emissions (such as those leading to odors) affecting a substantial number of people, result in the inefficient or wasteful use of energy or conflict with a State or local plan for renewable energy or energy efficiency, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or result in a cumulatively considerable inefficient or wasteful use of energy. In addition, given that the proposed project would be consistent with all applicable Climate Action Plan (CAP) strategies and actions, the EIR determined that the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas emissions (GHGs). As such, the EIR concluded that impacts related to such would be less than significant.

- ***Biological Resources.*** The EIR determined that implementation of the proposed project would result in less-than-significant impacts related to having a substantial adverse effect, either directly or through habitat modifications, on special-status plant species; interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites; conflicting with a local tree preservation policy or ordinance; conflicting with the provisions of an adopted HCP, NCCP, or other approved local,

regional, or State habitat conservation plan; or resulting in the cumulative loss of habitat for special-status species.

- ***Cultural and Tribal Cultural Resources.*** The EIR determined that implementation of the proposed project would result in a less-than-significant impact related to causing a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5; or causing a cumulative loss of cultural and tribal cultural resources.

- ***Hydrology and Water Quality.*** The EIR determined that implementation of the proposed project would result in a less-than-significant impact related to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Cumulative impacts were also determined to be less than significant.

- ***Noise.*** The EIR determined that the proposed project would result in less-than-significant impacts related to the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels; and the exposure of persons residing or working in the project area to excessive noise levels associated with an airport. In addition, the proposed project's incremental contribution to the significant cumulative impact was determined to be less than cumulatively considerable.

- ***Public Services, Utilities, and Service Systems.*** The EIR determined that the proposed project would result in less-than-significant impacts related to the provision or need of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire and police protection services; and require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. In addition, the EIR determined that the wastewater treatment provider which serves or may serve the project would have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments, and sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and the proposed project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste, and impacts would be less than significant.

- ***Transportation.*** The EIR determined that impacts related to conflicting with a program, plan, ordinance, or policy addressing the circulation system during operations; or substantially increasing hazards due to a geometric design feature (e.g., sharp curves or

dangerous intersections) or incompatible uses (e.g., farm equipment), or resulting in inadequate emergency access would be less than significant.

In addition, the Initial Study prepared for the proposed project during the scoping period (see Appendix A) includes a detailed environmental checklist addressing a range of technical environmental issues. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as either "no impact," "less-than-significant," "less-than-significant with mitigation incorporated," or "potentially significant." Impacts identified for the proposed project in the Initial Study as "no impact" or "less-than-significant" are listed below, and summarized further in Chapter 4.0, Introduction to the Analysis, of this EIR.

- Aesthetics (Sections c,d);
- Agriculture Resources (Sections a,c,d);
- Geology and Soils (Sections ai,aii,e);
- Hazards and Hazardous Materials (Sections a,c,d,e,f,g);
- Land Use and Planning (Section a);
- Mineral Resources (All Sections);
- Population and Housing (All Sections);
- Public Services (Sections c,d,e);
- Recreation (All Sections); and
- Wildfire (All Sections).

As stated above, reasonable alternatives to the project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the proposed project. Because the proposed project would not result in significant impacts related to the resource areas listed above, a comparison of potential impacts associated with the aforementioned resource areas as a result of project alternatives versus the proposed project is not provided in this chapter. Rather, this chapter focuses on those resource areas and specific impacts listed below that have been identified for the proposed project in this EIR as requiring mitigation to reduce significant impacts to less than significant, or have been found to remain significant and unavoidable.

Less Than Significant with Mitigation

Environmental impacts (including cumulative impacts) of the proposed project that have been identified as requiring mitigation measures to ensure that the level of significance is ultimately less than significant include the following:

- ***Air Quality, Greenhouse Gas Emissions, and Energy.*** The EIR determined that implementation of the proposed project could result in significant impacts related to construction emissions of ROG and NO_X and operational emissions of NO_X. The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Biological Resources.*** The EIR determined that implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on wildlife species, including western burrowing owl, tricolored blackbird, and other nesting birds and raptors (including loggerhead shrike); or a substantial adverse effect on riparian habitat or other sensitive natural community or State or Federally protected wetlands. The

EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Cultural and Tribal Cultural Resources.*** The EIR determined that implementation of the proposed project could cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5; disturb any human remains, including those interred outside of dedicated cemeteries; or cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074. The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Hydrology and Water Quality.*** The EIR determined that implementation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction and operations; or substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems; provide substantial additional sources of polluted runoff; result in substantial erosion or siltation on- or off-site; impede or redirect flood flows; or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation. The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Noise.*** The EIR determined that implementation of the proposed project could result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Public Services, Utilities, and Service Systems.*** Cumulative impacts to Public Services, Utilities, and Service Systems, specifically regarding impacts to wastewater conveyance, were determined to be significant. The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

- ***Transportation.*** The EIR determined that the proposed project could conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities; or conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). The EIR requires mitigation in order to ensure that the impacts are reduced to a less-than-significant level.

As discussed above, the Initial Study prepared for the proposed project during the scoping period (see Appendix A) includes a detailed environmental checklist addressing a range of technical environmental issues. Impacts identified for the proposed project in the Initial Study as “less-than-significant with mitigation incorporated” are listed below, and summarized further in Chapter 4.0, Introduction to the Analysis, of this EIR.

- Aesthetics (Sections a,b);

- Geology and Soils (Sections aiii,aiv,c,d,f); and
- Hazards and Hazardous Materials (Section b).

Impacts identified and fully mitigated in the Initial Study prepared for the proposed project would be similar or fewer for all of the alternatives included in this chapter. Accordingly, topics dismissed within the Initial Study prepared for the proposed project are not specifically addressed within the sections below.

Significant and Unavoidable

The EIR has determined that the following project impact would remain significant and unavoidable, even after implementation of the feasible mitigation measures set forth in this EIR:

- ***Agricultural Resources.*** The EIR determined that the proposed project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use, and would result in a cumulative loss of agricultural land. Feasible mitigation measures do not exist to reduce the impacts to a less-than-significant level. Therefore, the impact would remain significant and unavoidable.

6.3 SELECTION OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the significant environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to "set forth only those alternatives necessary to permit a reasoned choice." As stated in Section 15126.6(a), an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

> 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 determined could feasibly attain most of the basic objectives of the project.

First and foremost, alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Considered But Dismissed From Further Analysis

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant impacts, while still meeting most of the basic project objectives.

As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

(i) failure to meet most of the basic project objectives,
(ii) infeasibility, or
(iii) inability to avoid significant environmental impacts.

Regarding item (ii), infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

The off-site alternative was considered but dismissed from detailed analysis in this EIR. The reason(s) for dismissal, within the context of the three above-outlined permissible reasons, are provided below.

Off-Site Alternative

As noted previously, the purpose of an alternatives analysis is to develop alternatives to the proposed project that avoid or substantially lessen at least one of the significant environmental effects identified as a result of the project, while still meeting most, if not all, of the basic project objectives. Development of the proposed project at an off-site location would not be capable of meeting the majority of project objectives due to a number of the project objectives being specific to the project site location, such as Objective #6, related to the dedicating, widening, and improvement of West Jack London Boulevard, and Objective #7, which is specifically related to the development of SMP 39 and SMP 40. Furthermore, the CEQA Guidelines (Section 15126.6[b]) require that only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. An Off-Site Alternative would involve construction of the proposed project on an alternative site. An Off-Site Alternative would have the same type and intensity of uses as the proposed project, as well as a similar area of disturbance. Consequently, development of an Off-Site Alternative would be expected to result in at least the same, if not greater, level of impacts as compared to the proposed project, depending on the resources on the off-site location. Furthermore, the project applicant does not own an alternative location that would be adequate to construct the proposed project, and vacant land that would be viable for development of a light industrial use similar to the proposed project does not exist within current Livermore city limits. It should also be noted that an industrial business park is located within the project area to the west of the site, and the site is currently surrounded by reclaimed aggregate mine ponds to the west, the Oaks Business Park to the west of SMP 39 and north of SMP 40, and Arroyo Mocho to the south. Therefore, the project site is generally a suitable location for the proposed project, and a reasonable assumption can be made that other properties within the City may not be as well suited for the proposed project as the project site.

It is also important to consider that the project site is located in an area served by existing regional infrastructure and arterial roadways, and is located adjacent to existing urban development in the City of Livermore, City of Pleasanton, and unincorporated Alameda County. Overall, a feasible off-site location that would meet the requirements of CEQA, as well as meet the basic objectives of the proposed project, does not exist. As discussed above, an Off-Site Alternative would have the same type and intensity of uses as the proposed project, as well as a similar area of disturbance. Therefore, an Off-Site Alternative was dismissed from detailed analysis within this EIR.

Alternatives Considered in this EIR

Three alternatives to the proposed project were developed based on City staff input and the technical analysis performed for the proposed project. The following three alternatives are considered potentially feasible alternatives to the project and are evaluated in further detail in this section:

- No Project (No Build) Alternative;
- No Project (Maximum Allowable Operations) Alternative; and
- Reduced Intensity Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each Alternative's impacts in comparison to the proposed project. As discussed above, reasonable alternatives to the project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the proposed project. Therefore, this chapter focuses on the resource areas and specific impacts listed above that have been identified in this EIR for the proposed project as requiring mitigation to reduce significant impacts to less than significant, or have been found to remain significant and unavoidable. While an effort has been made to include quantitative data for certain analytical topics, where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6[d], which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the proposed project. When comparing the potential impacts resulting from implementation of the foregoing alternatives, the following terminology is used:

- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project;
- "Greater" = Greater than Proposed Project; and
- "None" = No Impact.

When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the proposed project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the proposed project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the proposed project altogether. Similarly, use of the term "greater" does not necessarily imply that an alternative would require additional mitigation beyond what has been

required for the proposed project. To the extent possible, this analysis will distinguish between the two implications of the comparative words "fewer" and "greater".

Please see Table 6-1 for a general comparison of the environmental impacts resulting from the considered alternatives and the proposed project.

No Project (No Build) Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

> "… discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

The City has decided to evaluate a No Project (No Build) Alternative, which assumes that the current conditions of the project site would remain, and the site would not be developed. The current conditions are described in further detail below.

SMP 39 is currently undeveloped and consists entirely of ruderal (weedy) herbaceous communities. Similarly, SMP 40 is currently undeveloped and consists of ruderal herbaceous communities, with the exception of a blue gum eucalyptus grove, which grows along the banks of the Arroyo Mocho at the southern end of SMP 40.

As described in this EIR, both SMP 39 and SMP 40 are located within unincorporated Alameda County, and the City of Livermore South Livermore Urban Growth Boundary (UGB). Additionally, SMP 39 is located within the City of Pleasanton Sphere of Influence (SOI), and SMP 40 is located within the City of Livermore SOI. The City of Livermore General Plan designates both SMP 39 and SMP 40 as Open Space/Sand and Gravel. SMP 39 and SMP 40 are also within the East County Area Plan (ECAP) of the Alameda County General Plan, which designates both SMP 39 and SMP 40 as Industrial. SMP 39 is zoned Agriculture by Alameda County, with an overlay permitting quarry operations, and SMP 40 is zoned Agriculture.

A number of approvals would be required for development of SMP 39 and SMP 40 under the proposed project, including General Plan Amendments, Pre-zoning and Annexation, Zoning Map Amendments/Planned Development, Vesting Tentative Subdivision Maps, Pre-Annexation Agreements, and Development Agreements. The proposed project includes an SOI Amendment to include SMP 38 and SMP 39 within the City of Livermore SOI. None of the proposed entitlements for SMP 39 or SMP 40 would be required under the No Project (No Build) Alternative.

Similarly, entitlements for SMP 38, the Additional Annexation Only Parcels, or any off-site improvements that would be required under the proposed project would not be required under the No Project (No Build) Alternative.

The No Project (No Build) Alternative would not meet any of the project objectives.

Agricultural Resources

Because the No Project (No Build) Alternative would not involve construction activities or any new land uses, the Alternative would not convert any existing prime agricultural land to non-agricultural purposes. Thus, the significant and unavoidable impact identified for the proposed project related to the conversion of Farmland to non-agricultural use and the cumulative loss of agricultural land would not occur under the No Project (No Build) Alternative.

Air Quality, Greenhouse Gas Emissions, and Energy

Because the No Project (No Build) Alternative would not involve any development of the project site, construction and operational activities would not occur under the Alternative. Therefore, the Alternative would not result in construction or operational emissions, and would not generate reactive organic gas (ROG) or nitrogen oxides (NO_X) in exceedance of the Bay Area Air Quality Management District's (BAAQMD's) significance thresholds. Thus, the impacts identified for the proposed project related to air quality would not occur under the No Project (No Build) Alternative, and the mitigation measures identified in the EIR related to air quality would not be required. Overall, impacts related to air quality, GHG emissions, and energy would not occur under the No Project (No Build) Alternative.

Biological Resources

Because ground-disturbing activities would not occur under the No Project (No Build) Alternative, impacts to wildlife species would not occur. Similarly, because the off-site trail connection would not be constructed, the No Project (No Build) Alternative would not result in potential impacts to Arroyo Mocho. Therefore, the impacts identified for the proposed project related to biological resources would not occur under the No Project (No Build) Alternative, and the mitigation measures identified in the EIR related to biological resources identified in the EIR would not be required.

Cultural and Tribal Cultural Resources

Because the No Project (No Build) Alternative would not involve construction or any ground-disturbing activities, the Alternative would not have the potential to result in any impacts to cultural or tribal cultural resources. Thus, impacts identified for the proposed project related to cultural or tribal cultural resources would not occur under the No Project (No Build) Alternative, and the mitigation measures identified in the EIR related to cultural and tribal cultural resources would not be required.

Hydrology and Water Quality

Because the No Project (No Build) Alternative would not involve ground disturbance or the development of industrial uses within the project site, the Alternative would not have the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality related to construction or operations, and the existing drainage patterns of the site or area would not be altered. Additionally, the No Project (No Build) Alternative would not include development within a 100-year floodplain. Therefore, impacts identified for the proposed

project related to hydrology and water quality would not occur under the No Project (No Build) Alternative.

Noise

The No Project (No Build) Alternative would consist of the continuation of the existing conditions of the project site. Because the No Project (No Build) Alternative would not introduce any new development on-site and construction would not occur, new temporary noise sources would not be generated on-site. Therefore, none of the mitigation measures related to noise impacts required for the proposed project would be required under the Alternative, and impacts related to noise would not occur.

Public Services, Utilities, and Service Systems

Because the No Project (No Build) Alternative would not involve the development of industrial uses within the project site, the Alternative would not result in any increases in wastewater demand. Therefore, the cumulative impact identified for the proposed project related to wastewater conveyance would not occur under the No Project (No Build) Alternative.

Transportation

Because the No Project (No Build) Alternative would not involve any construction or development of industrial uses within the project site, the Alternative would not result in an increase in vehicle miles traveled (VMT) within the project area, and would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). In addition, the Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities. Overall, impacts identified for the proposed project related to transportation would not occur under the No Project (No Build) Alternative.

No Project (Maximum Allowable Operations) Alternative

Under the No Project (Maximum Allowable Operations) Alternative, SMP 39 and SMP 40 would be mined as allowed under the current surface mining permits previously approved for the sites by Alameda County. For the purposes of this alternatives analysis, the assumption was made that new activities would not occur at the SMP 38 site, similar to the analysis in the EIR, though it is acknowledged that mining could also occur on SMP 38 under current zoning. Similarly, because the current mining operations permitted on SMP 40 do not extend to allow mining operations to occur on the Additional Annexation Only Parcels, and the likelihood for any future development on the Additional Annexation Only Parcels is low due to physical constraints to development present on the parcels, the parcels would still not be considered for mining under the Alternative. Thus, the analysis of the No Project (Maximum Allowable Operations) Alternative is focused on the potential impacts associated with the existing allowed mining operation on the SMP 39 and SMP 40 sites. It should further be noted that the proposed off-site trail connections are assumed not to occur under the No Project (Maximum Allowable Operations) Alternative.

The current surface mining permits for SMP 39 and SMP 40 would allow the parcels to be mined to a depth of approximately 200 feet to remove approximately 9,796,200 tons (5,155,900 cubic yards [CY]) of aggregate materials from SMP 39 and approximately 12,316,200 tons (6,482,600 CY) of aggregate materials from SMP 40.[1] Complete excavation of SMP 39 would occur over a

[1] Alameda County. *Application for Rhodes & Jamieson Aggregate Mines Surface Mining Permits SMP-38, SMP-39, and SMP-40 Draft Environmental Impact Report (SCH #2003082034).* November 2004.

1.5- to two-year period, while complete excavation of SMP 40 would occur over a three- to four-year period. The mined aggregate materials would then be hauled away from the project area for use elsewhere. Hauling is anticipated to occur on roadways within the project area that are closest to, and provide the most direct route to, the major freeway in the project area (I-580), such as West Jack London Boulevard and Isabel Avenue/State Route (SR) 84. Overall, the No Project (Maximum Allowable Operations) Alternative is anticipated to result in a total of 500 trucks per day associated with aggregate hauling. Mining activities (including materials hauling) would occur approximately 250 days per year, Monday through Saturday, from 7:00 AM to 6:00 PM.

Once excavation activities have been completed, the sites would undergo reclamation activities for use as water management such as the detention of peak stormwater runoff, storage of recycled water, and/or groundwater recharge. Reclamation activities are anticipated to occur over an approximately 20- to 30-year period. Following reclamation, SMP 39 would provide approximately 1,798 acre-feet of water storage capacity, and SMP 40 would provide approximately 3,907 acre-feet of water storage capacity and would be managed by the Zone 7 Water Agency.

Given that the surface mining permits and reclamation plans were previously approved by Alameda County, and an EIR was certified for the mining activities in 2004, the Alternative would not require the approval of any additional discretionary entitlements.

The No Project (Maximum Allowable Operations) Alternative would involve the use of the SMP 39 and SMP 40 sites for aggregate mining, as allowed under existing conditions, and, therefore, would not meet any of the objectives for the proposed project, as the sites would not be annexed into the City, industrial uses would not be developed on the sites, and off-site improvements, such as the widening of West Jack London Boulevard and the construction of an off-site trail connection, would not occur under the Alternative.

Agricultural Resources

The No Project (Maximum Allowable Operations) Alternative would allow for previously approved mining activities to occur on SMP 39 and SMP 40. However, as discussed above, given that the surface mining permits and reclamation plans were previously approved by Alameda County, and an EIR was certified for the mining activities in 2004, the Alternative would not require the approval of any additional discretionary entitlements. The sites would not be annexed into the City of Livermore, and, as a result, SMP 39 and SMP 40 are not required to be evaluated in comparison to the Alameda County Local Agency Formation Commission's (LAFCo's) definition of Prime Agricultural Land. Thus, while the Alternative would involve mining activities on SMP 39 and SMP 40, neither site is considered Prime or Unique Farmland pursuant to CEQA requirements, and such mining activities have already been anticipated by the County in the previous EIR, which was certified in 2004, and concluded that impacts related to the conversion of SMP 39 and SMP 40 to mining uses would be less than significant. Accordingly, the No Project (Maximum Allowable Operations) Alternative would be considered to result in fewer impacts related to agricultural resources than the proposed project, and the significant and unavoidable impact would not occur under the Alternative.

Air Quality, Greenhouse Gas Emissions, and Energy

Under the No Project (Maximum Allowable Operations) Alternative, SMP 39 and SMP 40 would be mined as allowed under the current surface mining permits previously approved for the sites

by Alameda County. Mining activities would involve the use of on-site, off-road heavy equipment, as well as heavy duty vehicles associated with materials hauling. Based on the acreages of SMP 39 and SMP 40, and the emissions presented within the 2004 EIR prepared for the surface mining permits, concurrent site preparation, mining, and reclamation activities for SMP 39 and SMP 40 were assumed to result in lower ROG and NO_X emissions as compared to construction of SMP 39, SMP 40, and the worst-case off-site trail connection option, and significantly higher PM_{10} emissions. Similarly, while ROG and NO_X emissions would be lower as compared to operational emissions associated with SMP 39 and SMP 40, PM_{10} emissions would be significantly higher. Furthermore, as discussed above, the No Project (Maximum Allowable Operations) Alternative is anticipated to result in a total of 500 trucks per day associated with aggregate hauling, as compared to the 185 trucks per day associated with the proposed project. As a result, emissions associated with heavy duty truck traffic would be greater under the No Project (Maximum Allowable Operations) Alternative. Overall, the No Project (Maximum Allowable Operations) Alternative would result in greater impacts related to air quality, GHG emissions, and energy as compared to the proposed project.

Biological Resources

The No Project (Maximum Allowable Operations) Alternative would allow for previously approved mining activities to occur on SMP 39 and SMP 40. However, the disturbance area would generally remain the same under the No Project (Maximum Allowable Operations) Alternative as compared to the proposed project. As such, because the Alternative would result in a similar area of disturbance as compared to the proposed project, impacts to biological resources would generally remain the same. Therefore, similar to the proposed project, the No Project (Maximum Allowable Operations) Alternative would have the potential to result in adverse impacts to wildlife species, riparian habitat and/or other sensitive natural communities, and/or federal or State protected aquatic resources. To ensure impacts would be reduced to a less-than-significant level, the 2004 EIR prepared for the approved surface mining permits on SMP 39 and SMP 40 includes similar mitigation measures as prescribed in this EIR. Overall, impacts related to biological resources would be similar to the proposed project under the No Project (Maximum Allowable Operations) Alternative.

Cultural and Tribal Cultural Resources

Under the No Project (Maximum Allowable Operations) Alternative SMP 39 and SMP 40 would be mined as allowed under the current surface mining permits previously approved for the sites by Alameda County. As such, ground disturbance would occur on both SMP 39 and SMP 40 at a much greater depth as compared to the ground disturbance that would occur with development of the proposed project. The 2004 EIR prepared for the approved surface mining permits on SMP 39 and SMP 40 includes similar mitigation measures as prescribed in this EIR to ensure that impacts to unknown cultural and tribal cultural resources, if discovered during mining activities, would be reduced to less than significant. However, because a greater amount of ground disturbance would occur in comparison to the proposed project due to depth of excavation, a greater potential for the disturbance or destruction of cultural or tribal cultural resources would occur under the Alternative. Overall, potential impacts related to cultural and tribal cultural resources could be greater under the No Project (Maximum Allowable Operations) Alternative compared to the proposed project.

Hydrology and Water Quality

The No Project (Maximum Allowable Operations) Alternative would involve a similar area of disturbance as compared to what would occur under the proposed project, albeit at a much greater depth than that of the proposed project. The increased depth of disturbance would result in an increased potential for impacts related to the altering of drainage patterns on the site, as the topography of the sites would change during mining activities. In addition, given the greater depth of disturbance, an increased amount of soil would be removed from the site, which would increase the potential for impacts related to violating water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. However, given that the No Project (Maximum Allowable Operations) Alternative does not include the development of any on-site structures, impacts related to development within a 100-year floodplain would not occur under the Alternative. The 2004 EIR prepared for the approved surface mining permits on SMP 39 and SMP 40 includes similar mitigation measures as prescribed in this EIR to ensure that impacts related to hydrology and water quality would be reduced to less than significant. Nonetheless, the impacts identified for the proposed project related to hydrology and water quality would be greater under No Project (Maximum Allowable Operations) Alternative, given that the Alternative would result in a greater amount of soil disturbance as compared to the proposed project.

Noise

Under the No Project (Maximum Allowable Operations) Alternative SMP 39 and SMP 40 would be mined as allowed under the current surface mining permits previously approved for the sites by Alameda County. According to the 2004 EIR prepared for the approved surface mining permits on SMP 39 and SMP 40, construction activities associated with mining the sites would consist of site preparation and reclamation activities, and such construction activities within SMP 40 would result in a maximum noise level of 53 dBA at the nearest sensitive receptors located east of Isabel Avenue. As discussed in Chapter 4.6, Noise, of this EIR, construction activities on SMP 40 associated with the proposed project would result in maximum construction noise levels of 32 dBA. However, construction equipment associated with Trail Connection Option 2 would generate maximum noise levels of up to 76 dBA, and construction equipment associated with Trail Connection Option 3 would generate maximum noise levels of up to 73 dBA. Therefore, construction noise impacts associated with the No Project (Maximum Allowable Operations) Alternative would be fewer as compared to the proposed project.

Public Services, Utilities, and Service Systems

The No Project (Maximum Allowable Operations) Alternative would allow for previously approved mining activities to occur on SMP 39 and SMP 40. However, on-site mining activities would not be anticipated to create increased demand for wastewater conveyance and treatment facilities. Rather, portable toilet facilities would be used. Therefore, because the No Project (Maximum Allowable Operations) Alternative would not involve development of the project site, and, thus, would not result in any increases in wastewater demand, the cumulative impact identified for the proposed project related to wastewater conveyance would not occur under the No Project (Maximum Allowable Operations) Alternative. Overall, development of the No Project (Maximum Allowable Operations) Alternative would result in fewer impacts related to public services, utilities, and service systems compared to that of the proposed project.

Transportation

The No Project (Maximum Allowable Operations) Alternative would still involve construction activities on both SMP 39 and SMP 40, consisting of site preparation and reclamation activities. As such, vehicle traffic associated with construction activities would still occur, under the Alternative, and the No Project (Maximum Allowable Operations) Alternative would still have the potential to temporarily disrupt the circulation system in the project area. As such, impacts associated with construction traffic would be similar as compared to the proposed project.

As discussed above, the No Project (Maximum Allowable Operations) Alternative is anticipated to result in a total of 500 trucks per day associated with aggregate hauling as compared to the 185 trucks per day associated with the proposed project. Therefore, with regard to heavy-duty hauling truck traffic, the No Project (Maximum Allowable Operations) Alternative would result in greater impacts as compared to the proposed project. However, SB 743 and the associated CEQA Guidelines Section 15064.3 were established in order to reduce statewide GHG emissions from cars and light duty trucks, and do not require an analysis of VMT related to heavy truck use for the movement of goods.

The proposed project would add an estimated total of 1,478 employees to the region. The No Project (Maximum Allowable Operations) Alternative is anticipated to result in fewer employees as compared to the number of employees that would travel to and from the project site with development of industrial uses. As such, the No Project (Maximum Allowable Operations) Alternative would result in fewer employee trips as compared to the proposed project. Because the Alternative would generate fewer daily passenger vehicle trips than the proposed project, impacts related to VMT would be reduced. Finally, it should also be noted that the sites surrounding SMP 39 and SMP 40 have historically been used for aggregate mining. Therefore, the overall increase in hauling traffic and employee trips that would occur under the No Project (Maximum Allowable Operations) Alternative would be consistent with mining activities that have historically occurred in the immediate project vicinity, and, therefore, would not be anticipated to substantially alter traffic patterns in the area.

Overall, development of the No Project (Maximum Allowable Operations) Alternative would result in fewer impacts related to transportation compared to that of the proposed project.

Reduced Intensity Alternative

The Reduced Intensity Alternative would involve development of the proposed project at a reduced scale. Specifically, under the Reduced Intensity Alternative, only the 470,530-sf building on the western portion of the SMP 40 site would be developed, and the 288,750-sf building on the eastern portion of SMP 40 would not be developed; the remainder of the SMP 40 site would remain undeveloped. Development of the SMP 39 site would remain the same as the proposed project at 755,500 sf of industrial warehouse space. As such, the overall building square footage would be reduced from a total of 1,514,775 sf to a total of approximately 1,226,025 sf. Because the eastern building on SMP 40 would not be developed, the disturbance area would also be reduced by 16.93 acres. All other aspects of the proposed project, including building heights, vehicle access, required entitlements, and the off-site improvements, would be similar under the Reduced Intensity Alternative.

While the eastern building on SMP 40 would not be developed under the Reduced Intensity Alternative, the Alternative would generally meet all of the objectives of the proposed project. For

instance, Objectives 1, 2, 3, and 5 refer to developing industrial uses on-site; Objectives 4 and 7 are related to the annexation of the sites into the City; and Objectives 6 and 8 are related to the development of off-site improvements that would occur under both the proposed project and the Alternative, including dedicating, widening, and improving West Jack London Boulevard and the construction of off-site trail improvements.

Agricultural Resources

Buildout of the Reduced Intensity Alternative would result in the disturbance of 16.93 acres less than the proposed project. However, the remaining 51.9 acres of SMP 39 and 24.04 acres of SMP 40 would still be developed with industrial uses under the Reduced Intensity Alternative. As discussed in Table 4.1-5 of this EIR, 100 percent of soils within SMP 39 and 95.7 percent of soils within SMP 40 have characteristics that meet the criteria to be considered prime agricultural land pursuant to the Alameda LAFCo's definition. The remaining 4.3 percent of soils within SMP 40 that do not meet the Alameda LAFCo's definition of prime agricultural land are located within the northeastern corner of the site. Because the Reduced Intensity Alternative would still result in the development of industrial uses on SMP 39 and SMP 40, the Alternative would result in the conversion of 75.94 acres of prime agricultural land, pursuant to the Alameda LAFCo's definition, to non-agricultural use, including 51.9 acres on SMP 39 and 24.04 acres on SMP 40. Therefore, while impacts related to agricultural resources would be fewer under the Reduced Intensity Alternative, the significant and unavoidable impact identified for the proposed project would remain under the Reduced Intensity Alternative.

Air Quality, Greenhouse Gas Emissions, and Energy

The Reduced Intensity Alternative would result in less ground disturbance and less intensive development on the project site, and thus, would require less construction activities. Accordingly, the air pollutant emissions associated with construction activities would be reduced under the Reduced Intensity Alternative. However, given that development on SMP 39 and the off-site trail improvements would be the same under the Reduced Intensity Alternative as the proposed project, the Alternative would still be subject to implementation of Mitigation Measure 4.2-1 to ensure that emissions would be below the applicable BAAQMD thresholds of significance during construction.

With regard to operational emissions, the Reduced Intensity Alternative would involve development of SMP 39 and the 470,530-sf building on the western portion of the SMP 40, and, thus, less warehousing space would be provided under the Reduced Intensity Alternative, which would reduce the number of vehicles traveling to and from the project site. Nonetheless, to ensure that emissions associated with off-road equipment used on-site during project operations would be below the applicable BAAQMD thresholds of significance, Mitigation Measure 4.2-2 would still be required under the Reduced Intensity Alternative.

Overall, because the Reduced Intensity Alternative would result in a reduction of air pollutant emissions associated with construction and operation in comparison to the proposed project, the Alternative's impacts related to air quality, GHG emissions, and energy would be fewer than the proposed project.

Biological Resources

Under the Reduced Intensity Alternative, the 288,750-sf building on the eastern portion of SMP 40 would not be developed, and, as a result, the disturbance area would be reduced by 16.93

acres. As such, because the Alternative would result in a reduced area of disturbance as compared to the proposed project, impacts to biological resources would generally be reduced. However, similar to the proposed project, the Reduced Intensity Alternative would still have the potential to result in adverse impacts to wildlife species. In addition, because the off-site improvements would be similar to the proposed project under the Reduced Intensity Alternative, Trail Connection Option 2 would still have the potential to be the chosen off-site trail connection option under the Alternative, and a portion of SMP 40 would still be developed. Therefore, the Alternative could result in substantial adverse effects on riparian habitat and/or other sensitive natural communities and/or have a substantial adverse effect on federal or State protected aquatic resources. To ensure such impacts would be reduced to a less-than-significant level, all of the mitigation measures related to biological resources required for the proposed project would also be required under the Alternative. Overall, impacts related to biological resources would be fewer than the proposed project under the Reduced Intensity Alternative.

Cultural and Tribal Cultural Resources

Buildout of the Reduced Intensity Alternative would result in the disturbance of 16.93 acres less than the proposed project. As such, the potential for the disturbance or destruction of cultural or tribal cultural resources occurring under the Alternative would also be reduced. Nonetheless, Mitigation Measures 4.5-2 through 4.5-4 would still apply to the Alternative. Overall, impacts related to cultural and tribal cultural resources could be fewer under the Reduced Intensity Alternative as compared to the proposed project.

Hydrology and Water Quality

Under the Reduced Intensity Alternative, the 288,750-sf building on the eastern portion of SMP 40 would not be developed, and, as a result, the disturbance area would be reduced by 16.93 acres. As such, water quality impacts during construction could be fewer as compared to the proposed project. Nonetheless, given that the Alternative would still result in the development of industrial uses on SMP 39 and SMP 40, water quality impacts during operations could be similar to the proposed project. Overall, the Alternative would still have the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction and operations. As such, Mitigation Measures 4.5-1, 4.5-2(a), and 4.5-2(b) would still be required.

In addition, because the Reduced Intensity Alternative would result in an overall reduction in impervious surfaces as compared to the proposed project, the Alternative impacts related to altering the existing drainage pattern of the site or area would be fewer as compared to the proposed project. However, because development would still occur under the Reduced Intensity Alternative Mitigation Measure 4.5-4 would be required to ensure a final drainage plan is prepared and implemented in accordance with all State stormwater standards and requirements.

Furthermore, although the Reduced Intensity Alternative would involve a smaller area of disturbance than what would occur under the proposed project, the portions of the site located within a Special Flood Hazard Area (SFHA) would still be developed under the Alternative. As such, Mitigation Measure 4.5-5 would still be required to ensure that the City or project applicant obtains a Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA) for raising building pads out of the floodplain.

Overall, the impacts identified for the proposed project related to hydrology and water quality would be fewer under the Reduced Intensity Alternative.

Noise

Under the Reduced Intensity Alternative, the 288,750-sf building on the eastern portion of SMP 40 would not be developed. As such, the nearest construction activities on SMP 40 would occur at a distance of approximately 1,740 feet from the nearest sensitive receptor, located east of Isabel Avenue, which is 856 feet further than the proposed project. As such, maximum construction noise levels would be substantially lower than the 32 dBA L_{max} associated with SMP 40 under the proposed project. Therefore, construction noise impacts could be fewer as compared to the proposed project. However, given that an off-site trail connection option would still be constructed as part of the Reduced Intensity Alternative, construction activities associated with development of the Alternative still have the potential to exceed the City's thresholds of significance if off-site Trail Connection Option 2 or 3 is the selected off-site trail connection option. As such, Mitigation Measure 4.6-1 would still be required. Nonetheless, because the 288,750-sf building on the eastern portion of SMP 40 would not be developed under the Reduced Intensity Alternative, development of the Reduced Intensity Alternative would result in fewer construction noise impacts as compared to the proposed project.

Public Services, Utilities, and Service Systems

As discussed in Chapter 4.7, Public Services, Utilities, and Service Systems, of this EIR, according to the City's 2017 Sewer System Master Plan, under buildout (cumulative) conditions, the Airport Lift Station does not have adequate firm capacity, even without consideration of the additional flows that would be generated from development of SMP 39 and SMP 40. In addition, under buildout conditions, velocities in the eight-inch-diameter portion of the lift station's associated force main would exceed the maximum peak velocity criterion of seven feet per second (fps), and the additional flows generated by development of SMP 39 and SMP 40 would exacerbate the exceedance. Therefore, while the Reduced Intensity Alternative would result in a reduction in the overall building square footage developed on SMP 40 as compared to the proposed project, the additional flows from the 1,226,025 sf of industrial uses that would be developed on SMP 39 and SMP 40 would still exacerbate an exceedance of the firm capacity of the Airport Lift Station, as well as of the velocities in the eight-inch-diameter portion of the lift station's associated force main, under cumulative conditions. Therefore, the Reduced Intensity Alternative would still have the potential to result in cumulative impacts related to wastewater capacity, and Mitigation Measures 4.7-8(a) and 4.7-8(b) would still be required. Nonetheless, because the 288,750-sf building on the eastern portion of SMP 40 would not be developed under the Reduced Intensity Alternative, development of the Reduced Intensity Alternative would result in fewer impacts related to public services, utilities, and service systems as the proposed project, as the projected wastewater demand would be less under the Reduced Intensity Alternative as compared to the proposed project.

Transportation

The Reduced Intensity Alternative would still involve construction of new buildings on both SMP 39 and SMP 40, as well as construction of off-site improvements. However, because the Reduced Intensity Alternative would result in a reduction in the overall building square footage developed on SMP 40 as compared to the proposed project, slightly less construction vehicle traffic would occur, as fewer materials would be used during construction activities. Nonetheless, the Reduced

Intensity Alternative would still have the potential to temporarily disrupt the circulation system in the project area, and Mitigation Measure 4.8-1 would still be required.

Given that the Reduced Intensity Alternative would reduce the amount of square footage that would be developed on SMP 40, associated operational vehicle trips would be fewer, as less warehousing space would be provided under the Alternative. Using the Institute of Transportation Engineers (ITE) trip generation rate of 1.4 daily trips per square foot for High Cube Warehouses (the ITE rate used for SMP 40 in Chapter 4.8, Transportation, of this EIR) a total of 659 daily trips would be generated from development of the 470,530-sf building on the western portion of the SMP 40. Because development of SMP 39 would remain the same as the proposed project, trips associated with SMP 39 would remain the same under Reduced Intensity Alternative. As such, a total of 4,255 daily trips would be generated under the Reduced Intensity Alternative, as compared to the 4,658 daily trips anticipated under the proposed project. Because the Alternative would generate fewer daily trips than the proposed project, impacts related to transportation could be reduced.

In addition, because less warehousing space would be provided under the Alternative, fewer employees would be needed to staff the proposed warehouses. Overall, a total of 786 new employees would still result from development of SMP 39, given that development of the SMP 39 site would not change under the Reduced Intensity Alternative. However, because the 288,750-sf building on the eastern portion of SMP 40 would not be developed under the Reduced Intensity Alternative, development of the SMP 40 site under the Reduced Intensity Alternative is anticipated to result in 429 employees, a reduction in 263 employees as compared to the proposed project. Given that the VMT analysis included within this EIR is based on average VMT per employee, the Reduced Intensity Alternative is anticipated to result in a reduction in total VMT as compared to the proposed project. However, because the proposed use under the Reduced Intensity Alternative would still be industrial, the trip generation rates and trip lengths used for the analysis of the proposed project would still be applicable. As such, the Alternative would result in a similar VMT per capita as the proposed project, and implementation of Mitigation Measure 4.8-3 would still be required for the Reduced Intensity Alternative.

Overall, because the Reduced Intensity Alternative would result in a reduction in construction and operational traffic as compared to the proposed project, development of the Reduced Intensity Alternative would result in fewer impacts related to transportation compared to the proposed project.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The environmentally superior alternative is generally the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the City. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

The No Project (No Build) Alternative would not meet any of the project objectives, because the site would not be developed for industrial use. As discussed throughout this chapter and shown

in Table 6-1, the impacts resulting from the proposed project would not occur under the No Project (No Build) Alternative, as the project site is assumed to remain in its current condition under the Alternative. As such, the No Project (No Build) Alternative would be considered the environmentally superior alternative. However, as discussed above, in accordance with Section 15126(e)(2) of the CEQA Guidelines, if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Given that the No Project (Maximum Allowable Operations) Alternative is also a form of a no project alternative in accordance with Section 15126(e)(2) of the CEQA Guidelines, the No Project (Maximum Allowable Operations) Alternative could not be considered that environmentally superior alternative. Nonetheless, the No Project (Maximum Allowable Operations) Alternative would not meet any of the project objectives, because the site would not be developed for industrial use. In addition, while the No Project (Maximum Allowable Operations) Alternative would result in fewer impacts than the proposed project related to four of the eight issue areas, the Alternative would result in similar impacts as the proposed project for one issue area, and greater impacts for the remaining three issue areas for which project impacts were identified. Therefore, the No Project (Maximum Allowable Operations) Alternative would not be considered the environmentally superior alternative.

Based on the above, the Reduced Intensity Alternative would be considered the Environmentally Superior Alternative. The Reduced Intensity Alternative would generally meet all of the objectives of the proposed project, as the site would still be developed for industrial use, just at a reduced intensity as compared to the proposed project. In addition, the Reduced Intensity Alternative would result in fewer impacts to all seven issue areas, as compared to the proposed project. However, under the Reduced Intensity Alternative, the significant and unavoidable impact related to agricultural resources, which was identified for the proposed project, would still occur. As such, the number of significant and unavoidable impacts under the Reduced Intensity Alternative would be the same as the proposed project.

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Resource Area	Proposed Project	No Project (No Build) Alternative	No Project (Maximum Allowable Operations) Alternative	Reduced Intensity Alternative
Agricultural Resources	Significant and Unavoidable	None	Fewer	Fewer*
Air Quality, Greenhouse Gas Emissions, and Energy	Less-Than-Significant with Mitigation	None	Greater	Fewer
Biological Resources	Less-Than-Significant with Mitigation	None	Similar	Fewer
Cultural and Tribal Cultural Resources	Less-Than-Significant with Mitigation	None	Greater	Fewer
Hydrology and Water Quality	Less-Than-Significant with Mitigation	None	Greater	Fewer
Noise	Less-Than-Significant with Mitigation	None	Fewer	Fewer
Public Services, Utilities, and Service Systems	Less-Than-Significant with Mitigation	None	None	Fewer
Transportation	Less-Than-Significant with Mitigation	None	Fewer	Fewer
Total Fewer		**8**	**4**	**8**
Total Greater		**0**	**3**	**0**
Total Similar		**0**	**1**	**0**

Note: No Impact = "None;" Less than Proposed Project = "Fewer;" Similar to Proposed Project = "Similar;" and Greater than Proposed Project = "Greater."

* Significant and Unavoidable impact(s) determined for the proposed project would still be expected to occur under the Alternative.

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