City of Livermore

LIVERMORE GENERAL PLAN 2045

March 2026 | Draft Environmental Impact Report

State Clearinghouse No. 2023030225



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LIVERMORE GENERAL PLAN 2045

for City of Livermore

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This executive summary has been prepared in compliance with the California Environmental Quality Act (CEQA) Guidelines Section 15123. This Draft Environmental Impact Report (EIR) addresses the environmental effects associated with the implementation of the update to the Livermore General Plan (General Plan 2045) and associated amendments to the Livermore Municipal Code (LMC) and Livermore Development Code (LDC), hereinafter referred to together or separately as the "proposed Project." CEQA requires that local government agencies consider environmental consequences before acting on projects over which they have discretionary approval authority. An EIR analyzes potential environmental consequences to inform the public and support informed decisions by local and State governmental agency decision makers.

This Draft EIR has been prepared pursuant to the requirements of CEQA. The City of Livermore, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports. Information for this Draft EIR was obtained from on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., for air quality, greenhouse gas emissions, noise, and transportation).

ES.2 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared pursuant to CEQA[1] and the CEQA Guidelines[2] to assess the environmental effects associated with implementation of the proposed Project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.

[1] The CEQA Statute is found in California Public Resources Code, Division 13, Sections 21000-21177.
[2] The CEQA Guidelines are found in California Code of Regulation, Title 14, Division 6, Chapter 3, Sections 15000-15387.

3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis, and full disclosure of the environmental consequences of a project with the potential to result in significant, adverse environmental impacts.

An EIR is one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a proposed project, the lead agency must consider the information in the EIR, determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and adopt a statement of overriding considerations if significant impacts cannot be avoided.

ES.2.1 Draft EIR Organization

Executive Summary. Summarizes the background and description of the proposed Project, the format of this Draft EIR, project alternatives, any critical issues remaining to be resolved, and potential environmental impacts and recommended mitigation measures identified for the proposed Project.

Chapter 1: Introduction. Describes the purpose of this Draft EIR, background on the proposed Project, the environmental review process, including the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 2: Project Description. Provides a detailed description of the proposed Project, including its objectives, its area and location, approvals anticipated to be required as part of the proposed Project, necessary environmental clearances, and intended uses of this Draft EIR.

Chapter 3: Environmental Analysis. This chapter includes 18 subsections corresponding to the environmental resource categories identified in CEQA Guidelines Appendix G, *Environmental Checklist*. Each environmental topic is analyzed in a separate section that discusses: the applicable regulatory framework; existing conditions; the significance criteria used to determine if a significant impact would occur; the potential adverse effects of the proposed Project; the

level of impact significance and recommended mitigation measures, if required, to reduce the impacts to a less-than-significant level; and potential cumulative impacts .

Chapter 4: Alternatives to the Proposed Project. Describes the alternatives and compares their impacts to the impacts of the proposed Project. Alternatives include the No Project Alternative and Reduced Industrial and Concentrated Residential Alternative.

Chapter 5: Other CEQA Considerations. Provides a discussion of effects found not to be significant, significant and unavoidable impacts, significant irreversible changes to the environment, and growth-inducing effects.

Chapter 6: Report Preparers and Organizations Consulted. Includes a list of people and organizations that prepared or were contacted during the preparation of this Draft EIR.

Appendices. The appendices for this document include the following supporting documents:

- Appendix A: Notice of Preparation and Scoping Comments
- Appendix B: Air Quality and Greenhouse Emissions Data
- Appendix C: Noise Data

ES.2.2 Type and Purpose of this Draft EIR

As described in the CEQA Guidelines, different types of EIRs are used for varying situations and intended uses. Because of the long-term planning horizon of the proposed Project and the permitting, planning, and development actions that are related both geographically and as logical parts in the chain of contemplated actions for implementation, this Draft EIR has been prepared as a program EIR, pursuant to CEQA Guidelines Section 15168. Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways.

Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts and alternatives. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program-wide mitigation measures, as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale. Because this is a program-level EIR, this document does not evaluate the impacts of specific, individual development projects that may be allowed under the proposed General Plan 2045. Future projects may require separate environmental review.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether additional CEQA evaluation is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documents may not be required (CEQA Guidelines Section 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of Program EIRs, citing five advantages:

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
- Focus on cumulative impacts that might be overlooked in a case-by-case analysis;
- Avoid continual reconsideration of recurring policy issues;
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to address them;
- Reduce paperwork by encouraging the reuse of data (through tiering). (CEQA Guidelines Section 15168[h])

ES.3 PROJECT LOCATION

Livermore is in eastern Alameda County in the San Francisco Bay Area. Livermore is situated in the Livermore Valley, which is framed by rolling hills to the north, south, and east and by the cities of Dublin and Pleasanton to the west. Livermore is bisected by Interstate 580, which travels east to west through Alameda County. State Route 84 also provides regional access to the city along the southwestern city boundary. The EIR Study Area includes all the land in the City Limit, Urban Growth Boundary, and Sphere of Influence.

ES.4 SUMMARY OF THE PROPOSED PROJECT

As required by State law, the proposed Project includes multiple components to ensure that each element of General Plan 2045 is internally (or horizontally) consistent (Government Code Section 65300.5), and the LMC and LDC is consistent with the General Plan (also known as vertical consistency) (Government Code Section 65860). The proposed Project updates the current 2003-2025 General Plan goals, policies, and actions, and makes changes to land use designations to reflect current conditions, issues, resources, and community perspectives. For example, changes are needed to address the evolving state of the city and region and to address State housing needs and cover issues such as climate change resiliency and emerging

transportation technologies. The proposed update also incorporates regional forecasts for 2045 that extend the planning horizon by approximately 20 years from the current 2025 horizon. As part of the process of updating the General Plan, the City identified regulatory language to be located in the LMC and LDC to implement General Plan policy and maintain consistency between the two planning documents. Proposed LMC and LDC amendments would be adopted simultaneously with (or shortly after) the proposed General Plan 2045.

ES.5 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines Section 15126.6(a) states that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain 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." The alternatives in this Draft EIR were based, in part, on their potential to reduce or eliminate the impacts determined to be potentially significant for implementation of the proposed Project (see Table ES-1, *Summary of Significant Environmental Impacts and Mitigation Measures*). The following alternatives to the proposed Project were considered and analyzed in detail:

- Alternative A: No Project Alternative
- Alternative B: Reduced Industrial and Concentrated Residential Alternative

Project alternatives are assessed in detail in Chapter 4, *Alternatives to the Proposed Project*, of this Draft EIR.

ES.6 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. For the proposed Project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this EIR adequately describes the environmental impacts of the proposed Project.
2. Whether the benefits of the proposed Project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the proposed Project besides the mitigation measures identified in the EIR.

6. Whether there are any alternatives to the proposed Project that would substantially lessen any of the significant impacts of the proposed Project and achieve most of the basic Project objectives.

ES.7 AREAS OF CONCERN

In accordance with CEQA Guidelines Section 15123(b)(2), the EIR summary must identify areas of controversy known to the lead agency, including issues raised by agencies and the public. Prior to preparation of the Draft EIR, the City issued a Notice of Preparation (NOP) on March 7, 2023. The CEQA-mandated scoping period for this EIR was between March 7, 2023, and April 5, 2023, during which time interested agencies and the public could submit comments about the potential environmental impacts of the proposed Project. The City received comment letters from a variety of State agencies and one member of the public. Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR contains the NOP as well as the comments received by the City in response to the NOP.

The following is a discussion of issues that are likely to be of particular concern to agencies and interested members of the public during the environmental review process. Though every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive but rather attempts to capture concerns that are likely to generate the greatest interest based on the input received during the scoping process.

- The potential conversion of agricultural land resulting in permanent reduction of agricultural land resources and the need for mitigation, such as agricultural conservation easements
- The protection of historic and tribal cultural resources
- The potential of fault rupture, ground shaking, liquefaction, and landslides to cause harm to the residents of Livermore
- The potential release of hazardous materials during construction and the need for better identification of hazardous sites not just those on the Cortese List, soil sampling, hazardous materials surveys prior to demolition, and the release of hazardous materials during operation from mining waste from mining sites and pesticides from agricultural sites
- The need for an increase in new housing units and housing standards that discourage sprawl and result in the loss of agricultural land and open space, increased vehicle-miles traveled (VMT) and the associated greenhouse gas (GHG) emissions, air pollution, noise, and reduced walkability
- The increased need for multimodal transportation improvements throughout the city to reduce VMT and the associated GHG emissions, air pollution, and noise

ES.8 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-1 summarizes the conclusions of the environmental analysis contained in this Draft EIR. Table ES-1 presents significant impacts and mitigation measures, including the impact's level of significance with the implementation of mitigation measures. For a complete description of potential impacts, including those where no mitigation measures are required, please refer to the specific discussions in Sections 3.1 through 3.18 of this Draft EIR.

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
AGRICULTURE RESOURCES			
Impact AGR-1: Implementation of the proposed Project could result in the conversion of Prime Farmland, Unique Farmland, and 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 nonagricultural uses.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact AGR-2: Implementation of the proposed Project could conflict with existing zoning for agricultural use and Williamson Act contracts.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact AGR-3: Implementation of the proposed Project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact AGR-4: Implementation of the proposed Project could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), existing zoning for agricultural uses, and Williamson Act properties, and farmland to nonagricultural uses.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
AIR QUALITY			
Impact AQ-2: Implementation of the proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard during construction and operation.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact AQ-5: Implementation of the proposed Project could result in cumulative air quality impacts with respect to generation of criteria pollutants and exposure of substantial pollutant concentrations at sensitive receptors.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
BIOLOGICAL RESOURCES			
Impact BIO-4: Implementation of the proposed Project could substantially interfere 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.	Significant	**Mitigation Measure BIO-4:** Prior to the issuance of entitlements for a project, applicants or sponsors of projects on sites where migratory or nesting birds are present shall implement bird-safe design measures for all development projects where a qualified biologist, approved by the City of Livermore (City), determines that migratory or resident birds could be affected. This requirement shall apply to projects adjacent to or incorporating riparian corridors, wetlands, open-space areas, or other natural habitat features, or as otherwise determined by the qualified biologist.	Less Than Significant

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
		Bird-safe design considerations and management strategies shall include avoiding the use of highly reflective glass that appears to reproduce natural habitat and may attract birds; limiting reflectivity and using non-attractive surface treatments; applying low-reflectivity glass or other glazing treatments across the entirety of the building's glass surfaces, not only at lower levels; reducing interior light during evening hours through lighting control systems for commercial buildings; directing exterior lighting downward and screening it to minimize night-time illumination of the building exterior, except as needed for safety and security; avoiding glass skyways, freestanding glass walls, and transparent building corners; eliminating transparent glass at rooflines, including in conjunction with green roofs; and covering roof mechanical equipment with low-profile angled roofing to minimize obstacles to bird flight. Project applicants shall demonstrate incorporation of bird-safe design measures in project plans and provide documentation of biologist review during entitlement or permitting stages. The City shall verify compliance before issuance of building or grading permits.	
CULTURAL AND TRIBAL CULTRAL RESOURCES			
Impact CUL-2: Implementation of the proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15064.5.	Significant	**Mitigation Measure CUL-2:** If any buried historical or archaeological resources are discovered during construction, operations shall stop within a 100-foot radius of the find and the qualified archaeologist shall be consulted to determine whether the resource requires further study. If it is determined that the find is	Less Than Significant

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
		significant, then the qualified archaeologist shall make recommendations to the Lead Agency (City of Livermore) on the feasible measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant historical or archaeological resources consist of, but are not limited to, stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within a project site shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of CEQA Guidelines. If the relevant resources (if any) are determined to be historical resources as defined under Section 15064.5 of the CEQA Guidelines or a unique archaeological resource in Section 21083.2 of the Public Resources Code, feasible mitigation measures and an archaeological treatment plan shall be developed by the qualified archaeologist and recommended to the project applicant or sponsor and the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the find(s) as detailed in the archaeological treatment plan. No further grading or ground disturbance shall occur within 100 feet of the discovery of a significant historical or	

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
		archaeological resource until the relevant mitigation measures are approved by the Lead Agency and implemented by the project applicant or sponsor to protect these resources. Work may proceed on other parts of the project site while mitigation for unique archaeological resources is being carried out.	
Impact CUL-4: Implementation of the proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource (TCR) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k).	Significant	**Mitigation Measure CUL-4:** If any buried tribal cultural resources are discovered during construction, the construction contractor shall stop operations within a 100-foot radius of the find. The contractor shall notify the Lead Agency (City of Livermore) and the CIty shall consult with the appropriate tribe(s) to determine significance and appropriate treatment measures. The City/tribe(s) may require tribal or other qualified cultural resource monitors during construction to ensure that resources are properly identified and protected. Documentation of consultations, treatment measures, and resource protection actions shall be maintained in the project record. Work may proceed on other parts of the project site while mitigation for TCRs is being carried out.	Less Than Significant
Impact CUL-5: Implementation of the proposed Project could cause a substantial adverse change in the significance of 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 Public Resources Code Section 5024.1.	Significant	See Mitigation Measure CUL-4.	Less Than Significant

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
GREENHOUSE GAS EMISSIONS			
Impact GHG-1: Implementation of the proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact GHG-2: Implementation of the proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact GHG-3: Implementation of the proposed Project could result in a significant cumulative impact with respect to generation of greenhouse gas (GHG) emissions that may have a significant impact on the environment and conflict with an applicable plan adopted for the purpose of reducing GHG emissions.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
MINERAL RESOURCES			
Impact MIN-1: Implementation of the proposed Project could result in the loss of availability of known mineral resources that would be of value to the region and the residents of the State.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable

Table ES-1 Summary of Significant Environmental Impacts and Mitigation Measures

Environmental Impact	Level of Significance without Mitigation	Mitigation Measure	Level of Significance with Mitigation
Impact MIN-3: Implementation of the proposed Project could result in a significant cumulative impact with respect to the loss of availability of known mineral resources that are of value to the region and the residents of the State.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
NOISE			
Impact NOI-1: Implementation of the proposed Project could generate 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.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable
Impact NOI-4: Implementation of the proposed Project could generate 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, resulting in a significant cumulative impact.	Significant	No feasible mitigation measures at the programmatic level	Significant and Unavoidable

1. INTRODUCTION

1.1 PURPOSE OF THE EIR

The California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.) requires that all State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. The Environmental Impact Report (EIR) is the public document designed to provide the lead agency, decision makers, and the public with an analysis of the environmental effects of the proposed Project, to indicate possible ways to reduce or avoid environmental damage, and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of past, present, and reasonably foreseeable future projects. This Draft EIR has been prepared to satisfy the requirements of the CEQA Statute and CEQA Guidelines (California Code of Regulations Sections 15000 et seq.).

The City of Livermore (City) has the principal responsibility for approval of the proposed Project, which includes the proposed update to the Livermore General Plan (General Plan 2045), and associated amendments to the Livermore Municipal Code (LMC) and Livermore Development Code (LDC), hereinafter referred to together or separately as the "proposed Project," evaluated by this Draft EIR). The lead agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (CEQA Statute Section 21067). For this reason, the City is the CEQA lead agency for this project.

The intent of the Draft EIR is to provide sufficient information on the potential environmental impacts of the proposed Project to allow the City to make an informed decision regarding approval of the project.

The overall purpose of this Draft EIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the development and operation of the proposed Project and provide the City with adequate information to make an informed decision regarding approval of the project. This Draft EIR addresses effects that may be significant and adverse, evaluates alternatives to the project, and identifies mitigation measures to reduce or avoid adverse effects.

1.2 EIR Scope

This EIR is a program EIR that analyzes the adoption and implementation of the proposed Project. This is in contrast to a project-level EIR, which is used to identify and analyze the potential impacts of site-specific construction and operation. CEQA Statute Sections 21000 to 21189 and the CEQA Guidelines Sections 15000 to 15387 allow lead agencies to prepare a number of types of EIRs. Different types of EIRs are used for varying situations and intended uses. CEQA Guidelines Section 15168 states that program EIRs are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria.

In this case, the proposed Project that is the subject of this EIR consists of long-term plans and a set of regulatory changes that would be implemented over time as a policy document and regulations guiding future development activities and City actions. No specific development projects are proposed as part of the proposed Project. Therefore, this EIR is a program-level EIR that analyzes the potential environmental effects of the adoption and implementation of the proposed Project. As a program EIR, it does not evaluate the impacts of individual projects that may be proposed in the future. However, if the program EIR addresses the program's effects as specifically and comprehensively as is reasonably possible, and later activities are within the scope of the effects examined in the program EIR, then additional environmental review may not be required for those future projects (CEQA Guidelines Section 15168[c]).

When a program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects that are not within the scope of the program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR, unless the activity qualifies for an exemption. For these subsequent environmental review documents, this program EIR will serve as the first-tier environmental analysis. The program EIR can also serve to streamline future environmental review of subsequent projects.

1.3 ENVIRONMENTAL REVIEW PROCESS

1.3.1 Notice of Preparation

Pursuant to CEQA Statute Section 21080(d) and CEQA Guidelines Section 15063, the City determined that the proposed Project could result in potentially significant environmental impacts and that a program EIR would be required. In compliance with CEQA Statute Section 21080.4, the City circulated a Notice of Preparation (NOP) of an EIR for the proposed Project to the Governor's Office of Land Use and Climate Innovation (LCI; previously known as the Office

of Planning and Research) State Clearinghouse and interested agencies and persons on March 7, 2023, for a 30-day review period. A public Scoping Meeting was held on March 21, 2023. The NOP and scoping process solicited comments from responsible and trustee agencies, as well as interested parties regarding the scope of the environmental analysis to be conducted in the Draft EIR. Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR contains the NOP as well as the comments received by the City in response to the NOP.

1.3.2 Draft EIR

The scope of the Draft EIR was determined based on the comments received in response to the NOP. Pursuant to CEQA Guidelines Sections 15126.2 and 15126.4, the Draft EIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance. The information in Chapter 2, *Project Description*, of this Draft EIR, establishes the basis for analyzing the proposed Project-related environmental impacts.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period starting March 3, 2026, and ending April 24, 2026. The Planning Commission will conduct a public hearing during this period to receive comments on the Draft EIR. During the comment period, the public is invited to submit written comments via mail or email on the Draft EIR to the City of Livermore Community Development Department Planning Division by April 24, 2026. Comments may also be hand-delivered to the Community Development Department by this deadline.

Written comments should be submitted to Shannon Pagan to the address or email below with *Livermore General Plan 2045 EIR* as the subject.

Mail: Shannon Pagan, Senior Planner
City of Livermore
Community Development Department, Planning Division
1052 South Livermore Avenue
Livermore, CA 94550

Email: slpagan@livermoreca.gov

1.3.3 Final EIR

After the 45-day review period for the Draft EIR, the City will review all written comments received and prepare written responses to each comment related to the adequacy of the Draft EIR. A Final EIR will then be prepared, which contains all the comments received, responses to comments raising environmental issues, and any changes to the Draft EIR. The Final EIR will first be presented to the Planning Commission at a duly noticed public hearing. This hearing will

allow for public comment on the Final EIR and allow the Planning Commission to make a formal recommendation to the City Council regarding certification of the Final EIR. Following the public hearing, the Final EIR will be presented to the City Council for consideration of certification as the environmental document for the proposed Project. All persons who commented on the Draft EIR and provided contact information will be notified of the availability of the Final EIR and the date of the public hearing

All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to certification of the EIR. The City Council will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The Final EIR will need to be certified as having been prepared in compliance with CEQA by the City prior to deciding to approve or deny the proposed Project. Public input is encouraged at all public hearings before the City.

If the City Council certifies the EIR, it may then consider action on the proposed Project. If approved, the City Council would adopt and incorporate into the Project all feasible mitigation measures identified in the EIR.

In some cases, the City Council may find that no feasible mitigation measures have been identified for a given significant impact. In that case, the City Council, pursuant to CEQA Guidelines Section 15093, may nonetheless determine that economic, legal, social, technological, or other benefits of the proposed Project outweigh the unavoidable, significant effects on the environment.

1.4 MITIGATION MONITORING

CEQA Statute Section 21081.6 requires that the lead agency adopt a Mitigation Monitoring and Reporting Program (MMRP) for any project for which it has made findings pursuant to CEQA Statute Section 21081 or adopted a Negative Declaration pursuant to CEQA Statute Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration. If mitigation measures are required, the MMRP for the proposed Project will be completed congruently as part of the Final EIR process.

1.5 USE OF THE GENERAL PLAN PROGRAM EIR

1.5.1 Tiering Process

CEQA includes provisions that allow for streamlining the environmental review process for certain qualified projects, based on several factors. Streamlining may be appropriate when prior environmental review has been conducted (e.g., a program-level EIR), and future development proposals are consistent with the scope, assumptions, and mitigation measures identified in that prior environmental document.

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the program EIR and by incorporating those analyses by reference.

CEQA Guidelines Section 15168(d) provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]).

By tiering from the program EIR, the environmental analysis for a future project would rely on the program EIR for the following:

- General background and setting information for environmental topics;
- Growth-related issues;
- Issues previously evaluated in sufficient detail in the program EIR for which there is no significant new information or change in circumstances that would require further analysis;
- Assessment of cumulative impacts; and
- Mitigation measures adopted and incorporated into the proposed Project.

BASE RESOURCE FOR GENERAL PLAN IMPLEMENTATION AND REVIEW OF FUTURE DEVELOPMENT PROJECTS

As a program EIR, this document and the mitigation measures presented herein, will be used as a guide for implementing the proposed General Plan 2045 goals, policies, and actions, as well as adopting changes in City codes, regulations, and practices. This program EIR will also be used as a base resource for reviewing future development projects. This document will assist in guiding

the assessment of projects and provide environmental review tiering, where appropriate. Currently, the City completes the following steps in reviewing development projects, which will be carried forward under the proposed General Plan 2045, if adopted.

- **Project Consistency with the General Plan and Development Code.** When a new development application is filed with the City, it is reviewed for completeness and consistency with the General Plan 2045 goals, policies, and actions, and City codes and practices. Because City policies, actions, and codes presented in this program EIR will minimize impacts, development projects will implement these measures to: (a) mitigate environmental impacts and (b) achieve consistency with the General Plan 2045 and compliance with the development code.
- **Projects Subject to Environmental Review.** For future development projects subject to environmental review, the resources contained in this EIR and carried forward in the General Plan 2045 will guide the scope of this review. For project-level environmental review, many of the topic areas studied in this program EIR will be adequately covered and this program EIR will provide environmental clearance for the project. However, the preparation of site-specific studies and reports may be necessary based on the location and nature of the development project. The resources presented in this program EIR will assist in determining when and where a special, site-specific study is warranted.
- **Projects Exempt from Environmental Review.** CEQA includes a long list of environmental review exemptions. Some of the future development projects may be exempt from environmental review as the project impacts will be adequately covered by this program EIR. However, many of the CEQA exemptions require compliance with specific criteria for the development project to qualify for the exemption. The resources contained in this EIR and carried forward in General Plan 2045 will be used to determine if the CEQA-prescribed criteria have been met to qualify for the exemption. One example of a CEQA exemption is for projects that are infill development and consistent with the General Plan land use designation and zoning district. CEQA provides for these types of projects to conduct streamlined review under CEQA Guidelines Sections 15332 and 15138.3 where the project meets certain criteria.

1.6 INCORPORATION BY REFERENCE

The following documents are incorporated by reference into this Draft EIR, consistent with the CEQA Guidelines Section 15150, and they are available for review at the City of Livermore, Community Development Department, Planning Division, 1052 South Livermore Avenue.

- *City of Livermore 2045 General Plan*, prepared by City of Livermore, February 2026.
- *Livermore General Plan Update Existing Conditions Report,* prepared by City of Livermore, March 7, 2022.

2. PROJECT DESCRIPTION

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed update to the Livermore General Plan (General Plan 2045) and associated amendments to the Livermore Municipal Code (LMC) and Livermore Development Code (LDC), hereinafter referred to together or separately as the "proposed Project." This Draft EIR has been completed in accordance with the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.). CEQA requires that State and local public agencies analyze proposed projects to determine potential impacts on the environment and disclose any such impacts. As described in more detail in Chapter 1, *Introduction*, of this Draft EIR, consistent with CEQA Guidelines (California Code of Regulations Sections 15000 et seq.), this Draft EIR provides a programmatic analysis of the environmental impacts associated with implementation of the proposed Project, including the projected buildout of the proposed General Plan 2045. This Draft EIR is also intended to be used for purposes of tiering pursuant to CEQA Guidelines Section 15152 and streamlining provisions of the CEQA Statute and CEQA Guidelines. The City of Livermore (City) is the lead agency for the environmental review of the proposed Project.

This chapter provides a detailed description of the proposed Project, including the location, setting, and characteristics of the EIR Study Area; as well as the planning process; project objectives; the principal report components; and required permits and approvals.

2.1 BACKGROUND

California Government Code Section 65300 requires every city and county in California to have an adopted comprehensive long-range General Plan for the physical development of the county or city and, in some cases, land outside the city boundaries. The General Plan is the community's overarching policy document that defines a vision for future change and establishes a "framework" for locating and designing new development, expanding the local economy, conserving and preserving environmental resources, improving public services and safety, minimizing hazards, and fostering community health. The General Plan, which includes a vision, guiding principles, goals, policies, and actions, functions as the City's primary land use regulatory tool. It provides a basis for judging whether specific development proposals and proposed projects are consistent with the General Plan.

Pursuant to State law, a General Plan must contain eight mandated elements: land use, circulation, housing, conservation, open space, noise, safety, and environmental justice, which the latter is only required in some jurisdictions that meet specific criteria. The City of Livermore is not required to prepare an environmental justice element. Additional "optional" elements

may be included in a General Plan at the discretion of the City or County. Typically, General Plans cover a time frame or forecast of 15 to 20 years. However, General Plan Housing Elements and Safety Elements are required to be updated every eight years to comply with State law. State legislation also requires consideration of General Plan policies on issues, such as climate change and air quality. The Governor's Office of Land Use and Climate Innovation updated the General Plan Guidelines in 2017 and released additional guidance for Environmental Justice Elements in 2020.

California Government Code Section 65860 requires all specific plans, master plans, and zoning in the city to be consistent with the General Plan. The City's General Plan Land Use Map is integrated with the City's Zoning Map, which shows the parcel-specific delineation of the zoning districts throughout the city and depicts permitted and conditionally permitted uses. A parcel's zoning district stems directly from its General Plan Land Use designation, with the zoning district acting to implement the General Plan by refining the specific uses and development standards for that parcel.

Similarly, the General Plan must be used as the basis for all planning-related decisions made by City staff, the Planning Commission, and the City Council. Other decision-making bodies that rely on the General Plan to guide future decisions include, but are not limited to, the Community Development Department and Public Works Department. The General Plan itself, however, does not approve or entitle any development project. Future project applicants have control over when they wish to propose a project, and final development approval decisions are made on a project-by-project basis by City staff, the Planning Commission, and/or the City Council.

2.2 OVERVIEW

The proposed General Plan 2045 builds off the current General Plan by:

- Adding new policy topics that capture the community's priorities and cover issues that were not anticipated.
- Updating the General Plan Land Use Map to reflect where future housing and jobs will be located. This revision incorporates regional forecasts for 2045, thus moving the planning horizon forward by 20 years from the 2025 horizon year of the current General Plan.
- Incorporating the topics that are now required by State legislation and revising relevant policies and actions to meet those requirements.

The proposed General Plan 2045 guides the economic and physical growth for Livermore as well as preservation of natural and agricultural resources over an approximately 20-year buildout horizon. It would replace the City's current General Plan, with the exception of the Housing Element. The City's Housing Element (2023 to 2031) was adopted by the City Council in March 2023, certified by the State Housing and Community Development Department on March 24,

2023, and is incorporated into the proposed General Plan 2045 by reference. The Housing Element underwent a separate environmental review as part of its adoption process.

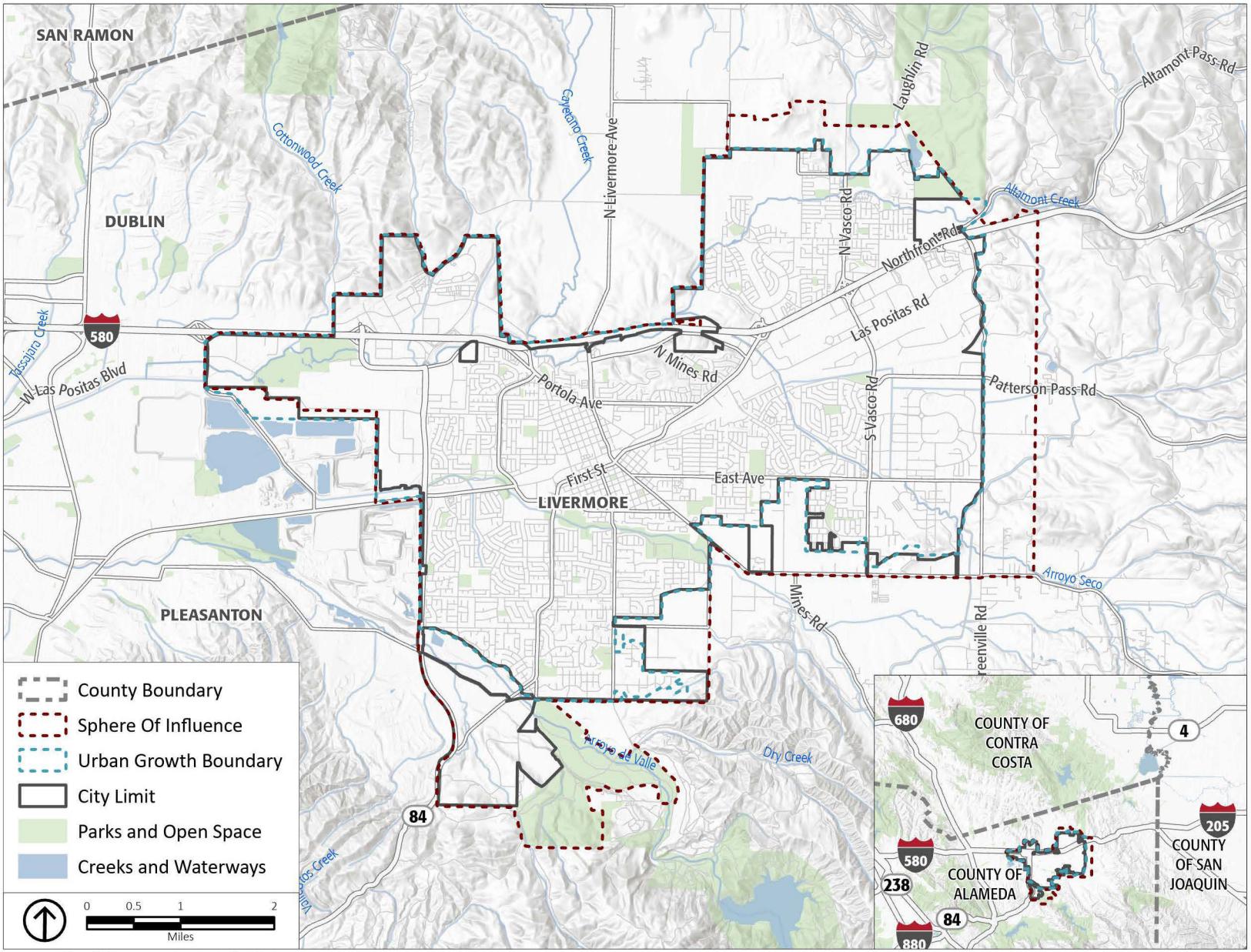
This EIR replaces the *Livermore General Plan and Downtown Specific Plan EIR* (SCH No. 2003032038), September 2003, which served as the first-tier programmatic EIR that examined the environmental effects of adopting and implementing the General Plan and Downtown Specific Plan update. As described further in this chapter, there will be no changes to the Downtown Specific Plan land use designations and zoning districts, or the specific downtown development projects evaluated in the subsequent CEQA documents that tiered from the 2003 EIR including the:

- *Livermore General Plan Climate Change Element Supplemental EIR* (SCH No. 2003032038), November 2008.
- *Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent EIR* (SCH No. 2008092085), September 2009.
- *Downtown Specific Plan Amendment Addendum No. 1 to the Downtown Specific Plan Subsequent EIR* (SCH No. 2008092085), August 2018.
- *Downtown Specific Plan Amendment Addendum No. 2 to the Downtown Specific Plan Subsequent EIR* (SCH No. 2008092085), March 2019.
- *Downtown Specific Plan Amendment Addendum No. 3 to the Downtown Specific Plan Subsequent EIR* (SCH No. 2008092085), August 2020.
- Downtown Specific Plan Amendments Addendum No. 4 to the Downtown Specific Plan Subsequent EIR (SCH No. 2008092085), August 2020.

To the degree applicable, this EIR will replace/update general mitigation measures from the listed CEQA documents to ensure that this EIR can be used as a tiering document for future development projects in the Downtown Specific Plan area that are subject to CEQA. Please see Section 1.5, *Use of the General Plan EIR*, in Chapter 1, *Introduction*, of this Draft EIR, for a summary of the City's procedures for reviewing potential future development projects, which will be carried forward under the proposed General Plan 2045, if adopted.

2.3 LOCATION AND SETTING

As shown on Figure 2-1, *Regional and Vicinity Map*, Livermore is in eastern Alameda County in the San Francisco Bay Area. Livermore is situated in the Livermore Valley, which is framed by rolling hills to the north, south, and east and by the cities of Dublin and Pleasanton to the west. Livermore is bisected by Interstate 580 (I-580), which travels east to west through Alameda County. State Route (SR) 84 also provides regional access to the city along the southwestern city boundary. Public transit in Livermore is mainly provided by the Livermore Amador Valley Transit Authority (LAVTA) bus service and Altamont Corridor Express (ACE) passenger rail service.



Source: City of Livermore, 2022; Esri, 2025.

Figure 2-1
Regional and Vicinity Map

Over the proposed Project's 2045 buildout horizon, it is anticipated that a regional commuter rail service, operated by Tri-Valley – San Joaquin Valley Regional Rail Authority, will begin construction and operation to improve transit connectivity to and from Livermore. Livermore residents and visitors navigate the city by a variety of major, collector, and local streets, as well as regional and local pedestrian and bicycle routes.

2.4 PLAN BOUNDARIES AND EIR STUDY AREA

This section explains the planning boundaries referenced in the proposed General Plan 2045 and the relationship of those boundaries to the EIR Study Area. The State of California encourages cities to look beyond their borders when undertaking the sort of comprehensive planning required of a General Plan.

2.4.1 PLAN BOUNDARIES

Planning boundaries proposed for General Plan 2045 are shown on Figure 2-2, *General Plan 2045 Planning Boundaries and EIR Study Area*, and described in the following sections.

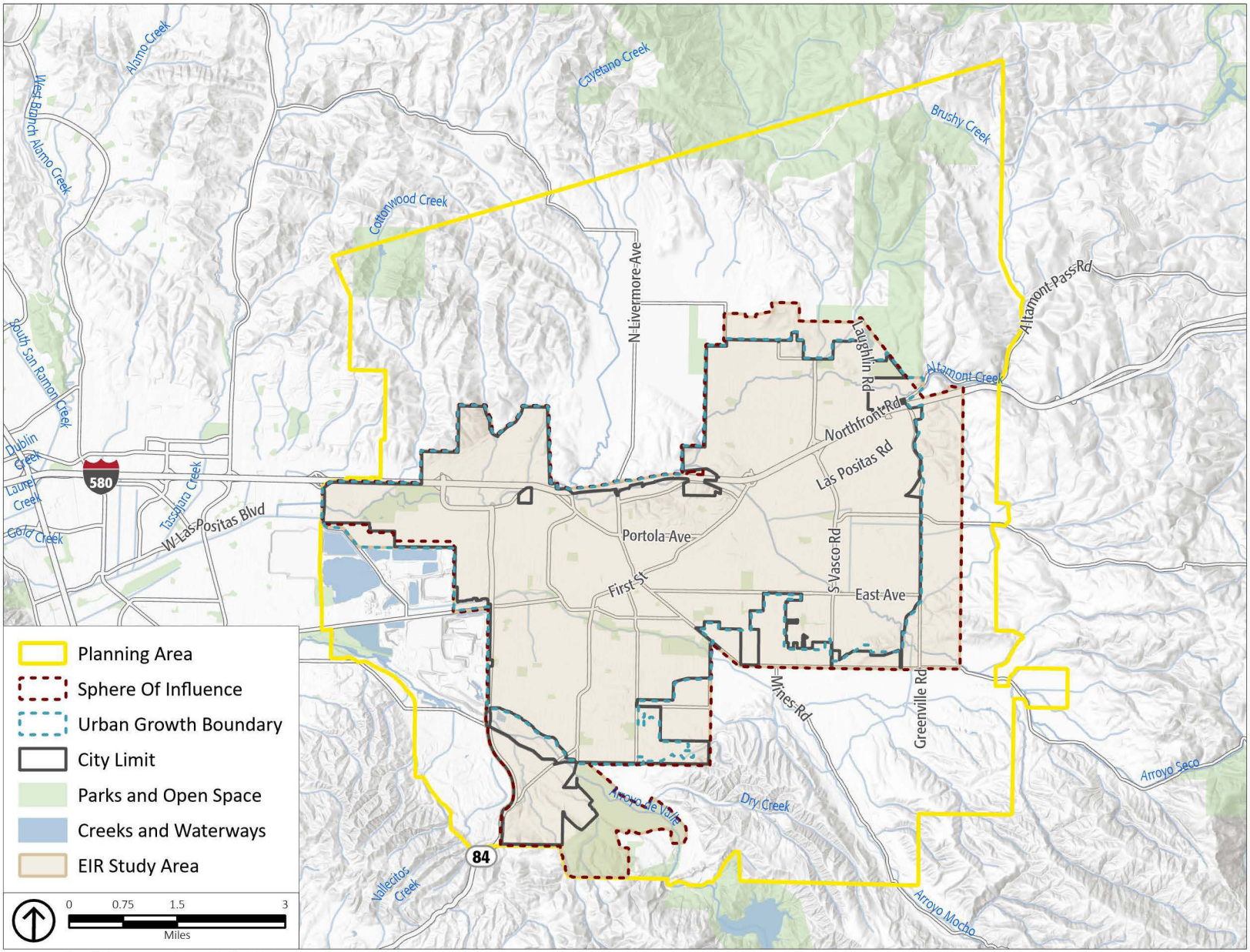
2.4.1.1 CITY LIMIT

The boundary for the City Limit encloses the incorporated territory where the City currently has jurisdictional authority. All land outside of the City Limit is part of unincorporated Alameda County and is under County jurisdiction. The City Limit covers approximately 17,000 acres (about 27 square miles). Changes to the City Limit only occur through the process of annexation or detachment, which must go through a specific legal process that requires input from residents or property owners and are subject to the Alameda Local Agency Formation Commission (LAFCO) review and approval.

2.4.1.2 URBAN GROWTH BOUNDARY

The urban growth boundary (UGB) is intended to preserve open space and agricultural land outside the UGB. The UGB covers approximately 16,600 acres (about 26 square miles).[1] It was established through two initiatives. The South Livermore Urban Growth Boundary Initiative, passed by local voters in March 2000, established the UGB around the southern edge of the city.

[1] The UGB is slightly smaller than the City Limit primarily because the rural residential and vineyard area along Vallecitos Road, Vineyard Avenue, and Kalthoff Common is within the City Limit but outside of the South Livermore UGB.



Source: City of Livermore, 2022; Esri, 2025.

Figure 2-2
General Plan 2045 Planning Boundaries and EIR Study Area

In December 2002, the City Council passed the North Livermore Urban Growth Boundary Initiative, completing the UGB around the northern edge of the city. While both UGBs share goals of preserving agriculture and open space and preventing urbanization, the policies regarding development beyond each UGB and changes to each UGB are different.

2.4.1.3 SPHERE OF INFLUENCE

The Livermore Sphere of Influence (SOI) is the area outside of the City Limit designated by the Alameda LAFCO to indicate land that has the potential to be annexed into the city. Livermore's SOI lies largely along the lines of the City Limit but includes additional land in the north past Raymond Road, to the east past Greenville Road, to the south extending to Tesla Road, past Marina Avenue, and including certain portions of South Livermore Valley. The SOI covers approximately 4,449 acres of land (about 7 square miles).

2.4.1.4 PLANNING AREA

The Planning Area encompasses land in Alameda County surrounding the city extending up to four miles beyond the City Limit to the north and south. While the Planning Area does not give the City any regulatory power, it signals to the County and to other nearby local and regional authorities that Livermore recognizes that development within this area has an impact on the future of the city. Under State law, the City is invited to comment on development or policy changes within the Planning Area that is subject to review by the County. However, the unincorporated portion of the Livermore Planning Area will remain under the jurisdiction of Alameda County.

2.4.2 EIR STUDY AREA

As shown in Table 2-1, *EIR Study Area*, the EIR Study Area includes all land within the City Limit, UGB, and SOI. The EIR Study Area does not include the land outside the SOI but within the Planning Area. The EIR Study Area is shown on Figure 2-2.

Table 2-1 EIR Study Area

Planning Boundaries	Acreage	Square Miles
City Limit	17,019	27
Urban Growth Boundary	16,593	26
Sphere of Influence	4,449	7

Source: City of Livermore, 2022, *Existing Conditions Reports*, Chapter 1, *Introduction*, https://imaginelivermore2045.org/wp-content/uploads/2022/03/01_Intro_Mar2022.pdf.
Note: Square miles are rounded.

2.5 PROJECT OBJECTIVES

This section is prepared pursuant to CEQA Guidelines Section 15154, which requires the EIR to identify project objectives that state the underlying purpose of the proposed Project.

The proposed General Plan 2045 is the primary planning document for the City of Livermore. The overall purpose of the proposed General Plan 2045 is to create a policy framework that articulates a vision for the City's long-term physical form and development, while preserving and enhancing the quality of life for Livermore residents. Implementation of the proposed General Plan 2045 is guided by the General Plan Vision and Guiding Principles. The Vision describes the future of Livermore as a community with a big heart where families and individuals flourish, and people with diverse experiences and perspectives work together for the common good. The Vision promotes insightful land use policies and wise resource management to ensure services and infrastructure for a high quality of life that will enable Livermore to be safe and welcoming for all.

To achieve the City's vision, the proposed General Plan 2045 and the Land Use Map capitalize mostly on infill opportunities. Meeting the vision also requires extending the buildout horizon to 2045 and updating goals, policies, and actions so that they meet current State requirements and community priorities. As part of this process, the City has identified the following project objectives:

- Establish a comprehensive framework to guide Livermore's physical development, resource conservation, and provision of infrastructure and public services over a 20-year horizon.
- Focus future housing and job growth within the Urban Growth Boundary, emphasizing infill development over dispersed growth at lower densities.
- Plan for vibrant, mixed-use districts that have access to multi-modal transportation opportunities including regional rail and local transit services.
- Plan for diverse housing choices so that individuals and families of all income levels and lifestyles can find housing, while also meeting the State-mandated Regional Housing Needs Allocation requirements for the current and estimated future housing cycles through 2045.
- Accommodate a diverse range of jobs and businesses to support a thriving and resilient economy and to increase the opportunity for Livermore residents to work in Livermore.
- Promote Livermore's long-term fiscal sustainability by identifying development types, intensities, and locations that generate public revenues sufficient to fund infrastructure, services, and maintenance over time.
- Plan for future circulation and infrastructure improvements.
- Keep the community safe from natural and human-caused hazards, such as earthquakes, landslides, floods, and wildfires, including increased risks from climate change.

- Protect natural resources, such as agriculture, water, air, and biological resources, and preserve and improve open spaces, including open space for recreation, for habitat, or for public health and safety.
- Provide public services that support the health, welfare, and civic engagement of all members of the community.

2.6 PROPOSED PROJECT

As required by State law, the proposed Project includes multiple components to ensure that each element of the Livermore General Plan is internally (or horizontally) consistent (Government Code Section 65300.5), and the LMC and LDC is consistent with the General Plan (also known as vertical consistency) (Government Code Section 65860). This section provides a description of each project component.

2.6.1 GENERAL PLAN 2045

The proposed Project updates the current 2003-2025 General Plan goals, policies, and actions, and makes changes to land use designations to reflect current conditions, issues, resources, and community perspectives. For example, changes are needed to address the evolving state of the city and region and to address State housing needs and cover issues such as climate change resiliency and emerging transportation technologies. The proposed update also incorporates regional forecasts for 2045 that extend the planning horizon by approximately 20 years from the current 2025 horizon. This section provides a summary of the major components of the proposed General Plan 2045.

2.6.1.1 CONTENTS AND ORGANIZATION

The proposed General Plan 2045 includes an introduction, overview of Livermore, nine separate chapters that identify the goals and policies for each given topic, an implementation plan that identifies the actions that help achieve the goals and policies, a glossary, and appendices. The chapters cover the State-mandated elements required by California Government Code Section 65302 as well as optional elements of particular interest to Livermore. The purpose of each General Plan chapter is as follows:

- **Chapter 1, *Introduction*.** Describes what a General Plan is, how it was developed, how it is organized, and how it will be maintained over time. The introduction also includes the City's Vision and Guiding Principles.
- **Chapter 2, *About Livermore*.** Discusses the physical setting, history, and demographics of Livermore.

- **Chapter 3, *Land Use*.** Guides the future use and development of land in Livermore and the unincorporated area within its adjacent Sphere of Influence. This is a State-mandated Element.
- **Chapter 4, *Community Identity*.** Provides information on civic life and governance, arts and culture, the natural setting, urban design, gateways, lighting and glare, cultural, historical, and scenic resources, and guidance to identify, protect, and enhance these systems and features.
- **Chapter 5, *Mobility (Circulation)*.** Describes roadway safety, public transit systems, bikeways, pedestrian routes, existing and proposed roadways, parking facilities, air transportation, goods movement, and transportation technology. The Mobility Element further analyzes traffic conditions and improvements necessary to meet existing and projected needs. This is a State-mandated Element.
- **Chapter 6, *Housing*.** Identifies housing needs for residents of all income levels and establishes an action program to meet those needs, including planning for and requiring new affordable housing, preserving existing affordable housing, ensuring equal opportunity to access housing, collaborating regionally to address housing needs, and supporting energy efficiency in existing and new homes. The Housing Element is updated on a separate schedule from the rest of the General Plan to meet the requirements of State housing law. On March 13, 2023, the City Council adopted the updated Housing Element, covering the period from 2023 to 2031. It is available under separate cover on the City's website. This is a State-mandated Element.
- **Chapter 7, *Infrastructure*.** Identifies strategies to maintain adequate service levels for water facilities and service, wastewater collection and treatment, and stormwater collection facilities. In addition, this element addresses how the City can support the provision of private utilities such as natural gas, electricity, and telecommunications.
- **Chapter 8, *Community Services*.** Addresses maintaining adequate access to services such as schools, childcare, solid waste, healthcare and healthy food, and libraries. This element also addresses services needed to support aging adults.
- **Chapter 9, *Open Space and Conservation*.** Provides guidance to preserve and protect open space and conserve natural and agricultural resources. This element also addresses park and recreation facilities in Livermore. This is a State-mandated Element.
- **Chapter 10, *Noise*.** Addresses noise to inform land use decision-making and quantifies current and projected noise levels from a variety of sources, explains impacts associated with noise, and includes guidance to address current and foreseeable noise problems. This is a State-mandated Element.
- **Chapter 11, *Safety*.** Provides policies to protect the community from risks associated with the effects of seismic hazards, other geologic hazards, flooding, and wildland and urban fires. This is a State-mandated Element.

- **Chapter 12, *Economic Development*.** Encourages the development of desired economic activities throughout the city and the fiscal vitality of the community. The Economic Development Element facilitates and maintains a balanced mix of economic activity and encourages the development of particular economic sectors in Livermore.
- **Chapter 13, *Implementation*.** Includes all General Plan actions, organized by element. The Implementation Plan describes the timing and responsible City department. The City Council has ultimate decision-making authority over which actions to prioritize during each five-year Strategic Plan planning cycle. The implementation plan will be maintained and updated over time to keep it current and to reflect progress towards realizing the General Plan's vision.
- **Chapter 14, *Abbreviations, Glossary, Acknowledgements*.** Lists the abbreviations and definitions of key words and phrases used in the plan. This chapter also acknowledges those who participated in the General Plan update process.
- **Appendix A, *South and North Livermore Urban Growth Boundary Initiative*.** Contains the notice of election on the South Livermore Urban Growth Boundary Initiative in 2000 and the ordinance adopting the North Livermore Urban Growth Boundary Initiative in 2002.

2.6.1.2 GOALS AND POLICIES, AND ACTIONS

Each chapter of the proposed General Plan 2045 contains background information and a series of goals supported by policies and actions. CEQA Statute Section 21081.6(b) and CEQA Guidelines Section 15126.4(a)(2) establish that when a project examined in an EIR is a plan (such as a General Plan), policy, regulation, or other public project, mitigation measures may be incorporated into the plan, policy, regulation, or project design. Therefore, as this is a General Plan EIR, some policies and actions in the proposed General Plan 2045 are also required as a means to mitigate environmental impacts under CEQA. As previously described, Chapter 13, *Implementation Plan*, of the proposed General Plan 2045 includes all the actions that help achieve the goals and policies, organized by element. The following provides a description of goals, policies, and actions and explains the relationship between them:

- A *goal* is a description of the general desired result that the City seeks to create through the implementation of its General Plan.
- A *policy* is a specific statement that regulates activities in the city, guides decision making, and directs ongoing efforts as the City works to achieve a goal. A policy is ongoing and requires no further implementation. The General Plan's policies establish the standards that will be used by City staff and the other decision makers in their review of land development projects and in decision making about City actions.
- An *action* is a measure, procedure, or technique intended to help reach a specified goal. The Implementation Plan describes the timing and responsible City department. The City Council has ultimate decision-making authority over which actions to prioritize during each five-year Strategic Plan planning cycle.

Goals, policies, and actions that help reduce potential impacts are referenced and evaluated in the topical sections. Actions are referenced in the topical sections where they provide further reduction in addition those reductions associated with implementation of goals and policies.

2.6.1.3 LAND USE DESIGNATIONS

The proposed General Plan 2045 Land Use Map, as depicted on Figure 2-3, *Proposed General Plan 2045 Land Use Map*, shows the land use designations that establish the uses, density ranges, and development intensities allowed on each parcel of land.

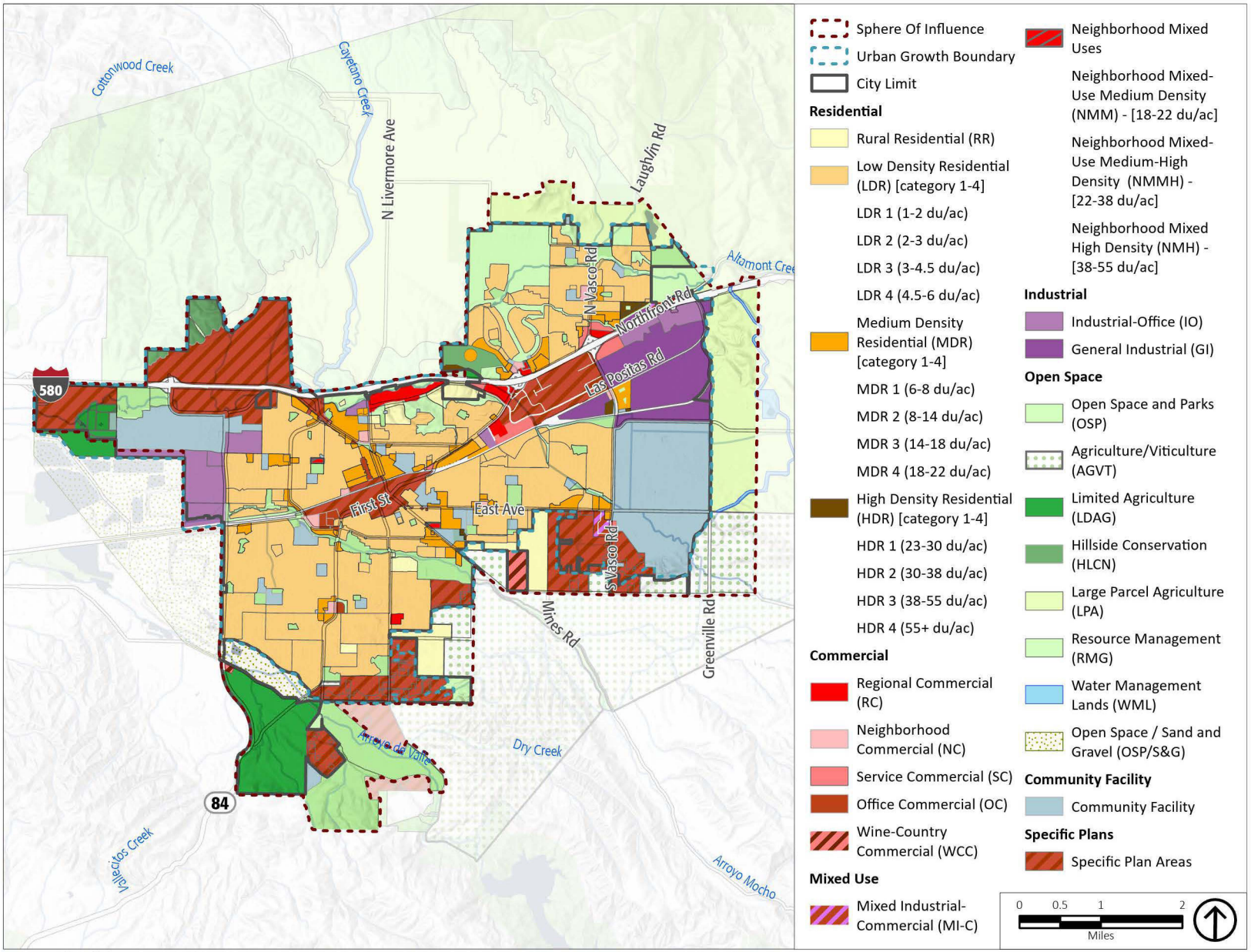
Table 2-2, *Proposed General Plan 2045 Land Use Designations*, lists the land use designations and summary of the development standards for the proposed General Plan 2045. A complete description of each land use designation and the proposed land use map is provided in Chapter 3, *Land Use,* of the proposed General Plan 2045.

Table 2-2 Proposed General Plan 2045 Land Use Designations

Land Use	Standards
Residential	
Rural (RR)	1.0 du/ac to 1.0 du/5.0 ac; Minimum lot size: 1 acre.
Low-Density (LDR)	1.0 to 6.0 du/ac; Organized in four categories: ▪ LDR-1: 1.0 to 2.0 du/ac ▪ LDR-2: 2.0 to 3.0 du/ac ▪ LDR-3: 3.0 to 4.5 du/ac ▪ LDR-4: 4.5 to 6.0 du/ac
Medium-Density (MDR)	6.0 to 22.0 du/ac; Organized in four categories: ▪ MDR-1: 6.0 to 8.0 du/ac ▪ MDR-2: 8.0 to 14.0 du/ac ▪ MDR-3: 14.0 to 18.0 du/ac ▪ MDR-4: 18.0 to 22.0 du/ac
High-Density (HDR)	23.0 to 55.0+ du/ac; Organized in four categories: ▪ HDR-1: 23.0 to 30.0 du/ac ▪ HDR-2: 30.0 to 38.0 du/ac ▪ HDR-3: 38.0 to 55.0 du/ac ▪ HDR-4: 55.0+ du/ac
Commercial	
Regional (RC)	1.0 FAR
Neighborhood (NC)	0.30 FAR
Service (SC)	0.30 FAR
Office (OC)	0.60 FAR
Wine-Country (WCC)	1.0 FAR

Table 2-2 Proposed General Plan 2045 Land Use Designations

Land Use	Standards
Mixed Use	
Mixed Industrial-Commercial (MIC)	1.0 FAR
Neighborhood (NM)	Organized in three categories for medium, medium-high, and high density: ▪ NMUMD: 0.30 FAR for commercial and a density standard of 18.0 to 22.0 du/ac, ▪ NMUMHD: 0.30 FAR for commercial and a density standard of 23.0 to 38.0 du/ac ▪ NMUHD: 0.30 FAR for commercial and a density standard of 38.0 to 55.0 du/ac
Industrial	
Office (IO)	1.0 FAR
General (GI)	1.0 FAR
Open Space	
Open Space and Parks (OSP)	Areas to be maintained as permanent or semi-permanent open space
Agriculture/Viticulture (AGVT)	100-acre site minimum; 1.0 du/100 ac
Limited Agriculture (LDAG)	20-acre minimum site
Hillside Conservation (HLCN)	1.0 du/20.0 ac to 1.0 du/100 ac
Large Parcel Agriculture (LPA)	100-acre minimum site
Resource Management (RMG)	100-acre minimum site size; 1.0 du/parcel
Water Management Lands (WML)	100-acre minimum site; 1.0 du/parcel
Open Space/Sand and Gravel (OSP/S&G)	Assigns priority uses for open space and sand and gravel.
Other	
Community Facilities	Areas for public agencies and institutions
Specific Plans	▪ Downtown Specific Plan (DSP) (existing) ▪ Isabel Neighborhood Specific Plan (INSP) (existing) ▪ Midtown Specific Plan Area (MSPA) (new) ▪ South Livermore Valley Specific Plan (SLVSP) (existing) ▪ El Charro Specific Plan (ECSP) (existing)



Source: City of Livermore, 2025.

Figure 2-3
Proposed General Plan 2045 Land Use Map

2.6.2 MUNICIPAL CODE AND DEVELOPMENT CODE AMENDMENTS

As part of the process of updating the General Plan, the City identified targeted procedural revisions to the LMC and additional regulatory language to be located in the LDC to implement General Plan policies and maintain consistency between the planning documents.

The specific LDC amendments include:

- Scenic Resources Overlay District – identify specific development and design standards to maintain scenic views and create inviting gateways and entryways into the Livermore community.
- Zoning Amendments – add, remove, or update permitted uses, and development standards, definitions, and procedures consistent with the General Plan Land Use Designations.

Proposed LMC and LDC amendments would be adopted simultaneously with (or shortly after) the proposed General Plan 2045 and are covered by this Draft EIR.

2.7 2045 DEVELOPMENT PROJECTIONS

This EIR analyzes the potential for growth to 2045, which represents an approximately 20-year buildout horizon. The buildout projections do not presume that every parcel is developed to the maximum level allowed under the proposed Project, referred to as "maximum theoretical buildout." Based on historical development patterns, it is unlikely that the maximum theoretical buildout allowed under the proposed General Plan 2045 would occur because not every parcel will develop within the General Plan 2045 timeframe, and not every parcel that develops will be built out to the maximum allowed under the proposed General Plan 2045. Therefore, the maximum theoretical buildout is not a reasonably foreseeable outcome of the adoption of the proposed General Plan 2045. Instead, the development projections recognize regional demographic and economic forecasts, and the probable share of regional growth that would be captured by Livermore given its policies and land use regulations.

Horizon year (2045) projections in the EIR Study Area are shown in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*. Most future development consistent with the proposed Project is expected to occur in areas where there is mostly vacant or under-developed land, near existing and/or future transit and other infrastructure, have already started transitioning to other uses, and/or include property owners that have expressed interest in considering redevelopment or change.

Table 2-3 Proposed 2045 Buildout Projections in the EIR Study Area

Category	Existing Conditions (2023)	Projected Growth 2023-2045 (Proposed Project)	Buildout Estimates (2045)
Housing Units	33,030	16,610	49,640
Total Population	87,930	43,820	131,750
Jobs	57,220	6,110	63,330

Source: Esri 2024.
Note: Numbers are rounded from original sources.

The buildout projections in Table 2-3 include growth associated with current development projects, development of the sites in the City's adopted and certified 2023-2031 Housing Element Sites Inventory, and development of accessory dwelling units (ADUs) and units under Senate Bill 9 as allowed under State housing law.[2]

2.8 INTENDED USES OF THE EIR

This EIR is intended to review potential environmental impacts associated with the adoption and implementation of the proposed Project and determine corresponding mitigation measures, as necessary. This EIR is a program-level EIR and does not evaluate the impacts of specific, individual developments that may occur over the buildout horizon. Each specific future project would conduct separate environmental review, as required by CEQA, to secure the necessary discretionary development permits. Therefore, while subsequent environmental review may tier off this EIR, this EIR is not intended to address impacts of individual projects. Subsequent projects will be reviewed by the City for consistency with the proposed General Plan 2045 and this EIR. Projects successive to this EIR include, but are not limited to, the following:

- Issuance of permits and other approvals necessary for implementation of the proposed Project
- Updates or amendments to the City's Zoning Code and Development Code
- Updates to the City's Strategic Plan
- Property rezoning consistent with the General Plan
- Approval and funding of major public projects and capital improvements
- Updates to utility infrastructure master plans, such as the Citywide Asset Management Plan, Urban Water Management Plan, Sewer Master Plan, and Storm Drain Master Plan

[2] Senate Bill 9 (Chapter 162, Statutes of 2021) requires ministerial approval for housing developments with no more than two primary units in a single-family zone, and the subdivision of parcels in a single-family zone into two parcels.

- Permit issuance and other approvals necessary for public and private development projects
- Development agreement processes and approvals
- Potential future annexation of land into the City Limit
- Development plan approvals, such as tentative maps, variances, conditional use permits, and other land use permits

2.8.1 REQUIRED PERMITS AND APPROVALS

The proposed Project would require adoption by Livermore City Council. The Planning Commission will review the proposed Project and make recommendations to the City Council. While other agencies may be consulted during the General Plan update process, their approval is not required for the adoption of the proposed General Plan 2045. However, subsequent development under the proposed Project may require approval of State, federal, responsible, and trustee agencies that may rely on the programmatic EIR for decisions in their areas of permitting.

Project approvals required include:

- Certification of the General Plan 2045 EIR
- Adoption of the Findings of Fact and Statement of Overriding Considerations
- Adoption of the Mitigation Monitoring and Reporting Program
- Adoption of the General Plan 2045
- Adoption of the amendments to the LMC and LDC
- Adoption of any other ordinances, guidelines, programs, actions, or other mechanisms that implement General Plan 2045

2.9 REFERENCES

Esri. 2024. ArcGIS Pro U.S. 2024 Dataset. https://pro.arcgis.com/en/pro-app/3.4/help/analysis/business-analyst/us-2024-dataset.htm.

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3. ENVIRONMENTAL ANALYSIS

This chapter of the Draft Environmental Impact Report (EIR) is made up of 18 topical sections that examine the environmental setting of the proposed Project, analyze the effects of the proposed Project and the significance of its impacts, and recommend mitigation measures to reduce or avoid impacts.

The proposed Project is analyzed for potential significant impacts in accordance with Appendix F, *Energy Conservation*, and Appendix G, *Environmental Checklist Form*, of the California Environmental Quality Act (CEQA) Guidelines. Environmental topics and their corresponding sections and abbreviations are:

3.1 Aesthetics (AES)
3.2 Agricultural Resources (AGR)
3.3 Air Quality (AQ)
3.4 Biological Resources (BIO)
3.5 Cultural and Tribal Cultural Resources (CUL)
3.6 Energy (ENE)
3.7 Geology and Soils (GEO)
3.8 Greenhouse Gas Emissions (GHG)
3.9 Hazards and Hazardous Materials (HAZ)
3.10 Hydrology and Water Quality (HYD)
3.11 Land Use and Planning (LUP)
3.12 Mineral Resources (MIN)
3.13 Noise (NOI)
3.14 Population and Housing (POP)
3.15 Public Services, Parks, and Recreation (PUB)
3.16 Transportation (TRA)
3.17 Utilities and Service Systems (USS)
3.18 Wildfire (WIL)

ORGANIZATION OF ENVIRONMENTAL ANALYSIS

To assist the reader with comparing information between environmental issues, each section is organized under these major headings:

- **Regulatory Framework** offers an overview of applicable laws, regulations, plans, and policies relevant to each environmental topic.
- **Existing Conditions** offers a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed Project can be compared.
- **Standards for Analysis** refer to the quantitative or qualitative standards, performance levels, thresholds, or criteria used to evaluate whether an impact is significant. These standards are based primarily on the CEQA Guidelines unless otherwise noted. This section also provides an overview of key methods, assumptions, and considerations that inform the impact analysis.
- **Project Impact Analysis** provides a detailed discussion of the potential direct and indirect impacts of the proposed Project. Mitigation measures are included as necessary.

- **Cumulative Impact Analysis** provides an overview of the geographic setting and cumulative projects considered in the cumulative impact assessment. Significant cumulative impacts are identified.
- **References** are provided for all information relied upon in the development of the analysis.

LEVELS OF SIGNIFICANCE

The level of significance is identified for each impact in this Draft EIR. Although the criteria for determining significance are different for each topical area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with CEQA and the CEQA Guidelines:

- **No impact.** The proposed Project would result in no adverse effect on the environment.
- **Less than significant.** The proposed Project would not exceed the established significance criteria.
- **Significant.** The proposed Project would exceed the established significance criteria. For each significant impact, the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If one or more mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the Draft EIR. This Draft EIR also evaluates the feasibility of potential mitigation measures.
- **Significant and unavoidable.** The proposed Project would exceed the established significance criteria, and no feasible mitigation measures are available to reduce the impact to a less-than-significant level.

SCOPING COMMENTS RECEIVED

As detailed in Chapter 1, *Introduction*, of this Draft EIR, a Notice of Preparation (NOP) of an EIR was issued by the City of Livermore on March 7, 2023, for a 30-day scoping period. Comments received during the scoping period are included in Appendix A, *NOP and Scoping Meeting Comments*, of this Draft EIR. Scoping comments generally addressed concerns regarding:

- The potential conversion of agricultural land resulting in permanent reduction of agricultural land resources and the need for mitigation, such as agricultural conservation easements
- The protection of cultural, historic, and tribal cultural resources
- The potential of fault rupture, ground shaking, liquefaction, and landslides to cause harm to future residents
- The potential release of hazardous materials during construction and the need for better identification of hazardous sites not just those on the Cortese List, soil sampling, hazardous materials surveys prior to demolition, and the release of hazardous materials during operation from mining waste from mining sites and pesticides from agricultural sites

- The need for an increase in new housing units and housing standards that discourage sprawl and result in the loss of agricultural land and open space, increased vehicle-miles traveled (VMT) and the associated greenhouse gas (GHG) emissions, air pollution, noise, and reduced walkability
- The increased need for multimodal transportation improvements to reduce VMT and the associated GHG emissions, air pollution, and noise

EVALUATION METHODOLOGY

Under CEQA, the decision whether an environmental effect should be considered significant is reserved to the discretion of the lead agency, based on substantial evidence in the record as a whole. An ironclad definition of significant effect is not always possible because the significance of an activity may vary based on the setting. Pursuant to CEQA Guidelines Section 15064(b), the analysis in this Draft EIR is based on scientific and factual data that has been reviewed by the lead agency and represents the lead agency's independent judgment and conclusions.

2045 Horizon Development Potential

The proposed Project is made up of a long-range policy document (General Plan 2045) and associated amendments to the Livermore Municipal Code [LMC] and Livermore Development Code [LDC]), that do not directly result in development without additional approvals. As detailed in Chapter 1, *Introduction*, of this Draft EIR, before any future development can occur in the EIR Study Area, as defined in Chapter 2, *Project Description*, it must be analyzed for consistency with the adopted General Plan, and requirements of the LDC, LMC , and other applicable local and State requirements; comply with the requirements of CEQA as applicable; and obtain all necessary clearances and permits from regulatory agencies.

The environmental analysis in this Draft EIR discusses the potential for adverse impacts to occur from extending the buildout potential in the EIR Study Area to horizon year 2045; increasing the buildout potential in the EIR Study Area; new and modified General Plan goals, policies, and actions; and amending the LDC and LMC for consistency with the General Plan.

The 2045 horizon development potential under the proposed Project includes the net increase of realistic development potential for the EIR Study Area that could occur over the next 20 years. Buildout methodology focused on vacant or under-developed land, pipeline development projects, proximity to existing or future transit and other infrastructure, sites that have already started transitioning to other uses, and/or sites where property owners have expressed interest in considering redevelopment or change.

As shown in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*, in Chapter 2 *Project Description*, of this Draft EIR, this combined projected new growth in the EIR Study Area for the 2045 horizon year includes approximately 16,610 new residential units; 43,820 new residents; and 6,110 new jobs. Because the proposed Project consists of a long-term policy document that is intended to guide future development activities and City actions, and because no specific development projects are proposed as part of the project, it is reasonable to assume that future development would occur incrementally or gradually over the approximately 20-year buildout horizon (e.g., 2025 to 2045). However, while this assumption describes the long-range nature of the proposed Project, it does not prohibit or restrict when development can occur over the horizon period.

Baseline

This Draft EIR evaluates the impacts of the proposed Project relative to existing conditions of the EIR Study Area, as required by CEQA Guidelines Section 15126.2. Generally, baseline represents the existing physical conditions "on the ground." As allowed under CEQA Guidelines Section 15125(a)(1), this EIR uses several baseline conditions, as explained in each topical section, as applicable.

General Plan 2045 Goals, Policies, and Actions

As discussed in Chapter 2, *Project Description*, of this Draft EIR, the proposed General Plan 2045 goals, policies, and actions aim to reduce VMT, GHG emissions, air and water pollutants, wasteful energy consumption, and solid waste generation, and improve water-use efficiency by promoting infill development; increase opportunities for alternative modes of transportation, pedestrian and bicycle access and connectivity, and local jobs; protect open space; conserve natural resources; and require adherence to green building practices. The proposed General Plan 2045 goals, policies, and actions aim to avoid hazardous conditions and facilitate a healthy and safe environment. In addition, the proposed General Plan 2045 goals, policies, and actions aim to protect cultural resources, including historic buildings, and ensure new development and redevelopment is compatible with neighboring land uses. While the proposed General Plan 2045 goals, policies, and actions aim to reduce environmental impact, the EIR process provides an additional opportunity to modify the policies and programs to ensure they adequately reduce impacts from future development.

For each significant impact, the EIR must identify one or more feasible mitigation measure or explain why no feasible mitigation measures are available. CEQA Guidelines Section 15370 defines "mitigation" as including: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by

replacing or providing substitute resources or environments. An EIR should focus on mitigation measures that are feasible,[1] practical, and effective. Pursuant to CEQA Guidelines Section 12156.4(a)(1)(B), it is ordinarily not appropriate to defer the formulation of mitigation measures until some future time. The CEQA Guidelines acknowledge an exception, explaining that mitigation measures may specify performance standards for mitigating a significant impact that might be accomplished in various ways. Therefore, when it is known that mitigation is feasible, but it is impractical to devise specific measures during the planning process, the agency can commit itself to devising measures that satisfy performance criteria.

Additionally, this Draft EIR considers the potential for environmental impacts from the implementation of proposed General Plan 2045 policies and actions. Substantive General Plan policy and action changes include the addition, removal, or functional revisions (i.e., not purely semantic) to the text in ways that have the potential to result in a physical impact on the environment. Non-substantive changes include the renumbering of policies and actions or minor text revisions, which do not have the potential to result in a physical change to the environment. The content of the proposed General Plan 2045 policies and actions is directly integrated with and reflective of the proposed Project as a whole. Therefore, impact discussions for the effects of the proposed Project necessarily encompass analysis of the effects of the substantive policy and action changes as a whole, and those with relevance to CEQA topics are discussed in the appropriate chapters.

Municipal Code and Development Code Amendments

As required by State law, the proposed Project includes multiple components to ensure that each element of the Livermore General Plan is internally (or horizontally) consistent (Government Code Section 65300.5) and the LMC and LDC are consistent with the General Plan, also known as vertical consistency (Government Code Section 65860). As detailed in Chapter 2, *Project Description*, of this Draft EIR, the proposed LMC and LDC amendments include identifying targeted procedural revisions to the LMC and additional regulatory language to be located in the LDC to implement General Plan policies and maintain consistency between the planning documents. Updates to the LDC also include the adoption of a proposed Scenic Resources Overlay District with specific development and design standards to maintain scenic views and create inviting gateways and entryways into the Livermore community. Because the proposed amendments are to ensure consistency with the General Plan, the impacts from the proposed amendments are analyzed concurrently with the impacts of the proposed General Plan 2045. The effect of implementation of the proposed Scenic Resources Overlay District

1 Pursuant to CEQA Section 21061.1, the term “feasible” is defined to mean, “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.”

would reduce environmental effects of future development related to scenic resources, which is discussed in Section 3.1, *Aesthetics*, of this Draft EIR.

National Laboratories

The Lawrence Livermore National Laboratory and Sandia National Laboratory are within the EIR Study Area. The Lawrence Livermore National Laboratory operates under federal jurisdiction, as it is a facility owned by the United States Department of Energy and managed by its National Nuclear Security Administration (NNSA) for the purpose of national security. Sandia National Laboratory is a government-owned facility managed by a contractor National Technology and Engineering Solutions of Sandia, under the NNSA. City or county governments, including the City of Livermore, do not have planning jurisdiction over the Lawrence Livermore National Laboratory and Sandia National Laboratory because they are federal properties. While the City does not have jurisdiction over these laboratories, some analyses presented in this Draft EIR include the laboratories in their growth projections, as it is difficult to extract data specific to the laboratories. However, the inclusion of the laboratories presents a conservative or "greatest impact" analysis.

Priority Development Areas and Transit Priority Areas

The Association of Bay Area Government (ABAG) and Metropolitan Transportation Commission (MTC) Plan Bay Area is the San Francisco Bay Area's Regional Transportation Plan/Sustainable Community Strategy. Plan Bay Area is the long-range integrated transportation and land use/housing strategy through 2050 for the Bay Area, pursuant to the Sustainable Communities and Climate Protection Act (Senate Bill [SB] 375). ABAG and MTC adopted the current version of Plan Bay Area on October 21, 2021 (ABAG and MTC 2021a). Plan Bay Area 2050 is a limited and focused update to the Plan Bay Area 2040, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years. As part of the implementing framework for Plan Bay Area, Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) are identified as areas where concentrated development can have beneficial environmental effects and reduce adverse environmental impacts.

PRIORITY DEVELOPMENT AREAS

A PDA is a place that has convenient public transit service, often referred to as "transit-oriented," that is prioritized by local governments for housing, jobs, and services within existing communities. All PDAs are created and planned by local governments, which nominate eligible areas to ABAG for adoption. The PDAs identified throughout the Bay Area in Plan Bay Area 2050 were projected to accommodate 72 percent (or 985,000 units) of new housing and 48 percent (or 679,000) of new jobs in the region from the 2015 baseline (ABAG and MTC 2021a). Development in PDAs leverage existing infrastructure and therefore can minimize development in green field (undeveloped) areas and maximize growth in transit-rich communities to help

lower VMT and consequently reduce GHG emissions, air quality pollutants, and noise from vehicles with internal combustion engines dependent on fossil fuels and reduce wasteful, inefficient, or unnecessary consumption of energy resources. Additionally, due to the location, infill development in PDAs result in fewer impacts related to agricultural, forestry, mineral, archaeological, and biological resources, energy, geology and soils, hydrology and water quality, and wildfire. Impacts related to concentrated development in the PDAs are discussed throughout this Draft EIR.

Certain potential future residential or mixed-use residential projects and projects in PDAs that meet defined criteria in the CEQA Guidelines may be eligible for CEQA streamlining. For example, while not exclusive to PDAs, due to their urban setting, development in a PDA is more likely to qualify for a CEQA Guidelines Section 15332 Class 32 Categorical Exemption.

TRANSIT PRIORITY AREAS

Plan Bay Area 2050 also identifies TPAs, referred to as Transit-Rich PDAs (ABAG and MTC 2021b). These are areas within 0.5 miles of a major transit stop (i.e., a stop with service frequency of 20 minutes or less) that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon of a Transportation Improvement Program adopted pursuant to Code of Federal Regulations Section 450.216 or Section 450.322. TPAs generally include existing neighborhoods served by transit and contain a wide range of housing options along with jobs, schools, and amenities. Certain potential future residential or mixed-use residential projects and commercial projects in TPAs[2] that meet defined criteria in the CEQA Guidelines may be eligible for CEQA streamlining. Like development in PDAs, developing in TPAs also minimizes development in greenfield (undeveloped) areas and maximizes growth in transit-rich communities to help lower VMT and consequently reduce GHG emissions, air quality pollutants, and noise from vehicles with internal combustion engines dependent on fossil fuels and reduce wasteful, inefficient, or unnecessary consumption of energy resources.

With respect to future development in a TPA, SB 743, which became effective on January 1, 2014, amended the CEQA Statute by adding Section 21099 regarding analysis of transportation, aesthetics, and parking impacts for urban infill projects, among other provisions. SB 743 required the Governor's Office of Land Use and Innovation (LCI), previously known as the Office of Planning and Research, to identify new metrics for identifying and mitigating transportation impacts under CEQA, shifting from a congestion-based (level of service or LOS) standard to a VMT standard. With the passage of SB 743 and the subsequent adoption of revised CEQA Guidelines (December 2018), level of service can no longer be used as a criterion for identifying significant transportation impacts for projects regardless of their location. Transportation impacts are discussed in Section 3.16, *Transportation*, of this Draft EIR.

2 A project in a transit priority area is referred to as a transit priority project (TPP).

With respect to aesthetics and parking, CEQA Statute Section 21099(d)(1), states, "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a TPA shall not be considered significant impacts on the environment." Accordingly, these topics are no longer considered in determining significant environmental effects for projects that meet all three of the following criteria:

- Is located on an infill site that is defined as "a lot located within an urban area that has been previously developed or on a vacant site where at least 75 percent of the perimeter of the site adjoins or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses."
- Is a residential, mixed-use residential, or an employment-center project. An employment center is defined as "a project located on property zoned for commercial uses with a floor area ratio (FAR)[3] of no less than 0.75 and that is located within a transit priority area. (Section 21099(a)(1)."
- Is in a transit priority area, as defined above.

Accordingly, pursuant to Section 21099, no significant aesthetic or parking impacts can be made in the environmental analysis for potential future qualifying development in the TPAs in the EIR Study Area as they exist today or are modified over the buildout horizon.

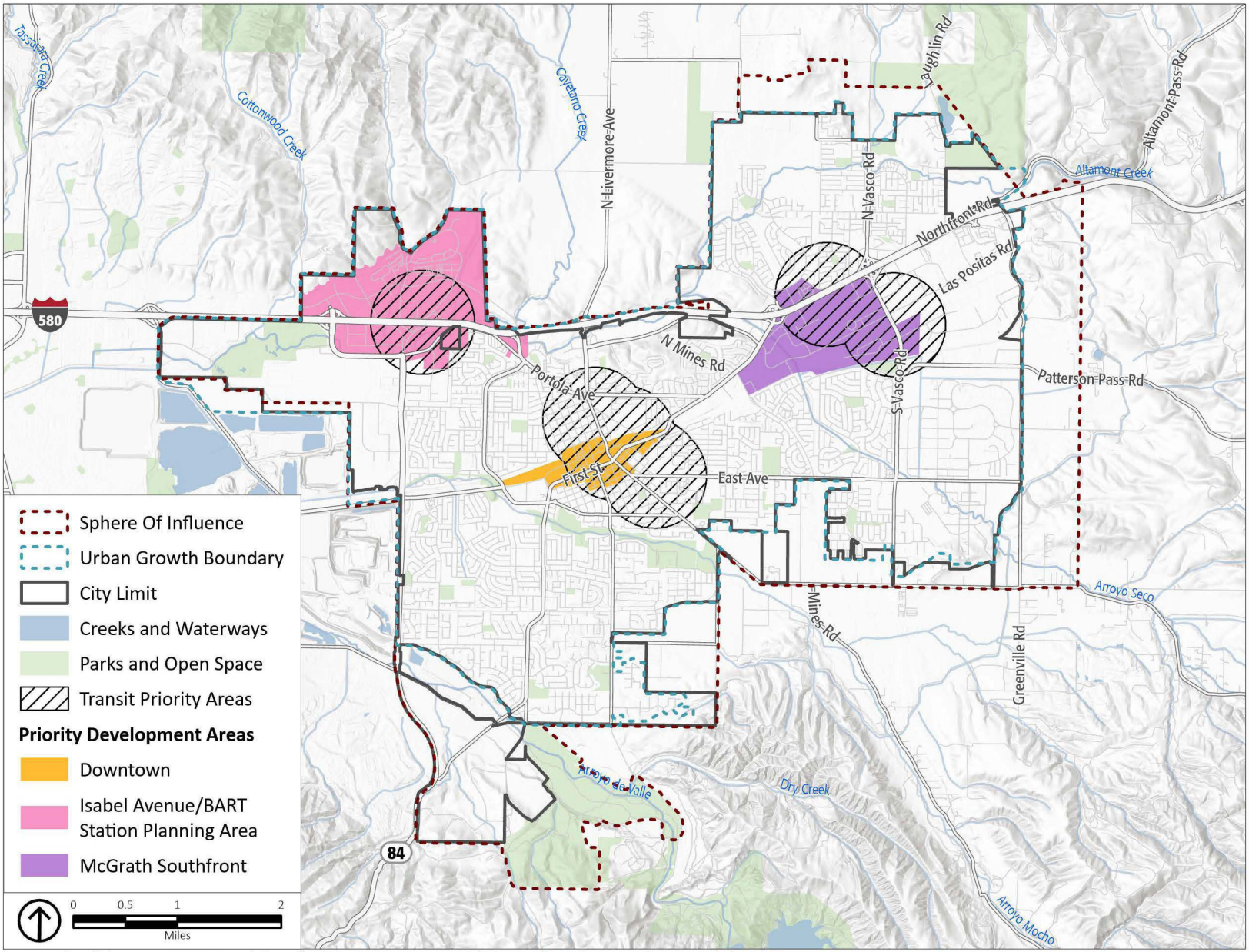
EIR STUDY AREA PRIORITY DEVELOPMENT AND TRANSIT PRIORITY AREAS

The EIR Study Area includes three PDAs and three TPAs. These are the Downtown PDA and TPA surrounding the Downtown Livermore Station area in central Livermore, the Isabel Avenue/BART Station Planning Area PDA and TPA surrounding the proposed Isabel BART station in northwest Livermore, and the McGrath Southfront PDA and TPA in east Livermore. See Figure 3-1, *Priority Development Areas and Transit Priority Areas.*

Parking

Effective in 2010, parking inadequacy as a significant environmental impact was eliminated from the CEQA Guidelines by LCI, which is the entity charged with drafting guidelines to help agencies implement CEQA. Accordingly, parking adequacy in the EIR Study Area is not discussed further in this Draft EIR.

[3] A common measure of building intensity is Floor Area Ratio (FAR), which is determined by dividing the amount of gross floor space in a building by the total area of the parcel it occupies. For example, a 10,000 square-foot building on a 20,000 square-foot parcel has a FAR of 0.5 or 50 percent.



Source: City of Livermore, 2022; Association of Bay Area Governments and Metropolitan Transportation Commission 2023.

Figure 3-1
Priority Development Areas and Transit Priority Areas

Potential Effects of the Project on the Environment

The California Supreme Court concluded in *California Building Industry Association vs. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." The Court's ruling in this case provided for several exceptions to the general rule where an analysis of the project on the environment is warranted:

1. If the project would exacerbate existing environmental hazards (such as exposing hazardous waste that is currently buried).
2. If the project qualifies for certain specified exemptions (certain housing projects and transportation priority projects pursuant to CEQA Statute Sections 21159.21 (f),(h); 21159.22 (a),(b)(3); 21159.23 (a)(2)(A); 21159.24 (a)(1),(3); or 21155.1 (a)(4),(6)).
3. If the project is exposed to potential noise and safety impacts on projects due to proximity to an airport (pursuant to CEQA Statute Section 21096).
4. School projects require specific assessment of certain environmental hazards (pursuant to CEQA Statute Section 21151.8).

Therefore, the evaluation of the significance of project impacts under CEQA focuses on the potential impacts of the proposed Project on the environment, including whether the proposed Project may exacerbate any existing environmental hazards. Existing environmental hazards in the EIR Study Area include, but are not limited to, seismic hazards, hazardous materials, flooding, and wildfire. While the effects of these hazards on the proposed Project are generally not subject to CEQA review following the Court's ruling on this case, a discussion of the project's potential to exacerbate these hazardous conditions is provided in Section 3.7, *Geology and Soils*; Section 3.9, *Hazards and Hazardous Materials*; Section 3.10, *Hydrology and Water Quality*; and Section 3.18, *Wildfire*, of this Draft EIR.

Cumulative Methodology

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively, or in other words, cumulatively. A cumulative impact consists of an impact created from the combination of a project, together with other reasonably foreseeable projects causing related impacts. CEQA Guidelines Section 15130 requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Cumulative effects could occur when future development under the General Plan 2045 is combined with development in the surrounding area or, in some instances, in the entire region.

Pursuant to CEQA Guidelines Section 15130(a)(3), where a cumulative impact is significant when compared to baseline conditions, the analysis must address whether the project's contribution to the significant cumulative impact is "considerable." If the contribution of the project is considerable, then the EIR must identify potentially feasible measures that could avoid or reduce the magnitude of the project's contribution to a less-than-considerable level. If the project's contribution is not considerable, it is considered less than significant and no mitigation for the project's contribution is required. Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (CEQA Guidelines 15130[b]).

CEQA Guidelines Section 15130(b)(1) states that the information used in the analysis of cumulative impacts should come from one of two sources:

- A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- 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 GHG 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 document shall be referenced and made available to the public at a location specified by the lead agency.

Because of the programmatic nature of the proposed Project, this Draft EIR uses the projections approach for the cumulative analysis and considers the environmental effects of the development buildout as described in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*, in Chapter 2 , *Project Description*, as they pertain to the cumulative setting (e.g., immediate project vicinity, regional growth projections, county, watershed, air basin), which depends on the environmental topic being analyzed. Because the proposed Project is a long-range plan that considers the environmental effects of buildout of the proposed Project through 2045, the impact discussions in Sections 3.1 through 3.18 are by their very nature presented as a cumulative analysis. Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. Table 3-1, *Cumulative Impact Setting Overview by Environmental Topic*, provides a summary of the environmental setting presented in Sections 3.1 through 3.18.

Table 3-1 Cumulative Impact Setting Overview by Environmental Topic

Section	Topic	Setting Overview
3.1	AES	*Eastern Alameda County Regional Viewshed.* Most cumulative growth in the region is anticipated to occur as infill within the existing urbanized areas of Pleasanton and Dublin, consistent with their General Plans, while the scenic agricultural and natural lands (such as hillsides, ridgelines, and open spaces) surrounding the EIR Study Area are in unincorporated areas not designated for urbanization and are anticipated to remain in their current uses.
3.2	AGR	*Statewide.* Agricultural resources are deemed to be of statewide importance, and as such, the cumulative setting is all agricultural resources deemed to be resources of statewide importance in the surrounding incorporated and unincorporated lands, the region, and the State.
3.3	AQ	*San Francisco Bay Area Air Basin.* California is divided into air basins for the purpose of managing the air resources of the state on a regional basis based on meteorological and geographic conditions. Air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as a nonattainment area. Impacts to sensitive receptors are considered for the entire EIR Study Area. The cumulative setting considers the proposed Project's potential cumulative contribution to the air quality of the San Francisco Bay Area Air Basin.
3.4	BIO	*Eastern Alameda County Region.* Because biological resources do not adhere to human made boundaries, the cumulative setting considers how buildout of the EIR Study Area and the region has the potential to cumulatively impact biological resources, including sensitive species, natural habitats, and wetlands in the eastern Alameda County region.
3.5	CUL	*Eastern Alameda County Region.* Cumulative impacts would occur when a series of actions leads to the loss of a substantial type of site, building, cultural or tribal cultural resource. For example, while the loss of a single historic building may not be significant to the character of a neighborhood or streetscape, continued loss of such resources on a project-by-project basis could constitute a significant cumulative effect. The cumulative setting considers how buildout of the EIR Study Area has the potential to cumulatively impact cultural and tribal cultural resources in the eastern Alameda County region.
3.6	ENE	*Statewide.* The cumulative setting considers the proposed Project's potential cumulative contribution to wasteful, inefficient, or unnecessary consumption of energy resources or to conflict with or obstruct a State or local plan for renewable energy and energy efficiency.
3.7	GEO	*Site Specific.* The cumulative setting for impacts resulting from geologic hazards is site specific rather than cumulative in nature, because each project site has a different set of geologic considerations that would be subject to uniform site development and construction standards and unique standards depending on the outcome of a project-specific geotechnical study, if required.

Table 3-1 Cumulative Impact Setting Overview by Environmental Topic

Section	Topic	Setting Overview
3.8	GHG	*Global.* Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the impact analysis focuses on the proposed Project's cumulative contribution to global impacts and to meet the State's carbon neutrality targets.
3.9	HAZ	*Site Specific.* The cumulative setting for impacts resulting from hazards and hazardous materials is site specific rather than cumulative in nature, because each project site has a different set of hazards considerations that would be subject to uniform site development and construction standards and unique standards depending on the outcome of a project-specific hazards materials investigation, if required.
3.10	HYD	*Arroyo Las Positas Watershed, Arroyo Mocho Watershed, Arroyo del Valle Watershed, and Chain of Lakes Watershed.* The EIR Study Area is in four subwatersheds of the Upper Alameda Creek Watershed: Arroyo Mocho Subwatershed, Arroyo Las Positas Subwatershed, Arroyo Del Valle Subwatershed, and Chains of Lakes Subwatershed. Therefore, the cumulative setting for impacts are these subwatersheds.
3.11	LUP	*Plan Bay Area Planning Area.* The cumulative setting is the Association of Bay Area Governments and Metropolitan Transportation Commission adopted Plan Bay Area 2050 and the cumulative analysis considers potential conflicts with . Alameda County Local Agency Formation Commission, Plan Bay Area, Alameda County East County Area Plan, and the Livermore Municipal Airport Land Use Compatibility Plan.
3.12	MIN	*Eastern Alameda County.* Existing mineral extraction occurs in Eastern Alameda County and, therefore, the cumulative setting is Eastern Alameda County and the cumulative analysis evaluates mineral resources within this area that are of value to the region or a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
3.13	NOI	*Localized.* The cumulative setting for the noise analysis with respect to substantial or permanent increase in ambient noise and groundborne vibration or groundborne noise levels is limited by the range of potential noise and vibration impacts. Noise and vibration impacts tend to be localized; therefore, noise impacts for traffic and stationary noise sources are limited to approximately 500 feet from the source and 50 feet from the source for typical heavy duty construction equipment and 100 feet from pile-driving activities for groundborne vibration. The cumulative setting for excessive noise levels with respect to an airport is the Livermore Municipal Airport Protection area.
3.14	POP	*Plan Bay Area Planning Area.* The cumulative setting is the Association of Bay Area Governments and Metropolitan Transportation Commission adopted Plan Bay Area 2050.

Table 3-1 Cumulative Impact Setting Overview by Environmental Topic

Section	Topic	Setting Overview
3.15	PUB	*Service Provider Areas.* The cumulative setting is the service areas of the Livermore-Pleasanton Fire Department, Livermore Police Department, Livermore Valley Joint Unified School District, Las Positas College, Livermore Public Library, the Livermore Area Recreation and Park District, and the East Bay Regional Park District.
3.16	TRA	*Metropolitan Transportation Commission Transportation Network.* The cumulative setting is the automobile, bicycle, pedestrian, and transit systems in the Metropolitan Transportation Commission transportation network.
3.17	USS	*Service Provider Areas.* The cumulative setting is the service areas of providers of sewer service, water service, storm water/drainage infrastructure, solid waste disposal services, and energy providers including the California Water Service, Livermore Municipal Water, Livermore Water Reclamation Plant, Livermore's stormwater management system, and Pacific Gas and Electric Company and Ava Community Energy service areas.
3.18	WIL	*Statewide.* The cumulative setting for wildfire includes the EIR Study Area as well as the surrounding unincorporated county, local jurisdictions, including the cities of Dublin and Pleasanton, and State lands within Moderate, High, or Very High FHSZs in the SRA and LRA.

REFERENCES

ABAG and MTC (Association of Bay Area Governments and Metropolitan Transportation Commission). 2021a, October. *Plan Bay Area 2050*. https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed September 24, 2025.

———. 2021b. *Plan Bay Area 2050: Regional Growth Framework Update – Overview of Existing and Updated Geographies*. https://www.planbayarea.org/sites/default/files/pdfs_referenced/2019_Regional_Growth_Framework_Update_-_Whats_Changed_1.pdf, accessed September 24, 2025.

3.1 AESTHETICS

This section evaluates the potential aesthetic impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential aesthetic impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022a). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to aesthetics were received during the EIR scoping period.

3.1.1 Regulatory Framework

STATE

California State Scenic Highways Program

California's Scenic Highways Program was created by the State legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State laws governing the Scenic Highways Program are found in the Streets and Highways Code Sections 260 through 263. Section 263 states the State Scenic Highway System shall be composed of the highways listed in Sections 263.1 to 263.8 and includes those identified as either “eligible” for designation as state scenic highway or “officially designated” as a state scenic highway.

When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. Scenic corridors consist of land that is visible from the highway right-of-way and consist primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries. The city or county must also adopt ordinances, zoning, and/or planning policies to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances and/or policies make up the Corridor Protection Program. The status of a proposed State scenic highway changes from “eligible” to “officially designated” when the local governing body applies to the California Department of Transportation (Caltrans) for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

California Building Code

The State of California provides a minimum standard for building design through the California Code of Regulations (CCR), Title 24, Part 2, commonly referred to as the California Building Code (CBC). The CBC is updated on a three-year cycle. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the State Building Standards Commission. The CBC includes standards for outdoor lighting that are intended to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code, commonly known as CALGreen. As part of the CBC, CALGreen is in Part 11 of Title 24. CALGreen establishes building standards aimed at enhancing the design and construction of buildings using building concepts that reduce negative impacts and increase positive environmental impacts by encouraging sustainable construction practices. Specifically, Section 5.106.8, *Light Pollution Reduction*, establishes backlight, uplight, and glare ratings to minimize the effects of light pollution for nonresidential development. The local building permit process enforces the mandatory provisions of CALGreen.

California Environmental Quality Act

Section 21081.3

CEQA Statute Section 21081.3 shall remain in effect only until January 1, 2029, and as of that date is repealed, unless otherwise extended by the State legislature. Pursuant to this section, a lead agency is not required to evaluate the aesthetic effects of a project, and aesthetic effects shall not be considered significant effects on the environment if the project involves the refurbishment, conversion, repurposing, or replacement of an existing building that meets all the following requirements:

- The building is abandoned, dilapidated, or has been vacant for more than one year. Dilapidated means decayed, deteriorated, or fallen into such disrepair through neglect or misuse as to require substantial repair for safe and proper use.
- The building site is immediately adjacent to parcels that are developed with qualified urban uses or at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses and the remaining 25 percent of the site adjoins parcels that previously have been developed for qualified urban uses.
- The project includes the construction of housing.
- Any new structure does not substantially exceed the height of the existing structure.
- The project does not create a new source of substantial light or glare.

Projects that have either of the following are not included in this section:

- A project with potentially significant aesthetic effects on an official state scenic highway established pursuant to Article 2.5 (commencing with Section 260) of Chapter 2 of Division 1 of the Streets and Highways Code.
- A project with potentially significant aesthetic effects on historical or cultural resources.

This section does not alter, affect, or otherwise change the authority of a lead agency to consider aesthetic issues and to require the mitigation or avoidance of adverse aesthetic effect pursuant to other laws. If the lead agency determines that it is not required to evaluate the aesthetic effects of a project pursuant to this section, and the lead agency determines to approve or carry out that project, the lead agency shall file a notice with the Governor's Office of Land Use and Climate Innovation and the county clerk of the county in which the project is located in the manner specified in Section 21108(b) and (c) or Section 21152(b) and (c).

Section 21099

As described in Chapter 3, *Environmental Analysis*, CEQA Statute Section 21099 establishes that project's aesthetics impacts are no longer considered significant impacts on the environment if the project is a residential, mixed-use residential, or employment center project and if the project is on an infill site within a transit priority area (TPA). Pursuant to Section 21099(a)(1), an employment center is defined as "a project located on property zoned for commercial uses with a floor area ratio (FAR)[1] of no less than 0.75 and that is located within a transit priority area." Within these areas where site-specific residential, mixed-use residential, or employment center infill projects meet the standards of CEQA Statute Section 21099, aesthetics impacts shall not be considered significant environmental impacts. See Figure 3-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 3, *Environmental Analysis*, for the locations of the TPAs in the EIR Study Area.

REGIONAL

Alameda County East County Area Plan

The East County Area Plan (ECAP) outlines goals, policies, and programs to conserve natural resources for the eastern portion of Alameda County while ensuring adequate development to accommodate the growing population (Alameda County 2000). The ECAP covers the area surrounding the EIR Study Area. Many of the hills and ridgelines that define the views of the EIR Study Area are outside of the Livermore City Limit and therefore fall under the regulation of the

[1] A common measure of building intensity is Floor Area Ratio (FAR), which is determined by dividing the amount of gross floor space in a building by the total area of the parcel it occupies. For example, a 10,000 square-foot building on a 20,000 square-foot parcel has a FAR of 0.5 or 50 percent.

ECAP. The ECAP includes goals, policies, and implementation programs to protect the sensitive viewsheds in east Alameda County, including those within the EIR Study Area.

South Livermore Valley Area Plan

The South Livermore Valley Area Plan (SLVAP) is administered by Alameda County and regulates the development of land immediately south of the city of Livermore between the City Limit and the southern ridgelands (Alameda County 1993). It accomplishes this by establishing a framework of land use coordination between Alameda County and the Cities of Livermore and Pleasanton with the explicit goal to prioritize and promote the area as a unique and historic wine region by protecting its rural and scenic qualities, discouraging urban development, and maintaining and expanding cultivated agricultural use in the area. The South Livermore Valley Specific Plan (SLVSP) is administered by the City of Livermore and functions as the city's component of the SLVAP for protecting the valley.

East Alameda County Conservation Strategy

The East Alameda County Conservation Strategy (EACCS) provides a framework for conserving the natural communities and environment of the lands of the EIR Study Area with the goal of protecting biological and natural resources that are native to the area (ICF 2010). It establishes growth controls to limit future residential and commercial development. Although it is primarily a biological resources management strategy (and is discussed in more detail in Section 3.4, *Biological Resources*), the conservation of these lands helps contribute to the natural aesthetics that surround and define the EIR Study Area.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to visual resources. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to visual resources are in Title 2, *Administration and Personnel*; Title 12, *Streets, Sidewalks and Public Places*; and Title 15, *Buildings and Construction*, as follows:

- **Chapter 2.42, *Beautification Committee*,** establishes the Beautification Committee, to consist of seven Livermore residents. Duties and responsibilities of the Committee include designating and planning specific sites and extended areas for the beautification of major roadway systems, median islands and entranceways throughout the city; reviewing the designs for establishment of small parks or rest areas at street intersection; recommending revisions of the street tree ordinance, specifying tree types, installation standards, spacing dimensions, and other related matters for the implantation of decorative trees in all areas to be developed within the city in both residential and commercial areas; recommending replacement landscaping, planting and maintenance standards; reviewing proposals for the installation of street furnishing and accessories, lights, ornamental fixtures, monuments,

fountains, or other forms of furnishing of an aesthetic nature as to location, design, and cost; and proposing and recommending a master plan for Livermore beautification with detailed standards for aspects of city beautification.

- **Chapter 2.47, *Historic Preservation Commission*,** establishes the Historic Preservation Commission, to consist of five Livermore residents of professionals in historic preservation-related disciplines or lay members who have demonstrated special interest, competence, experience, or knowledge in historic preservation. Among the various duties and responsibilities of the Commission, one is to recommend action for the preservation of buildings, structures, sites, natural features, works of art, or similar objects which have a significant historic, cultural, architectural, archaeological, community or aesthetic value.
- **Chapter 12.51, *Art in Public Places Program*,** requires public art in new commercial, industrial, and residential construction to create a unique sense of community as well as public identity and will enhance the visual and aesthetic quality of such developments for commercial, residential, and visitor activity, particularly in the downtown. Section 12.51.030, *Requirement to provide public art of pay in-lie contribution*, requires private developments to devote an amount not less than the program allocation amount for acquisition and installation of public art in the development project, such amount to be determined by the building official. In lieu of acquisition and installation of public artwork on the development site, an owner or developer, at its discretion, may deposit a public art in-lieu contribution in an amount equal to the program's allocation into the Livermore public art fund established by Section 12.41.040, *Livermore public art fund*, for acquisition and installation of public art.
- **Chapter 12.20, Article II, *Tree Preservation*,** establishes the Livermore tree preservation ordinance. A healthy urban forest reduces air and noise pollution, provides energy-saving shade and cooling, furnishes habitat for wildlife, enhances aesthetics and property values, and is an important contributor to community image, pride, and quality of life. The provisions set forth in this article are intended to preserve and enhance the aesthetic and quality of life values provided by Livermore's urban forest.
- **Chapter 15.02, *Building Code*,** adopts the International Building Code, as amended and set forth in the California Building Standards Code, CCR Title 24.
- **Chapter 15.26, *Green Building Standards Code*,** adopts the Green Building Standards Code, as set forth in the California Building Standards Code, CCR Title 24.

Livermore Development Code

The City of Livermore regulates land use and design through the Livermore Development Code (LDC), an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds upon community character. The LDC provides development standards similar to typical zoning ordinances, such as heights, setbacks, and site regulations for all zones. It also establishes allowable building types with frontage and design standards.

Design Review

The City of Livermore requires Site Plan and Design Review through LDC Chapter 9.07, *Site Plan and Design Review,* for all construction and development activities as set forth in Section 9.07.020, *Applicability*. The intent of a Site Plan and Design Review is to promote orderly development of the City in compliance with the General Plan, any applicable Specific Plan, and LDC standards to ensure physical and environmental characteristics of the site is respected through minimization or elimination of undesirable visual impacts and prevention of inappropriate design or development of structure to ensure that development of a city having "image and character." All structures erected, with specific exemptions, are required to undergo Site Plan and Design Review before the issuance of a building or grading permit for construction activities. Each application for a Site Plan and Design Review shall be reviewed to ensure that the application is consistent with the purpose of LDC Chapter 9.07 to provide a process for the appropriate review of construction and development projects and confirm compliance with applicable development standards and regulations of the LDC and the City's Design Standards and Guidelines.

Historic Preservation Ordinance

The City of Livermore has a Historic Preservation Ordinance administered as LDC Chapter 9.02. It provides a framework and process for preservation, rehabilitation, and reuse of the city's historic resources, which include buildings and places. See Section 3.5, *Cultural and Tribal Cultural Resources*, for more details.

Livermore Design Standards and Guidelines

The Livermore Design Standards and Guidelines are applied citywide and provide design guidance in each land use category established in the City's General Plan (City of Livermore 2004). The goals of the Design Standards and Guidelines include encouraging development that is harmonious with the city's surrounding built and natural environments; preserving a small-town community surrounded by rural open space; maintaining views to and around scenic corridors and natural features unique to Livermore; encouraging development that strengthens connectivity across the community by linking open space, parks, schools, and civic buildings; recognizing the historic significance of vineyards and wineries; identifying gateways to the city; high-quality placemaking; and facilitating sustainable design. The Design Standards and Guidelines also provide general guidance on design and development of city streets and streetscape features.

Livermore Mixed-Use and Multifamily Objective Design Standards

The purpose of the Livermore Mixed-Use and Multifamily Objective Design Standards (MODS) is to guide the design of multiunit and mixed-use housing, and to ensure that new development is designed to be compatible with adjacent uses as well as existing and future development (City of Livermore 2025). MODS provides clear design direction for new projects by identifying which architectural styles, building typologies, and universally applicable design elements need to be incorporated into new Mixed-Use and Multifamily Residential projects.

Specific and Neighborhood Plans

Downtown Specific Plan

The Downtown Specific Plan (DSP) regulates approximately 272 acres of land that constitute Downtown Livermore, establishing policies for land use, circulation, infrastructure, and a financial strategy (City of Livermore 2021). It includes design guidelines for mixed-use, commercial, residential, and historic structures, as well as streetscape features. Informed by an extensive public engagement process, it provides a vision for Downtown Livermore as a regional destination and as the heart of the community, allowing for a combination of mixed-use development, unique retail, civic uses, residential development, and public spaces. It builds on the historic fabric that gives the city its visual character and provides a revitalization strategy and development standards to shape the look of the downtown. The DSP identifies several central parcels as catalyst development sites.

Isabel Neighborhood Specific Plan

The Isabel Neighborhood Specific Plan (INSP) provides a framework for developing approximately 1,138 acres in the northwest part of the EIR Study Area (City of Livermore 2022b). The INSP planning area surrounds the proposed Isabel Valley Link Station at Interstate 580 (I-580) and Isabel Avenue. The plan will create a complete, transit-oriented neighborhood with housing and amenities for residents, workers, and students. The INSP planning area includes Las Positas College at the northern edge. The urban design of the plan introduces new, higher-density, and forward-looking developments that express sustainability, healthy living, and innovation balanced with the existing historic look of the EIR Study Area to create a transit-oriented neighborhood. Design standards allow for dense mixed-use and residential developments alongside campus-like work environments that maintain viewsheds to the surrounding natural landscape.

El Charro Specific Plan

The El Charro Specific Plan (ECSP) establishes policies and standards for development of the westernmost subarea of the EIR Study Area along I-580 (City of Livermore 2007b). It envisions this area as a regional commercial node that does not compete with downtown by focusing on providing and servicing volume. The San Francisco Premium Outlets are now developed in this area, consistent with the design guidance of the ECSP.

South Livermore Valley Specific Plan

The SLVSP is the City of Livermore's component of Alameda County's SLVAP for protecting the agricultural area and open space of the South Livermore Valley (City of Livermore 2023). Together, the SLVSP and SLVAP provide policies and standards for managing future growth and development of approximately 1,891 acres within the South Livermore Valley. It is the culmination of a collaborative planning effort between the County of Alameda, the Cities of Livermore and Pleasanton, winegrowers, vineyard owners, and associated parties to conserve the agricultural activities and natural landscape that contribute to the valley's rural, wine country character. It allows for limited and focused residential and commercial development in the valley and provides design standards for ensuring new development maintains the existing, small-scale aesthetic of the area.

Arroyo Vista Neighborhood Plan

The Arroyo Vista Neighborhood Plan establishes policies and standards for development on approximately 28 acres of land, also known as the "Pell Site" in the eastern side of the EIR Study Area (City of Livermore 2007a). The Arroyo Vista Neighborhood Plan envisions this area as a residential community with densities between 14 and 18 units per acre combined with a circulation network, open space, and neighborhood-serving amenities. It provides for a mixture of two- to three-story detached and attached single-family and multifamily homes in street-facing or courtyard-oriented configurations.

3.1.2 Existing Conditions

PHYSICAL SETTING

The EIR Study Area is situated at the eastern end of the Livermore Valley on the valley floor and is on relatively flat topography with rising elevations as the land approaches the hills to the north, east, and south. The western area is flat as it continues towards the city of Pleasanton. The EIR Study Area is surrounded to the north, east, and south by hills and ridgelines, some of which are part of open space preserves managed by the East Bay Regional Park District.

Several arroyos[2] and waterways run through the EIR Study Area and contribute to the scenic views. Many arroyos run through the northern part of the EIR Study Area along I-580. Two of the most visible are Arroyo Las Positas and Arroyo Mocho. Arroyo Las Positas runs east to west along the northern edge of the EIR Study Area, close to I-580, and is occasionally visible from the highway. Arroyo Mocho runs east to west through the southern part of the EIR Study Area and turns southeast to the South Livermore Valley. Development is buffered from this arroyo, giving space for open space, trails, and the placement of several parks along its routes. It is a defining natural feature within this part of the EIR Study Area that is publicly accessible. Other arroyos in and around the EIR Study Area include Altamont, Arroyo Seco, Collier Canyon, Cayetano, and Arroyo del Valle (City of Livermore 2022a).

BUILT FORM

The community of Livermore can be organized through the growth of its built form, the special districts surrounding the main city, and the agricultural land along the southern edge. Like many California communities with a historic core, Livermore's original growth can be traced to the railroad station that is part of the Union Pacific Railroad system, which runs east to west through the EIR Study Area. The original block structure is oriented towards this rail line and station and extends in a nearly three-quarter-mile radius from the original station location (City of Livermore 2022a).

SCENIC VIEWS

The Livermore Valley provides topographical and visual diversity looking outwards from the EIR Study Area. Views of the surrounding hillsides are a distinctive visual characteristic of the EIR Study Area. Hill and ridgeline views are available from many vantage points within the EIR Study Area. Mount Diablo is visible to the northwest of EIR Study Area, and Brushy Peak is prominent to the northeast. The ridgelines along the San Antonio Reservoir; Delle Valle Regional Park; and Cedar, Bald, and Eagle Mountains creates a near visually contiguous ridgeline that frames views to the south. The Pleasanton Ridge backdrops views to the west and the Altamont hills to the east. I-580, State Route Highway 84, and many of the other transportation corridors in the EIR Study Area, including trails, provide views of the surrounding hillsides and ridgelines.

STATE SCENIC HIGHWAY

I-580 runs east and west through northern the EIR Study Area. Its location near the northern hills situates it at a slightly higher elevation than most of the EIR Study Area, giving it clear views of natural features to the north and views of the hills in South Livermore Valley. Caltrans has designated I-580 as "eligible" for a State Scenic Highway designation (Caltrans 2025).

[2] Arroyo is the Spanish word for a dry stream or gully. Arroyos are dry watercourses that temporarily or seasonally fills and flows after sufficient rain.

LIGHT AND GLARE

Light pollution refers to all forms of unwanted light in the night sky around and above developed urban areas, including glare, light trespass, sky glow, and can also be visually disruptive to humans and nocturnal animal species, and often reflects over lighting. Views of the night sky are an important part of the natural environment and the aesthetic of the EIR Study Area. Light pollution has the potential to become an issue of increasing concern as new development contributes additional outdoor lighting installed for safety and other reasons.

The EIR Study Area includes several urban areas with a variety of residential, commercial, and public uses. Existing sources of light and glare in the EIR Study Area are similar to those that would be found in any urban area, and include streetlamps, parking lot lighting, storefront and signage lighting, car headlamps, and interior lighting visible through windows. Light pollution is primarily limited to urban areas of the EIR Study Area and is restricted primarily to street lighting along major arterial streets, I-580, and to night-time illumination of commercial buildings, shopping centers, and industrial buildings. Light spillage from residential areas, particularly older neighborhoods, is mostly screened by trees and other landscaping.

TRANSIT PRIORITY AREAS

As described in Chapter 3, *Environmental Analysis*, and shown on Figure 3-1, *Priority Development Areas and Transit Priority Areas*, portions of the EIR Study Area are in three TPAs surrounding the Downtown Livermore Station area in central Livermore, the proposed Isabel Bay Area Rapid Transit (BART) station in northwest Livermore, and the McGrath Southfront in east Livermore.

3.1.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that, except as provided in Public Resources Code Section 21099, the proposed Project would result in a significant aesthetic impact if it would:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

c) Conflict with applicable zoning and other regulations governing scenic quality if the project is in an urbanized area.

d) Expose people on- or off-site to substantial light or glare, which would adversely affect day or nighttime views in the area.

3.1.4 Project Impact Analysis

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is of significance to the area. As described in Section 3.1.2, *Existing Conditions*, the EIR Study Area contains many scenic views featuring natural landscape, rolling hills, and ridgelines, especially as seen from the I-580 scenic corridor. For the purposes of this analysis, these scenic views are considered scenic vistas under this threshold.

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, where it would be expected to have less of an impact on existing scenic vistas and/or corridors.

As presented in Section 3.1.1, *Regulatory Framework*, the City has adopted extensive policies and programs that protect scenic vistas and guide the integration of new development with the natural environment. Consistent with these policies and programs, all future development would be required to undergo a Site Plan and Design Review, as required by LDC Chapter 9.07, to ensure consistency with General Plan policies, any applicable Specific Plan, LDC standards, and Design Standards and Guidelines. Compliance with the City's Design Standards and Guidelines, which would be confirmed during design review, would ensure that properties are developed at appropriate height limits, with compatible orientation, setbacks, and massing so that views to and around scenic vistas are maintained. Future mixed-use and multifamily development would be subject to the design standards outlined in the MODS, which would ensure that new development is designed to be compatible with adjacent uses as well as existing and future development and would not adversely affect scenic vistas. Furthermore, future development would also be subject to the regulations of the various planning documents described in Section 3.1.1, *Regulatory Framework*, that govern scenic quality in the EIR Study Area, as applicable, including the INSP, ECSP, and SLVSP. The INSP includes design standards and guidelines for site planning and orientation, including requiring the placement of buildings to be staggered to provide scenic views from public streets, to support the INSP vision of access to scenic vistas. The ECSP imposes height restrictions on properties along I-580 to ensure that the views of the surrounding hills are not obstructed. The SLVSP includes design standards and guidelines that would ensure future development with the SLVSP area would contribute to a rural identity through the qualities of openness, simplicity, and variety within structure.

Additionally, the Community Identity (CI) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to protect scenic vistas:

- **Goal CI-9:** Preserve and enhance Livermore's natural setting.
  - **Policy CI-9.1: Natural Features.** Leverage Livermore's existing natural features, such as the arroyos and open spaces to strengthen community identity and connections.
  - **Policy CI-9.2: Protection of Hills.** Prohibit intensive development or mass grading of the hills. Development, including roads, buildings, and other structural or land coverage shall be located, sited, and designed to fit and be subordinate to the natural landforms. Under no circumstances shall development create uniform, geometrically terraced building sites that are contrary to the natural landforms and that detract, obscure, or negatively affect the visual quality of the landforms.
  - **Policy CI-9.3: Ridgeline Protection.** As a means of preserving natural "ridge skylines," no major ridgeline shall be altered to the extent that a development creates a silhouette or an artificial ridgeline results. Minor grading below the skylines and ridgelines may be authorized to accommodate development or activities otherwise consistent with these policies.
  - **Policy CI-9.4: Preservation of Natural Amenities.** Identify, inventory, map, and preserve significant natural amenities throughout the city, including, but not limited to, hillsides, ridges, peaks, vineyards, agricultural areas, waterways, and tree stands.
  - **Policy CI-9.5: Land Alterations.** Require a grading permit for the alteration of natural or artificial land contours with the objective to preserve and enhance the natural topography and vegetation in developable areas.
  - **Policy CI-9.6: Water-Adjacent Developments.** Ensure development adjacent to streams, canals, reservoirs, and other bodies of water is consistent with the Citywide Design Guidelines for preserving their natural scenic qualities or enhancing them through design and treatments that emphasize naturalistic forms.
- **Goal CI-10:** Protect scenic views of areas surrounding Livermore.
  - **Policy CI-10.1: Scenic Resource Protection.** Promote views of Livermore's surrounding scenic resources from key public vantage points, including local streets, gateways, parks, and trails to contribute to the city's identity and enhance the visual experience for residents and visitors.
  - **Policy CI-10.2: Scenic Resource Coordination.** Coordinate with regional agencies, neighboring jurisdictions, and landowners to protect and enhance views of scenic landscapes beyond Livermore's city limits, ensuring development and land uses are consistent with the natural setting and Livermore's identity.
  - **Policy CI-10.3: Architectural and Landscape Design.** Within the Scenic Resource areas, ensure high-quality architectural and landscape design to enhance the Livermore scenic character, preserve and frame identified scenic views, promote compatibility with the natural skyline, and create an intriguing and inviting entry into the community.

  - **Policy CI-10.4: Scenic View Areas Context-Sensitive Design.** Apply context-sensitive design and development standards to new development within Scenic View Areas, as shown in Figure CI-2 (of the General Plan), to protect and enhance scenic resources and protect views of designated scenic vistas, while ensuring that development supports the City's broader goals for housing, economic vitality, and sustainable growth..
- **Goal CI-12:** Enhance the city's gateways with improvements that represent the multiple facets of Livermore's identity.
  - **Policy CI-12.1: Focused Commercial Development.** To protect visual quality at entrances to the city along the freeway, limit highway commercial development to areas immediately adjacent to freeway interchanges.
- **Goal CI-13:** Maintain high standards of urban design in Livermore.
  - **Policy CI-13.1: Design Review and Standards.** Require all new development and redevelopment to be subject to design review, consistent with State law. Maintain and routinely update the City's Design Standards and Guidelines, including objective design standards for residential and mixed-use development, to ensure high-quality design, regulatory consistency, and review efficiency.

Specifically, proposed Policies CI-10.1 through CI-10.4 would preserve views of scenic vistas and promote views from key public vantage points by implementing design standards that would ensure future development would be designed such that scenic vistas are maintained. Proposed Policy CI-12.1 would ensure that the visual qualities along the I-580 scenic corridor are protected. Proposed Policies CI-9.1 through CI-9.6 would ensure that natural features that make up scenic views are preserved through the protection of hills, ridgelines, and waterbodies, the requirement of a grading permit for the alteration of natural or artificial contours as well as the identification and mapping of natural amenities throughout the City.

The proposed Project would also include updates to the LDC to introduce the Scenic Resources Overlay District. The proposed Scenic Resources Overlay District would include specific development and design standards to protect scenic views and establish inviting gateways into Livermore.

Therefore, as confirmed through design review (required by the LDC and proposed General Plan 2045 Policy CI-13.1), project consistency with the Design Standards and Guidelines, MODS, any applicable Specific Plan, as well as the proposed General Plan 2045 goals and policies and the proposed Scenic Resources Overlay District, would ensure that future development would not cause a substantial adverse effect on a scenic vista, including those of hillsides, ridgelines, and water bodies, and impacts would be **less than significant**.

b) Would the project substantially degrade the view from a State scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings?

Less than Significant. As described in Section 3.1.2, *Existing Conditions*, there is not an "officially designated" State scenic highway in the EIR Study Area; however, Caltrans has assigned the entire section of I-580 that spans the EIR Study Area as being "eligible" to be designated as a State scenic highway. Pursuant to Streets and Highways Code Section 263, the State Scenic Highway System shall be composed of areas that are either "eligible" for designation as State scenic highway or "officially designated" as a State scenic highway. Therefore, impacts to views from both officially designated areas and areas eligible for designation are evaluated herein and collectively referred to as "scenic highways".

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which would help reduce impacts to views from a scenic highway. Because scenic highways, including I-580, carry vehicles through areas of notable beauty and/or with natural resources, landmarks, historic features, or cultural interest points, the City has regulations in place to protect and enhance the aesthetic values of scenic routes by governing the development of property and placement of outdoor advertising.

As described under impact discussion (a), all future development would be required to undergo a Site Plan and Design Review, as required by LDC Chapter 9.07, to ensure compliance with General Plan policies, any applicable Specific Plan, Design Standards and Guidelines, and the LDC. Compliance with these policies, programs, and standards would ensure that properties are developed at appropriate height limits, with compatible orientation, setbacks, and massing so that views to and around scenic corridors and natural features would be maintained. Future mixed-use and multifamily development along I-580 would be subject to the design standards outlined in the MODS, which would ensure that new development is designed to be compatible with adjacent uses as well as existing and future development. Furthermore, future development along I-580 would also be subject to the various planning documents described in Section 3.1.1, *Regulatory Framework*, that govern scenic quality in the EIR Study Area, as applicable, including the INSP and ECSP. The INSP includes design standards and guidelines for site planning and orientation, including requiring the placement of buildings to be staggered to provide scenic vistas from public streets, to support the INSP vision of access to views. The ECSP imposes height restrictions on properties along I-580 to ensure that the views of the surrounding hills are not obstructed.

Additionally, the same proposed General Plan 2045 goals and policies from the Community Identity (CI) Element identified under impact discussion (a) would also serve to minimize impacts related to views from I-580 by ensuring that development would be constructed in such a way as to not obstruct views of scenic resources from scenic highways. Specifically, proposed Policy CI-12.1 would ensure that the visual qualities along the I-580 scenic corridor are protected by limiting highway commercial development to areas immediately adjacent to freeway interchanges.

The proposed Project would also include updates to the LDC to introduce the Scenic Resources Overlay District. The proposed Scenic Resources Overlay District would include specific development and design standards for the protection of scenic views and establishment of inviting gateways to Livermore.

As the City receives development applications for future development, those applications would be reviewed by the City through the Site Plan and Design Review process for compliance with the Design Standards and Guidelines, MODS, any applicable Specific Plan, as well as the proposed General Plan 2045 goals and policies and the proposed Scenic Resources Overlay District; compliance with these standards would ensure development would not substantially damage scenic resources within view of a scenic highway and impacts would be **less than significant.**

c) Would the project conflict with applicable zoning and other regulations governing scenic quality if the project is in an urbanized area?

Less than Significant. Livermore is considered an urban area under CEQA Statute Section 21071. CEQA Section 21071(a)(1) states that a city can be classified as an urban area if an incorporated city has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons. The only cities contiguous to Livermore are Pleasanton to the west and Dublin to the northwest. According to the State of California Department of Finance, in 2023, the population of Livermore was 86,094, the population of Pleasanton was 77,862, and the population of Dublin was 73,222. The population of these contiguous cities totals 237,178. Therefore, Livermore is considered an urban area under CEQA Statute Section 21071 and is analyzed as such in this impact discussion. Future projects in Livermore would be subject to this standard as well.

As described under impact discussion (a), all future development would be required to undergo a Site Plan and Design Review, as required by LDC Chapter 9.07, to ensure consistency with General Plan policies, any applicable Specific Plan, Design Standards and Guidelines, and LDC standards. Consistency with the City's Design Standards and Guidelines would encourage development that is harmonious with the surrounding built and natural environments. Future mixed-use and multifamily development would be subject to the design standards outlined in

the MODS, which ensures that new development is designed to be compatible with adjacent uses as well as existing and future development. Furthermore, future development would also be subject to the regulations of the various planning documents described in Section 3.1.1, *Regulatory Framework*, that govern scenic quality in the EIR Study Area, as applicable, including the DSP, INSP, ECSP, and SLVSP. The DSP centers historic buildings and architectural heritage as key indicators of appropriate architectural style and "design language" for new development to preserve the historic core. The INSP includes design standards and guidelines for site planning and orientation, including requiring the placement of buildings to be staggered to provide scenic view from public streets, to support the INSP vision of access to scenic views. The ECSP imposes height restrictions on properties along I-580 to ensure that the views of the surrounding hills are not obstructed. The SLVSP includes design standards and guidelines that would contribute to the Valley's rural identity through the qualities of openness, simplicity, and variety within structure.

Furthermore, the proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goals and policies from the Community Identity (CI) Element, are designed to protect scenic quality:

- **Goal CI-12:** Enhance the city's gateways with improvements that represent the multiple facets of Livermore's identity.
  - **Policy CI-12.2: Enhanced Architectural Design.** New development at major gateways (see Figure CI-3 [of the General Plan]), must include site, landscape, and architectural improvements that create a strong sense of arrival and reflect Livermore's unique identity. Require undergrounding of utility service connections on private property to enhance the visual quality of gateway areas.
  - **Policy CI-12.3: Aesthetically Pleasing Uses.** For new developments near major entrances to the city, favor uses that are aesthetically pleasing and would provide a high-quality design that will benefit its location as a gateway to the city.
- **Goal CI-13:** Maintain high standards of urban design in Livermore.
  - **Policy CI-13.2: Process Streamlining.** Explore opportunities to streamline the design review process and standards to improve efficiency while maintaining high-quality design.
  - **Policy CI-13.3: High-Quality, Contextual, and Human-Scaled Design.** Require high-quality design that addresses community, site, building, and landscape design. New development and redevelopment shall consider the context and character of surrounding land uses and incorporate human-scale, pedestrian-oriented features to create an engaging and compatible built environment.

- **Policy CI-13.4: Sustainable Design Requirements.** Where appropriate, require design and amenities in new development and redevelopment that promote sustainability and improve the public realm, including, but not limited to:
  a. Interconnected street layout
  b. Clustering of buildings
  c. Landscaping on each lot
  d. Facilitating pedestrian activity
- **Policy CI-13.5: Traditional Design Elements.** Where appropriate, require new development to incorporate traditional site and architectural design elements consistent with Livermore's character and western heritage. This may include grid street layouts, narrower streets, detached sidewalks, street trees, reduced setbacks, front porches or stoops, and rear- or side-loaded garages, unless alternative design guidance is adopted by the City Council.
- **Policy CI-13.6: Active Ground Floors and Public Realm.** Promote active ground floors through high-quality public realm design to enhance street-level activity, walkability, and neighborhood vibrancy.
- **Policy CI-13.7: Single-Family Housing Scale Consistency.** Avoid construction of single-family homes that are out of scale with surrounding homes.
- **Policy CI-13.8: Initial Landscaping.** Require all new development and redevelopment to landscape front yard and public street-facing areas upon initial construction using climate-appropriate, water-efficient, and sustainable practices; and require residents and property owners to maintain their property in good condition to support neighborhood quality and visual character. Encourage the use of xeriscaping, drought-tolerant plant species, and efficient irrigation systems to promote long-term water conservation and climate resilience.
- **Policy CI-13.9: Design Process Efficiency.** Explore opportunities to streamline design review processes while maintaining high-quality design outcomes. This includes developing and promoting the use of preapproved building designs and styles across the city and in Specific Plan areas, as well as improving the efficiency and clarity of sign design review standards.
- **Policy CI-13.10: Legislative Advocacy.** Support State legislation that enhances local discretion over design review and discretionary design decisions to ensure high-quality standards that represent Livermore's unique identity. Oppose State legislation that reduces local authority to preserve high-quality urban design and architecture.

- **Goal CI-14:** Incorporate graceful transitions between areas of different uses and scales.
  - **Policy CI-14.1: Landscaped Buffers.** Determine where landscaped buffers should be required to create transitions between different land use categories, such as between residential and industrial areas.

- **Policy CI-14.2: Distinguishable Neighborhood Designs.** Require the design of new neighborhoods to incorporate themes and features that delineate and distinguish them from one another.
- **Policy CI-14.3: Missing-Middle Housing.** Allow and encourage middle housing development types, such as duplexes, multiplexes, townhouses, courtyard apartments, carriage houses, and bungalow courts, to provide a transition between residential areas of different densities.
- **Policy CI-14.4: Infill Design Integration.** Where appropriate, require infill development to incorporate design features of the existing neighborhood and adjacent buildings to visually integrate them into the existing community fabric.

- **Goal CI-15:** Maintain high-quality design of public facilities.
  - **Policy CI-15.1: Street Width Standards Review:** Periodically review and revise, as necessary, street width standards to address emergency vehicle access while also providing for the narrowest streets possible to enhance walkability and urban design character.
  - **Policy CI-15.2: Attractive Street Furniture System:** Continue to implement an attractive, coordinated system of "street furniture," including fire hydrants, litter containers, paving patterns, planters, signposts, traffic signals, benches, and light standards.
  - **Policy CI-15.3: Street Corridors:** Identify, map, design, and implement major street corridors throughout the city. Each major street corridor shall include high-quality urban design features like generously landscaped medians and backing lots, quality and consistent backing lot walls and fences, large shade tree species, separated sidewalks, and consistent and artistic public facilities like light poles, pedestrian benches, and litter bins.
  - **Policy CI-15.4: Screening of Visually Unattractive Public Facilities.** Adequately screen visually unattractive or incompatible public facilities, such as sewer lift stations, pump houses, water tanks, and other major infrastructure from public view, where feasible.

Specifically, proposed Policy CI-13.1 would require all new development and redevelopment to be subject to design review and would require the City to regularly update the City's Design Standards and Guidelines. Proposed Policy CI-13.3 would require new development and redevelopment to consider the context and character of surrounding land uses. Proposed Actions CI-A-14.1 and CI-A-14.2 would further support these policies by developing objective design standards and updating the LDC to ensure visually pleasing and compatible development that reflects current best practices in planning and design.

Additionally, the proposed Project would involve updates to the LDC to introduce the Scenic Resources Overlay District. The proposed Scenic Resources Overlay District would include specific development and design standards for the protection of scenic views and establishment of inviting gateways to Livermore. Future development in the proposed Scenic Resources

Overlay District would be required to comply with these development and design standards, as to not conflict with the LDC regulations governing scenic quality.

The proposed General Plan 2045 is the primary planning document for Livermore. The proposed Project is intended to ensure consistency between the General Plan, LDC, LMC, and federal and State laws. Because the proposed General Plan 2045 is the overriding planning document, and because the proposed Project involves amending the current General Plan and the LDC, the proposed Project would be consistent with the policies and regulations governing scenic quality. Future development would be required to undergo the Site Plan and Design Review process to ensure adherence to existing regulations, along with the proposed General Plan 2045 goals and policies, as well as the proposed Scenic Resources Overlay District. Accordingly, implementation of the proposed Project would not conflict with applicable zoning or other regulations governing scenic quality and impacts would be **less than significant**.

d) Would the project expose people on- or off-site to substantial light or glare that would adversely affect day or nighttime views in the area?

Less than Significant. The EIR Study Area contains many existing sources of nighttime illumination. These include street and parking area lights, building-mounted lights, illuminated signage, security lighting, and interior and exterior lighting on existing residential, commercial, and institutional buildings. Glare is primarily from building materials, solar photovoltaic panels, and parked cars. Additional on-site light and glare are caused by traffic on I-580.

As described in Section 3.1.1, *Regulatory Framework,* CALGreen requires lighting that is context sensitive in style and intensity, achieved through general best management practices such as luminaire shielding, automatic scheduling, and motion sensors. Additionally, all future development would be required to undergo a Site Plan and Design Review, as required by LDC Chapter 9.07, to ensure consistency with General Plan policies, any applicable Specific Plan, and LDC standards. Future development, including the installation of solar photovoltaic panels, would be subject to the City's Design Standards and Guidelines, which provides lighting standards for different types of uses. Future mixed-use and multifamily development would be subject to the design standards outlined in the MODS that regulate the height of luminaries and shielding to avoid spillover. Furthermore, future development would also be subject to the regulations of various planning documents described in Section 3.1.1, *Regulatory Framework*, that govern scenic quality, including lighting, as applicable, including the DSP, INSP, ECSP, and SLVSP. The DSP includes standards and guidelines to ensure lighting is compatible with the existing built environment, and creates a cohesive aesthetic for the Downtown. The INSP requires lighting to not exceed 18 feet in height and to be designed and shielded to direct light downward to minimize glare and night-sky light pollution. The ECSP provides general lighting guidelines to provide for illumination for security and safety designed with cut-off shields to

minimize light spread and off-site glare. The SLVSP promotes lighting to be simple rather than ornamented and fabricated in materials and styles that evoke the Valley's rural heritage.

Additionally, the Community Identity (CI) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to minimize impacts related to lighting and glare:

- **Goal CI-11:** Protect the nighttime sky of Livermore as a significant scenic resource.
  - **Policy CI-11.1: Nighttime Sky.** Designate the nighttime sky of Livermore as a significant scenic resource of Livermore.
  - **Policy CI-11.2: Glare from Developments.** Require developments to minimize obtrusive glare and wasted energy from excessive nighttime lighting and preserve views of the nighttime sky.

Specifically, proposed Policy CI-11.2 would require developments to minimize obtrusive glare and wasted energy from excessive nighttime lighting and preserve views of the nighttime sky. Proposed Action CI-A-11.1 would further support this policy by requiring the City to update the LDC and Standard Details to include design standards that regulate lighting quantity, intensity, and design, minimizing glare, light trespass, and sky glow.

Compliance with existing lighting standards to reduce light spill and glare and implementation of the proposed General Plan 2045 goals and policies, to be confirmed through Site Plan and Design Review, would ensure future development does not generate excessive light levels or glare and impacts would be **less than significant**.

3.1.5 Cumulative Impact Analysis

The following discussion considers how buildout of the EIR Study Area and the eastern Alameda County region (e.g., the surrounding cities of Dublin, and Pleasanton) have the potential to cumulatively impact the visual resources in the eastern Alameda County region. This analysis evaluates whether the impacts of future development, together with the impacts of cumulative development, would result in a cumulatively significant impact on aesthetics and visual quality. This analysis then considers whether the incremental contribution to cumulative impacts associated with the implementation of the proposed Project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Would the project have a cumulative effect related to aesthetics?

Less than significant.

Vistas and Visual Character

Most of the growth in the region is anticipated to occur in and around existing urban development within the Livermore City Limit and within other urbanized areas, including the cities of Pleasanton and Dublin. Future development in the cumulative context would include predominantly infill residential, commercial, and industrial development consistent with the General Plans of each municipality. However, the lands that provide agricultural and scenic views that surround the EIR Study Area are in unincorporated areas of eastern Alameda County. The geographic area contains many natural features such as hillsides and ridgelines, as well as extensive open spaces, arroyos, and canals. These lands are not designated for urbanization and are anticipated to primarily remain in agricultural and natural open space uses under cumulative conditions. Future development would be subject to the design review processes of the individual jurisdiction, and the applicable land use plans containing policies and implementing programs to preserve visual character, land use compatibility, and views in those jurisdictions.

Future development would be required to comply with the applicable zoning and other regulations governing visual character and views as described under impact discussion (a) through (c), including the LMC, LDC, MODS, DSP, INSP, ECSP, SLVSP, and Livermore Design Standards and Guidelines, as well as the proposed General Plan 2045 goals and policies and the proposed Scenic Resources Overlay District. Future development would be subject to specific regulations and guidelines related to building heights, setbacks, undergrounding of utilities, landscaping, signage, and permitted land uses. These regulations would ensure that visual character and viewsheds are maintained.

Light and Glare

Cumulative development would consist primarily of infill development, which could increase light and glare in the geographic area. Cumulative development could include streetlights, exterior lighting, safety lighting, lighting from vehicles, and sources of glare from the buildings and vehicles. All cumulative development both inside and outside of the City's jurisdiction would be required to comply with CALGreen's building standards regarding lighting and to comply with local regulations related to light and glare. In addition, development would be subject to administrative design review by the various jurisdictions. Compliance with these regulations and completion of design review would building windows are tinted to minimize interior light transmission and exterior lighting is designed so that it is directed downward and away from adjacent properties. Therefore, cumulative impacts would be less than significant.

Light and glare from future development would be regulated by the Livermore Design Standards and Guidelines, and other applicable plans and policies as described under impact discussion (d). Compliance with these regulations and completion of design review would ensure building windows are tinted to minimize interior light transmission and exterior lighting is designed so that it is directed downward and away from adjacent properties.

Summary

Future development would be subject to the design review processes of the individual jurisdiction, and the applicable land use plans containing policies and implementing programs to preserve visual character, land use compatibility, and views and minimize light and glare in those jurisdictions. As such, the proposed Project, in conjunction with cumulative projects, would result in a less than significant cumulative impact with respect to aesthetics, and cumulative impacts would be **less than significant**.

3.1.6 References

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3.2 AGRICULTURAL RESOURCES

This section evaluates the potential agricultural resources impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential agricultural resources impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As summarized in Chapter 3, *Environmental Analysis,* concerns related to the need for mitigation for agricultural lands that are converted to nonagricultural uses were provided during the EIR scoping period.

Because the EIR Study Area does not contain any national- or State-designated forestland and the woodland/forest communities in Livermore do not qualify as forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)), the significance thresholds outlined in Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines related to forestry resources are not evaluated in this EIR (California Department of Forestry and Fire Department 2026).

3.2.1 Regulatory Framework

STATE

Farmland Mapping and Monitoring Program

The California Natural Resources Agency is charged with restoring, protecting, and maintaining the State's natural, cultural, and historical resources. The California Natural Resources Agency's Department of Conservation (DOC) provides technical services and information to promote informed land-use decisions and sound management of the State's natural resources. The DOC manages the Farmland Mapping and Monitoring Program (FMMP), which supports agriculture throughout California by developing maps and statistical data for analyzing land use impacts to farmland. Every two years, the FMMP publishes a field report for each county in the state. FMMP released the most recent field report for Alameda County in 2022. The Alameda County Important Farmland Map categorizes land by agricultural production potential, according to the following classifications (DOC 2025a):

- **Prime Farmland** has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agriculture production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance** is similar to Prime Farmland, but with minor shortcomings, such as steeper slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland** consists of lesser-quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been farmed at some time during the four years prior to the mapping date.
- **Farmland of Local Importance** consists of all farmable land not meeting the definitions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as prime farmland, farmland of statewide importance, and unique farmland that has since become idle.
- **Grazing Land** is the land on which the existing vegetation is suited to the grazing of livestock.
- **Urban and Built-Up Land** is occupied by structures with a building density of at least one unit per 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential structures, industrial structures, commercial structures, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment structures, and water-control structures.
- **Other Land** is land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded by urban development and greater than 40 acres is mapped as "other" land.
- **Water** is used to describe perennial water bodies with an extent of at least 40 acres.

Williamson Act

The California Land Conservation Act of 1965, better known as the Williamson Act, conserves agricultural and open space lands through property tax incentives and voluntary restrictive land use contracts administered by local governments under State regulations. Private landowners voluntarily restrict their land to agricultural and compatible open space uses under minimum 10-year rolling term contracts, with counties and cities also acting voluntarily. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. Nonrenewal status is applied to Williamson Act

contracts that are within the nine-year termination process, during which the annual tax assessment for the property gradually increases. Alameda County implements the Williamson Act program through the Alameda County Agricultural Preserve Program.

REGIONAL

Alameda County East County Area Plan

The East County Area Plan (ECAP) outlines goals, policies, and programs to conserve natural resources for the eastern portion of Alameda County while ensuring adequate development to accommodate the growing population (Alameda County 2000). The ECAP covers the area surrounding the EIR Study Area; the EIR Study Area is within the ECAP. First adopted in 1994 as a component of the Alameda County General Plan, the passage of Measure D in November 2000 initiated amendments to the ECAP that were subsequently included by adoption in November 2000 with the passage of the Measure D ballot measure. The amendment to the ECAP in November 2000 revised the ECAP to include the Urban Growth Boundary (UGB) and to provide specific direction to preserve viticulture and other cultivated agricultural land surrounding the Livermore City Limit.

Measure D

Measure D, an initiative passed by Alameda County voters in November 2000, established a County UGB that generally coincides with existing City boundaries and/or City Limit. Measure D required that the County redesignate undeveloped lands outside the UGB from urban development or "Urban Reserve" to agricultural and open space uses. Any new urban development in Alameda County will be directed to areas within the UGB.

With the passage of Measure D, the North Livermore Intensive Agriculture Area was also established, enabling a minimum parcel size of 20 acres per unit, provided that these parcels be used primarily for cultivated agriculture, and that achievement of numerous economic and environmental criteria pertaining to cultivated agriculture could be demonstrated. Measure D also created the following series of new requirements that must be met before any new development parcels are created in the North Livermore Intensive Agriculture Zone:

- The County Board of Supervisors must find that an adequate, sustainable, and safe supply of water that exists for both agriculture and other new uses.
- Parcel owners must agree to transfer to a land trust a land conservation easement that bars development not included in the initiative.
- Agricultural land must be cultivated for a minimum time period.
- The County is to establish a trail system in intensive agricultural zones for public education purposes.
- Commercial uses are to be limited to agriculture-enhancing uses.

- Irrigation uses in the area will not diminish the quality of the drinking water supply.
- Customary development fees must be paid.

These conditions, combined with the agricultural and resource management designations applied in North Livermore, effectively limit the potential for new residential uses in North Livermore under County jurisdiction. For the South Livermore Valley, Measure D confines the expansion of residential uses within the South Livermore UGB. These areas include the agricultural land directly to the south of the Livermore City Limit.

Alameda County Municipal Code

The Alameda County Municipal Code (ACMC) establishes Agricultural (A) districts in Chapter 17.06, *A Districts*, to conserve and protect existing agricultural uses, and to provide space for and encourage such uses in places where more intensive development is not desirable. This chapter of the Alameda County Municipal Code outlines the permitted and conditional uses and site development review requirements within this zoning district.

Alameda County Agricultural Preserve Program

The Alameda County Agricultural Preserve Program, enacted under the Williamson Act, is meant to preserve and protect agricultural and open space lands for the production of food and fiber, as well as for limited types of open space that have scenic and habitat value. The program creates an arrangement whereby private landowners contract with the County to voluntarily restrict their land to agricultural and compatible open space land uses for a 10-year term. The contract gives property tax relief to the landowner in exchange for maintaining their land with agricultural production activities. Williamson Act contracts are automatically renewed unless a landowner files a Notice of Non-Renewal. After filing a Notice of Non-Renewal, the property owner must not convert the land to nonagricultural uses for a period of 10 years (Alameda County 2011).

Tri-Valley Conservancy Land Trust

Tri-Valley Conservancy is an accredited land trust protecting and advocating for agricultural land and open space around the EIR Study Area. The Tri-Valley Conservancy's mission is to promote economically sustainable vineyards and orchards and increase permanently protected biologically diverse open spaces. The Tri-Valley Conservancy primarily acts through designation of conservation easements to protect a land's valuable natural resources. Tri-Valley Conservancy works with willing landowners to acquire property development rights through the legal arrangement of a conservation easement, and, once the land is preserved, works with landowners to care for the land. These conservation easements provide landowners with flexible, voluntary alternatives to subdividing or developing their property. To date, the Tri-Valley Conservancy has helped preserve thousands of acres of open space for agriculture and parks (City of Livermore 2022).

South Livermore Valley Area Plan

The South Livermore Valley Area Plan (SLVAP) is administered by Alameda County and regulates the development of land immediately south of the city of Livermore between the City Limit and the southern ridgelands (Alameda County 1993). It accomplishes this by establishing a framework of land use coordination between Alameda County and the Cities of Livermore and Pleasanton with the explicit goal to prioritize and promote the area as a unique and historic wine region by protecting its rural and scenic qualities, discouraging urban development, and maintaining and expanding cultivated agricultural use in the area. It includes prescriptive policies to mitigate the loss of agricultural land. The South Livermore Valley Specific Plan (SLVSP) is administered by the City of Livermore and functions as the city's component of the SLVAP for protecting the valley.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to agricultural resources. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to agricultural resources are in Title 3, *Revenue and Finance*, and Title 8, *Health and Safety*, as follows:

- **Chapter 3.27, *Transferrable Development Credits In-Lieu Fees,*** establishes a revenue fund paid by residential developers in Transferrable Development Credit (TDC)-designated areas in exchange for new residential land use designations or increases in density. The in-lieu fees finance open space acquisition in fee title or conservation easement for permanent protection of agriculture and other open space lands in the north Livermore area. The TDCs implement provisions of the North Livermore UGB Initiative.
- **Chapter 8.16, *Right to Farm,*** serves to protect agricultural land uses and designations identified in the General Plan and zoning map from conflicts with nonagricultural land uses that may result in financial hardship to agricultural operators or the termination of their operation. This chapter also promotes harmony between agricultural and residential land uses through the advising of purchasers and residents of property near agricultural operations of the inherent potential inconveniences associated with such purchase or residence, including, but not limited to, sounds, odors, dust, and chemicals.

Livermore Development Code

The City of Livermore regulates land use and design through the Livermore Development Code (LDC), an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds upon community character. Section 3.03.170, *Open Space (OS) Zone*, establishes the Open Space (OS) zone, as well as sub-zones for Agriculture (OS-A), Rural Preservation (OS-R), and Flood Plain (OS-F). Section 3.04.040, *Planned Development/Agriculture (PD-AG)*, states that this zone is applied to areas of the city to

preserve and promote agriculture and viticulture uses in locations suitable for cultivated agriculture and to protect sensitive or unique environmental or land characteristics. These zones are designated to land where one or more of the following criteria are met:

- Represents the actual use of the land;
- Establishes the best use of the land;
- Indicates land intended by the City not be converted to urban use in the foreseeable future;
- Indicates land having resources found to be in the public interest to preserve; or
- Indicates land found not suitable for urban use due to natural or other hazards associated with the land.

Section 3.04.050, *South Livermore Valley/Agriculture (SLV-AG) Zone*, implements the Agriculture Viticulture General Plan designation. The purpose of this zone is to protect existing viticultural and cultured agricultural uses and provide space for and encourage such uses in places where more intensive development is not desirable or necessary for the general welfare. This zone is used in areas where the urban designation of the SLVSP is not applicable. This zone is designated to land that reflects the criteria above as well as land found inappropriate for the density bonus provisions of the Planned Development/Agriculture (PD-AG) zone.

Urban Growth Boundary Initiatives

The South Livermore UGB Initiative, passed by local voters in March 2000, established the UGB around the southern edge of the City Limit. The South Livermore UGB focuses on protecting prime viticultural and orchard lands and promotion of the wine industry.

In December 2002, the City Council passed the North Livermore UGB Initiative, which completed the UGB around the northern edge of the City Limit. The North Livermore UGB aims to preserve agricultural lands and open space to maintain the viability of farming and ranching operations in North Livermore.

South Livermore Valley Specific Plan

The SLVSP is the City of Livermore's component of Alameda County's SLVAP for protecting the agricultural area and open space of the South Livermore Valley (City of Livermore 2023). Together, the SLVSP and SLVAP provide policies and standards for managing future growth and development of approximately 1,891 acres within the South Livermore Valley. It is the culmination of a collaborative planning effort between the County of Alameda, the Cities of Livermore and Pleasanton, winegrowers, vineyard owners, and associated parties to conserve the agricultural activities and natural landscape that contribute to the valley's rural, wine country character. It allows for limited and focused residential and commercial development in the valley and provides design standards for ensuring new development maintains the existing, small-scale aesthetic of the area.

3.2.2 Existing Conditions

REGIONAL AGRICULTURE

The most prevalent type of farmland in Alameda County in 2023 are field crops and fruit and nut crops (Alameda County 2024). Field crops total approximately 138,000 harvested acres, consisting of primarily range and pastureland, hay, beans, corn, industrial hemps, hops, and other field crops. Fruit and nut crops total approximately 5,202 bearing acres, largely made up of red and white wine grapes, along with miscellaneous fruits and nuts, such as olives, walnuts, pistachios, pomegranates, almonds, and avocados. Vegetable crops total approximately 147 harvested acres, including broccoli, cabbage, corn, leaf lettuce, greens, pumpkins, tomatoes, and squash. Nursery products, including ornamental trees and shrubs, along with bedding plants, cut flowers, and vegetables, total approximately 124 harvested acres. Alameda County also reported approximately 13,200 cattle and calves and an unknown number of sheep, pigs, goats, bee pollination, and apiary products.

AGRICULTURAL PRODUCTION IN LIVERMORE

Approximately 46 percent of land in the EIR Study Area is set aside for open space, agriculture, and recreational uses, providing a greenbelt around the urbanized area and preserving the vineyards and agricultural lands. The agricultural heritage of the EIR Study Area is an anchor of the tourism industry in Livermore Valley. The EIR Study Area is framed by award-winning wineries, picturesque farmland, and ranches that mirror the valley's rich western heritage. One of California's oldest wine regions, the Livermore Valley, played a pivotal role in shaping California's wine industry, starting in the 1760s (City of Livermore 2022).

IMPORTANT FARMLAND

Alameda County, which includes the EIR Study Area, is predominantly made up of urban and built-up land, open space, and grazing land. Unincorporated areas to the north, east, and west of the EIR Study Area are currently used for rangeland, dry farmland, irrigated cropland, and uncultivated farmland. Agricultural uses south of the EIR Study Area include vineyards, orchards (mainly olives and nuts), rangeland, and uncultivated farmland.

As shown on Figure 3.2-1, *Important Farmland*, the EIR Study Area includes Prime Farmland, Unique Farmland, and Farmland of Statewide Importance and as classified by the DOC. The EIR Study Area also includes Grazing Land, Urban and Built-Up Land, and Other Land; however, these are not considered "farmlands of concern" under CEQA.

As shown in Table 3.2-1, *Existing Farmland Acreages in the EIR Study Area*, much of the EIR Study Area is made up of Urban and Built-Up Land. Cultivated agricultural lands in the EIR Study Area are largely designated Unique Farmland, followed in descending acreage by Farmland of Statewide Importance and Prime Farmland. There is land outside the City Limit, but within the

City's Sphere of Influence (SOI), that is mapped as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance.

Table 3.2-1 Existing Farmland Acreages in the EIR Study Area

Classification	Acres
Prime Farmland	338
Unique Farmland	728
Farmland of Statewide Importance	409
Grazing Land	4,573
Urban and Built-Up Land	13,651
Other Land	2,000

Source: DOC 2022.

Note: Numbers are rounded from original source.

WILLIAMSON ACT CONTRACTS

Alameda County is the agency responsible for entering into Williamson Act contracts with landowners in and around the EIR Study Area. As shown on Figure 3.2-2, *Williamson Act Lands*, agricultural lands under Williamson Act contracts are primarily located south of the City Limit, with select parcels to the north and east of the City Limit. As shown in Table 3.2-2, *Existing Williamson Act Land Acreages in the EIR Study Area*, active Williamson Act contracts account for approximately 1,909 acres of farmland in the EIR Study Area.

Table 3.2-2 Existing Williamson Act Land Acreages in the EIR Study Area

Williamson Act Contract Type	Acres
Prime Farmland	766
Non-Prime Farmland	1,143
Total	**1,909**

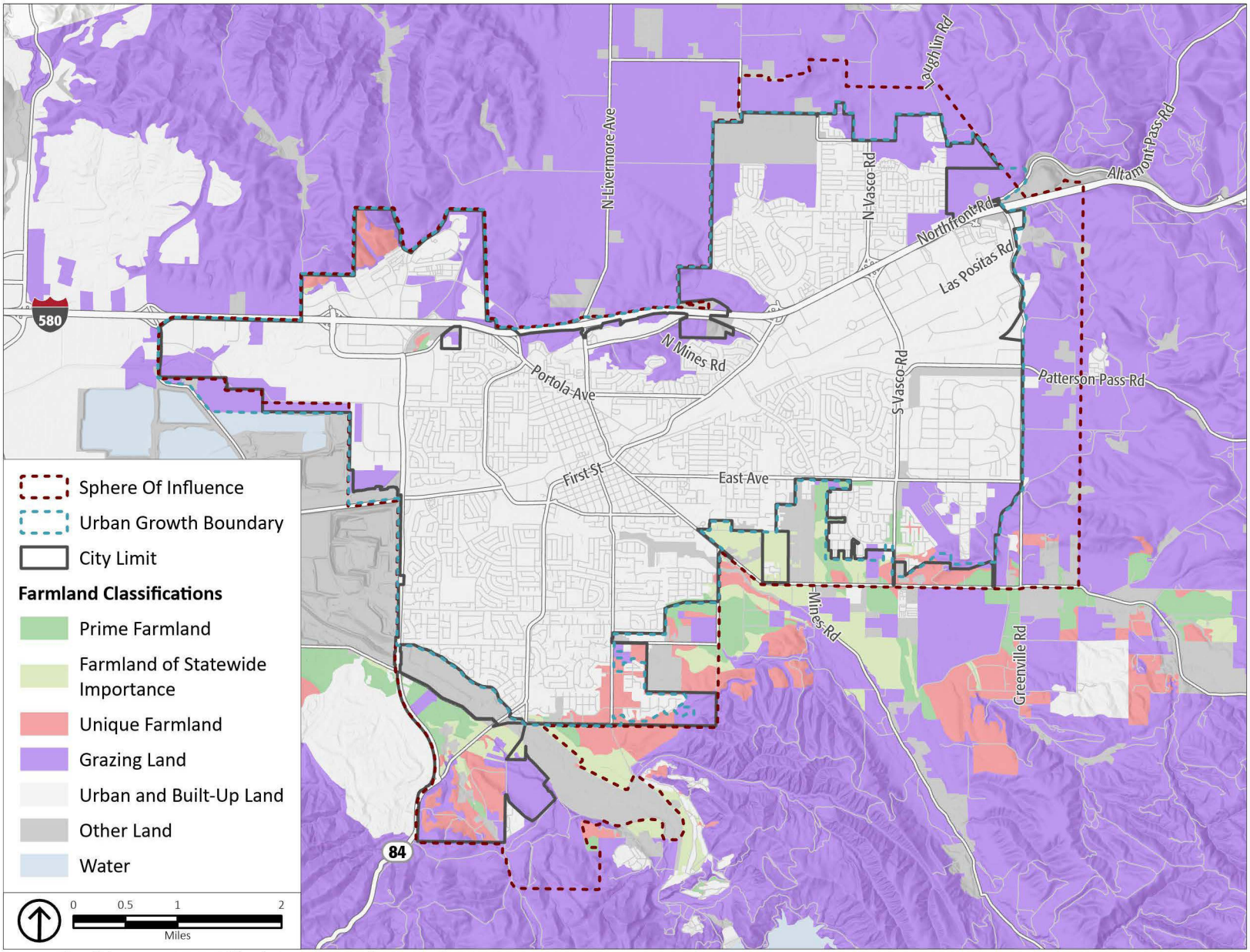
Source: DOC 2025b.

Note: Numbers are rounded from original source.

3.2.3 Standards for Analysis

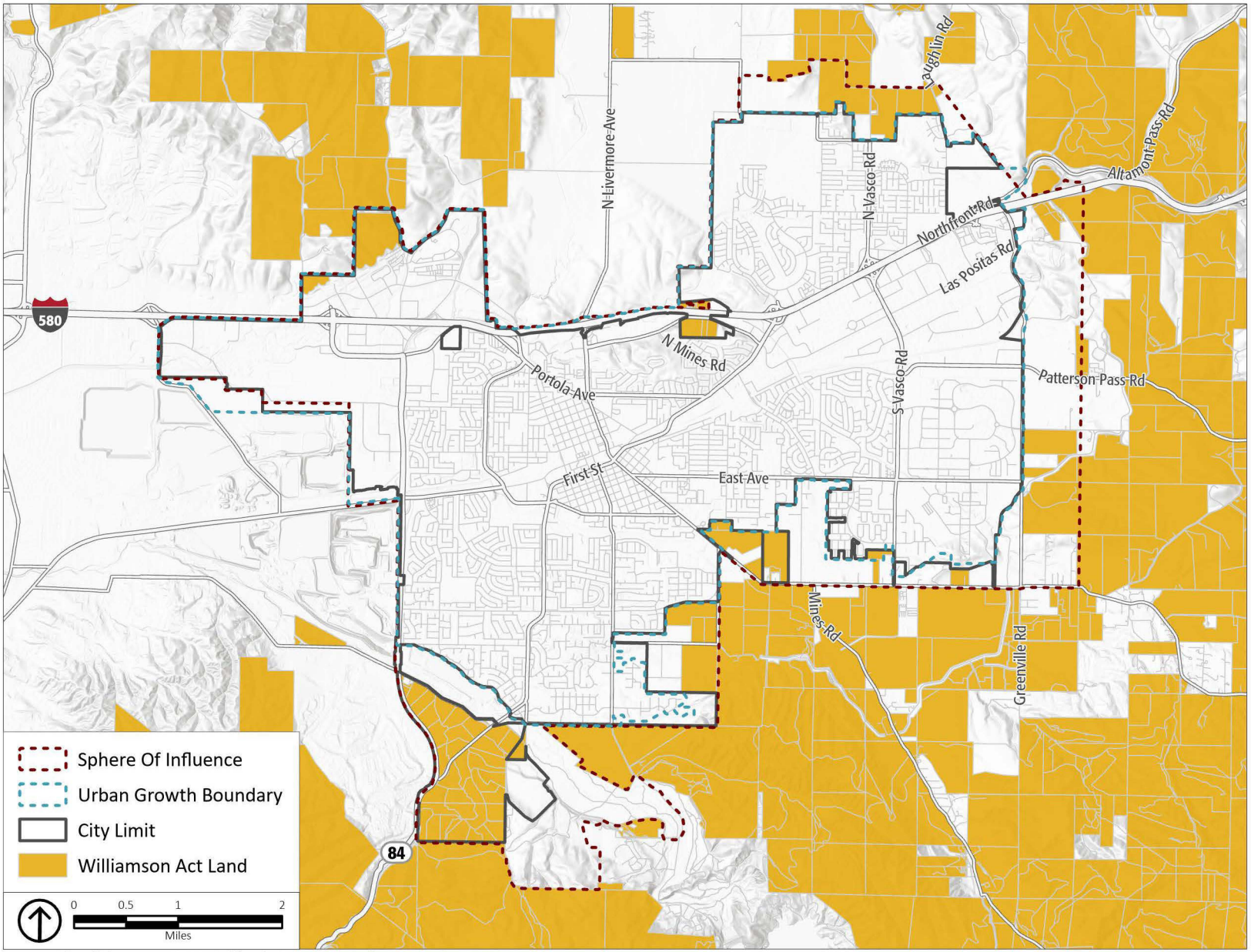
Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact to agricultural resources if it would:

a) 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 nonagricultural use.



Source: City of Livermore, 2022; California Department of Conservation, 2025.

Figure 3.2-1
Important Farmland



Source: City of Livermore, 2022; California Department of Conservation, 2024.

Figure 3.2-2
Williamson Act Land

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.

The EIR Study Area does not contain any national- or State-designated forestland (California Department of Forestry and Fire Department 2026). Woodland and forested habitats are largely restricted to the north and east-facing slopes or higher elevations to the south and west of the EIR Study Area. Dense stands of trees do not exist in the EIR Study Area due to climate conditions and altitude. The two woodland/forest communities (blue oak woodland and coast oak woodland) in the EIR Study Area do not qualify as forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)). Consequently, there would be no impact to forestry resources, and the following potential impacts of the Project are not discussed further in this EIR because the proposed Project would not:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code 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.
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of forest land to non-forest use.

3.2.4 Project Impact Analysis

a) Would the project 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 nonagricultural use?

Significant and Unavoidable. As shown in Table 3.2-1, the EIR Study Area contains 338 acres of Prime Farmland, 728 acres of Unique Farmland, and 409 acres of Farmland of Statewide Importance for a total of 1,475 acres. As illustrated on Figure 3.2-1, the majority of Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) are in the southern portion of the EIR study area, outside the UGB, with an existing land use designation that allows agricultural, such as Limited Agriculture or SLVSP.

The SLVSP is specifically intended to promote and conserve agricultural resources, as described in Section 3.2.1, *Regulatory Framework*. Furthermore, 435 acres of land designated as SLVSP are under conservation easements, which cannot be converted to nonagricultural uses. While

the SLVSP designation is intended to conserve agricultural resources, it does allow development on agricultural lands, and therefore, Farmland that is designated SLVSP could be converted to nonagricultural uses. However, much of the land designated SLVSP under the existing general plan land use map would remain SLVSP under the proposed General Plan 2045 land use map, and any potential loss of Farmland could occur with or without implementation of the proposed Project. Additionally, some Farmland is already developed with existing uses that are incompatible with agriculture, such as residential or industrial uses. Implementation of the proposed Project would not convert this Farmland because it has already been converted to other uses.

The city's land use pattern has been shaped by voter-approved UGBs. Specifically, the South Livermore UGB Initiative, passed in 2000, and the North Livermore UGB Initiative, passed in 2002, establish clear limits to urban expansion, preserving agricultural lands and open space while directing growth to areas where infrastructure and services exist. The South Livermore UGB focuses on protecting prime viticultural and orchard lands and promotion of the wine industry. The North Livermore UGB aims to preserve agricultural lands and open space to maintain the viability of farming and ranching operations in North Livermore.

Future residential development would be subject to LMC Chapter 3.27 and would be required to pay TDCs, which could be used to finance conservation easements for the permanent protection of agricultural lands. Additionally, the SLVSP includes Policy 6-1, which lays out specific parameters to mitigate the loss of agricultural and open space land through the dedication of agricultural or open space easements and the planting of agricultural crops.

Furthermore, the Land Use (LU) Element and Open Space and Conservation (OS) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to preserve agricultural uses and reduce the loss of Farmland:

- **Goal LU-12:** Preserve and Enhance the South Livermore Valley as a Premier Agricultural Region, a Thriving Wine Country Economy, and Visitor Destination.
  - **Policy LU-12.2: Agricultural Land Preservation.** Permanently protect existing and potential cultivated agricultural lands through conservation easements, land acquisition, and partnerships with organizations such as the Tri-Valley Conservancy.
  - **Policy LU-12.5: Development Criteria.** Limit urban development to uses that directly support the goals of the South Livermore Valley Specific Plan. Require any proposed development to meet criteria related to location, design, infrastructure availability, and agricultural mitigation.
  - **Policy LU-12.6: Annexation in South Livermore.** Allow annexation when it contributes to the goals of the South Livermore Valley Specific Plan, creates a logical urban edge, and supports the wine country economy and demand for agricultural uses. .

  - **Policy LU-12.8: Agricultural Mitigation and Funding.** Require agricultural mitigation fees for development in transitional areas and explore additional funding sources to support land conservation efforts and visitor amenities.
  - **Policy LU-12.12: Development Offset for Agricultural Investment.** Use resources generated from urban development within the urban growth boundary to invest in the long-term viability of South Livermore's agricultural economy. This includes land acquisition and conservation easements, financial resources for viticulture, wine country tourism, recreational amenities, and contributes to overall economic sustainability.
- **Goal OS-4:** Protect agricultural land and working landscapes as vital parts of the Livermore open space network in and around the Planning Area.
  - **Policy OS-4.1: Farmland Preservation**. Preserve undeveloped lands with an agricultural or open space designation, to the greatest extent feasible (i.e., through zoning, conservation easements, or other measures), for open space or agricultural use.
  - **Policy OS-4.4: Permanent Conservation Easements.** Promote awareness of permanent conservation easements as an opportunity to monetize land stewardship and support agricultural production, open space, and sensitive natural resources.
  - **Policy OS-4.6: Agricultural Soil Management.** Protect and manage valuable agricultural soils in the Planning Area.
  - **Policy OS-4.7: Agricultural Preservation Funding.** Monitor and identify potential funding mechanisms to support the preservation of agricultural uses.
  - **Policy OS-4.8: Agricultural Preservation Agency Coordination.** Work with the County of Alameda, land trust organizations, other conservation groups, and water purveyors to preserve agricultural and related supporting uses outside the urban growth boundary.

The proposed General Plan 2045 contains policies that require the City to preserve agricultural lands. Specifically, proposed Policy LU-12.2 requires the City to encourage the establishment and permanent protection of existing and new cultivated agricultural lands through use of conservation easements, land acquisition, and partnerships with organizations. Proposed Policy LU-12.2 limits urban development outside the South Livermore Valley to generate substantial investment in the long-term viability of South Livermore's agricultural economy. Proposed Policy OS-4.1 and Policy OS-4.6 requires the City to preserve undeveloped lands that have agricultural or open space designation, as well as valuable agricultural soils. Proposed Policy OS-4.4 would promote permanent conservation easements. Proposed Policy OS-4.7 and Policy OS-4.8 require the City to identify funding mechanisms to support the preservation of agricultural lands and work with conservation groups and water purveyors to preserve agricultural uses outside the urban growth boundary.

While LMC Chapter 3.27 and the proposed General Plan 2045 goals and policies identified would protect and preserve farmland, the proposed General Plan 2045 land use map would redesignate small portions of Farmland to nonagricultural uses. For example, there is an area north of Tesla Road just within the City Limit mapped as Farmland of Statewide Importance that

would be redesignated from Agriculture/Viticulture (AGVT) to Wine Country Commercial (WCC), which could result in the conversion of Farmland to nonagricultural lands. Because the threshold of significance for purposes of analysis under CEQA is the loss of any Farmland (Prime Farmland, Farmland of Statewide Importance, or Unique Farmland), the potential conversion of Farmland to nonagricultural lands would constitute a *potentially significant* impact.

Impact AGR-1: Implementation of the proposed Project could result in the conversion of Prime Farmland, Unique Farmland, and 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 nonagricultural uses.

The mitigation measures below have been analyzed and considered for mitigating or avoiding the impact of the conversion of agricultural lands to other uses. However, as described, no feasible mitigation measures are available that would reduce this impact to less than significant.

- **Replacement of Agricultural Resources.** This measure would replace the existing agricultural use with the same use on other property that is not currently used for agriculture. From a statewide perspective, the replacement of Farmland means that there will be no net loss of Farmland in the state. However, Farmland would still be developed. There is limited undeveloped land in the EIR Study Area that is not currently designated as agricultural, restricting the amount of agricultural land that would be able to be replaced elsewhere in the area, and thus conversion of these lands would be insufficient to achieve no net loss. Moreover, even if adequate land could be identified to achieve no net loss, the challenges of creating the soil, irrigation, climatic, and economic conditions that are required for productive farmland (i.e., that achieve the same Farmland status) are significant, and there would be no guarantee that replacement land could be successfully farmed. In addition, replacing existing undeveloped areas with active agriculture could trigger a range of negative environmental impacts, including increased groundwater consumption, habitat destruction, erosion, air quality impacts, and herbicide and pesticide application. As such, the replacement of the existing agricultural uses on other properties within the EIR Study Area is infeasible.
- **Transfer of Development Rights.** Transferring development rights would allow a property owner to purchase the right to build on one parcel of land within Alameda County (typically undeveloped) and apply those rights to another parcel, such as Farmland within the EIR Study Area. This option is also infeasible as mitigation as it would still result in a net loss of Farmland within the EIR Study Area. Even if farmland would be preserved elsewhere in Alameda County, the Farmland in the EIR Study Area would be developed, resulting in a net loss of Farmland. Therefore, this approach to mitigation would not prevent significant impacts from occurring in the EIR Study Area and it would not be an effective mitigation measure. As such, mitigation of Farmland loss through the transfer of development rights is infeasible.

- **Relocation of Prime Farmland Topsoil.** This measure would remove the top 12 to 18 inches of topsoil from affected areas and haul this soil to a farm site or several farm sites that have lower-quality soils. The Prime Farmland soils may assist in increasing crop yield at the relocated site. This measure would have its own environmental impacts, including increased truck traffic on local roadways from both hauling soil off-site and replacement of soil on-site, increased diesel truck emissions, construction noise, and increased duration of construction. The relocation of Prime Farmland soils to another active farm would thus increase other environmental impacts. Therefore, the relocation of Prime Farmland topsoil is infeasible.

As discussed previously, implementation of the proposed Project would designate Farmland to nonagricultural land uses. Existing regulations, such as the LMC Chapter 3.27 and the proposed General Plan 2045 goals and policies identified, would reduce impacts associated with the potential conversion of Farmland. Because the significance criterion considered in this analysis is the conversion of any qualifying Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance), the only way to fully avoid a significant impact would be to not allow the conversion of such Farmland to a non-agricultural use. However, doing so is not feasible or practical as the City has a responsibility to meet other conflicting obligations, including increasing the number and types of jobs available and reducing the need for residents to commute to high-quality jobs. Conversion of Farmland to nonagricultural uses is critical to reducing single-occupant vehicle travel to and from Livermore and meeting State targets for greenhouse gas reduction. Additionally, the City is required to permit residential development by State housing law within its adopted growth boundary. Implementing the potential mitigation measures as described above is infeasible as they could potentially lead to greater environmental impacts. While LMC Chapter 3.27 and the various proposed General Plan 2045 policies would conserve agricultural lands in the EIR Study Area, these regulations and policies would not reduce impacts to a less than significant level. Therefore, impacts would remain **significant and unavoidable**.

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

Significant and Unavoidable. Land currently under a Williamson Act Contract would be subject to the Alameda County Agricultural Preserve Program and contracts would be automatically renewed unless a landowner files a Notice of Non-Renewal and would be required to wait for a period of 10 years before converting the land to nonagricultural uses. The right-to-farm ordinance (LMC Chapter 8.16) serves to protect agricultural land uses by minimizing conflicts with nonagricultural uses, reducing the likelihood that ongoing agricultural operations would be displaced by nonagricultural uses. Future development on lands zoned as Agriculture (OS-A), Planned Development/Agriculture (PD-AG), or South Livermore Valley/Agriculture (SLV-AG) would be subject to the development regulations contained in the LDC to ensure uses complimentary to agricultural uses. Development within the SLVSP area would be subject to the agricultural requirements of the SLVSP. These development regulations and SLVSP

requirements would restrict the intensity and location of development and prioritize continued agricultural use and operations. The SLVSP includes Policy 6-1, which lays out specific parameters to mitigate the loss of agricultural and open space lands through the dedication of agricultural or open space easements and the planting of agricultural crops.

The proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goals and policies from the Land Use (LU) Element and Open Space and Conservation (OS) Element, are designed to minimize conflict with existing zoning for agricultural uses and the Williamson Act:

- **Goal LU-7:** Maintain agricultural lands within the Livermore Planning Area to support local food systems, sustain agricultural operations, and guide long-term land use planning.
  - **Policy LU-7.1: Agricultural Land Uses in the City of Livermore**. Provide for agricultural lands and uses within the Livermore Planning Area, ensuring such lands support Livermore's economy and culture.
  - **Policy LU-7.2: Agricultural Development Standards**. Regularly review development standards in the agricultural zoning districts of the Livermore Development Code and Specific Plans that include agriculture zoning and/or policies to ensure they are suitable to support agricultural operational needs.
  - **Policy LU-7.3: Agricultural Resilience and Visitation.** Allow flexibility in agricultural land uses to adapt to changing economic conditions and support agritourism, farm-to-table enterprises, and other visitor-serving activities that enhance the viability of agricultural operations while maintaining compatibility with agricultural production and the local economy without compromising long-term land use objectives.
- **Goal LU-12:** Preserve and Enhance the South Livermore Valley as a Premier Agricultural Region, a Thriving Wine Country Economy, and Visitor Destination.
  - **Policy LU-12.7: Williamson Act and Agricultural Contracts.** Discourage nonrenewal or early termination of Williamson Act contracts. Allow Williamson Act contract modifications when they further agricultural preservation and compact development goals.
- **Goal OS-4:** Protect agricultural land and working landscapes as vital parts of the Livermore open space network in and around the Planning Area.
  - **Policy OS-4.5: Williamson Act Land Conservation.** Recruit agricultural landowners to enter the agricultural preserve program established under the Land Conservation (Williamson) Act, particularly in areas adjacent to urban designations in the General Plan.
  - **Policy OS-4.9: Agricultural Incentives.** Advocate at the State level to expand incentives, such as Williamson Act contracts, that allow agricultural operations to remain economically viable.

Specifically, proposed Policies LU-7.1 through LU-7.3 would require regular review of and flexibility in development standards for agricultural zoning and uses to support agricultural production and operational needs. Proposed Policy LU-12.7 requires the City to discourage the non-renewal or early termination of Williamson Act contracts in the South Livermore Valley. Proposed Policy OS-4.5 requires the City to recruit landowners to enter the agricultural preserve program established under the Williamson Act. Proposed Policy OS-4.9 requires the City to advocate (at the State level) for the expansion of incentives, including Williamson Act contracts, to allow for economically viable agricultural operations. For proposed Policies OS-4.5 and OS-4.9 to effectively reduce impacts related to conflict with the Williamson Act Contract, landowners would need to agree to the Williamson Act contract, which would only be determined on a case-by-case basis.

While the Alameda County Agricultural Preserve Program, LMC, LDC, and the proposed General Plan 2045 goals and policies identified above would reduce potential impacts related to the conversion of land zoned for agricultural to nonagricultural uses and redevelopment of land under Williamson Act contract to nonagricultural uses, the proposed Project could result in conflicts with existing zoning for agricultural use or Williamson Act contracts. The proposed Project would redesignate small portions of land under a Williamson Act contract to a use that would allow nonagricultural uses. For example, there is an area north of Tesla Road just within the City Limit under a Williamson Act contract with an existing zoning designation of South Livermore Valley Agricultural that would be redesignated from Agricultural/Viticulture (AGVT) to Wine Country Commercial (WCC). The change in the land use designation could result in the development of land currently zoned for agricultural uses under a Williamson Act contract with nonagricultural uses. Because the significance criterion considered in this analysis is conflict with existing zoning for agricultural use or a Williamson Act contract, the only way to fully avoid a significant impact would be to not allow the rezoning of land zoned for agricultural uses or allowing land under a Williamson Act contract to be converted such that the future use conflicts with the contract. Therefore, this impact is *potentially significant*.

Impact AGR-2: Implementation of the proposed Project could conflict with existing zoning for agricultural use and Williamson Act contracts.

As described under Impact AGR-1, pursuant to CEQA, the City has considered mitigation to reduce impacts from implementation of the proposed Project that could conflict with agricultural zoning and Williamson Act contracts. However, as described, there are no feasible mitigation measures that would reduce the loss of land with agricultural zoning or land under Wiliamson Act contracts. With respect to Williamson Act contracts, the City considered a measure that would result in the replacement of Williamson Act land that would place other agricultural land under Williamson Act contract. Even if feasible, the placing of alternative farmland under Williamson Act contract would establish a commitment to retain that alternative farmland for agricultural use. The length of time that the alternative land would remain in agricultural use would depend on the terms of the Williamson Act contract. However, the Williamson Act contract would only reduce the potential that the alternative land would

convert to nonagricultural use. The individual and cumulative loss of agricultural land allowed by the proposed Project would still occur. Therefore, this mitigation measure would not reduce the proposed Project's impacts on agricultural land under Williamson Act contracts to below the level of significance. For these reasons, placing alternative privately held land under permanent restriction through Williamson Act contracts is considered infeasible.

As discussed previously, implementation of the proposed Project would rezone land currently zoned for agricultural to nonagricultural uses and designate agricultural land under the Williamson Act contract to nonagricultural land uses. Existing regulations, such as the Alameda County Agricultural Preserve Program, LMC, LDC, as well as the proposed General Plan 2045 goals and policies identified would reduce impacts associated with potential conflicts. However, completely avoiding such conflicts is not feasible or practical as the City has a responsibility to meet other obligations, including increasing the number and types of jobs available and reducing the need for residents to commute to high-quality jobs. The City is required to permit residential development by State housing law within its adopted growth boundary. Implementing the potential mitigation measures as described above is infeasible as previously explained.

While regulations of the Alameda County Agricultural Preserve Program, LMC, and LDC, as well as various proposed General Plan 2045 policies, would reduce potential conflicts, these regulations and policies would not reduce impacts to a less than significant level. Therefore, impacts would remain **significant and unavoidable**.

c) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use?

Significant and unavoidable. Under existing regulations, future residential development would be subject to LMC Chapter 3.27 and be required to pay TDCs, which could be used to finance conservation easements for the permanent protection of agricultural lands, thereby discouraging the loss of farmland elsewhere in the city. The right-to-farm ordinance (LMC Chapter 8.16) serves to protect agricultural land uses by minimizing conflicts with nonagricultural uses, reducing the likelihood that ongoing agricultural operations would be displaced by nonagricultural uses. Future development on lands zoned as Agriculture (OS-A), Planned Development/Agriculture (PD-AG), or South Livermore Valley/Agriculture (SLV-AG) would be subject to the development regulations contained in the LDC. Development within the SLVSP area would be subject to the agricultural requirements of the SLVSP. These development regulations and SLVSP requirements would restrict the intensity and location of development and prioritize the continued agricultural use and operations.

Furthermore, the proposed Project recognizes that the agricultural history of Livermore contributes to its sense of place and seeks to preserve agricultural land. The proposed General Plan 2045 goals and policies identified under impact discussions (a) and (b), in addition to the following goals and policies from the Land Use (LU) Element, are designed to minimize impacts related to the conversion of farmland to nonagricultural use:

- **Goal LU-7:** Maintain agricultural lands within the Livermore Planning Area to support local food systems, sustain agricultural operations, and guide long-term land use planning.
  - **Policy LU-7.4: Interference with Agriculture.** Prohibit proposed projects adjacent to agricultural areas that would substantially interfere with existing agricultural production.
  - **Policy LU-7.5: Right to Farm.** Protect agricultural land from conflicts with adjacent nonagricultural land uses that may threaten the viability of agricultural operations by maintaining the City's Right to Farm Ordinance.
  - **Policy LU-7.6: Land Uses in Alameda County.** Request that Alameda County limit land uses in the unincorporated part of the Planning Areato agricultural and open space uses and uses allowed in the City's Urban Growth Boundary policies.
  - **Policy LU-7.7: Rural Areas.** Collaborate with Alameda County and Alameda County Local Agency Formation Commission to protect existing land uses from development inappropriate for rural areas.
- **Goal LU-10:** Advance a strong and resilient Livermore through sustainable land use planning.
  - **Policy LU-10.2: Protect Natural and Agricultural Lands.** Balance strategic urban development and conservation of agricultural lands, open space, and sensitive ecosystems through land use planning, zoning, conservation easements, and long-term land stewardship programs and management strategies.
- **Goal LU-12:** Preserve and Enhance the South Livermore Valley as a Premier Agricultural Region, a Thriving Wine Country Economy, and Visitor Destination.
  - **Policy LU-12.1: South Livermore Valley Implementation.** Implement the South Livermore Valley Specific Plan and related programs to ensure development directly contributes to the long-term viability of cultivated agriculture and wine country economy in terms of both production and visitation.
  - **Policy LU-12.3: Expansion of Viticulture and Compatible Crops.** Expand cultivated agriculture, particularly vineyards, and support crop diversification that aligns with the South Livermore Valley's climate, soils, and long-term sustainability.
  - **Policy LU-12.4: Wine Country Economy and Tourism.** Allow and promote wineries of various sizes and commercial uses that support wine-related tourism, complement other Livermore visitor amenities, and enhance the South Livermore Valley's identity as a premier wine-producing region and destination.

- **Policy LU-12.9: Winery-Supportive Land Use.** Designate and maintain land use categories that allow for a range of winery-related uses, including production, tasting rooms, and event spaces to support active agricultural operations and support the economic viability of South Livermore Valley.
- **Policy LU-12.10: Agri-tourism and Visitor-Serving Uses.** Allow for a variety of land uses that support wine-related tourism, such as farm stays, wine education centers, specialty goods retail, and overnight accommodations, that enhance the visitor experience and contribute to the local economy without requiring large scale urban-scale development.
- **Policy LU-12.11: Clustering and Co-Location of Wine Country Uses.** Allow the clustering of complementary wine country uses, such as wineries, tasting rooms, restaurants and attractions, and commercial services, within designated nodes to create destinations that support tourism and reduce land use conflicts. Use land use planning to facilitate synergies between agricultural production and economic activity.

Specifically, proposed Policies LU-7.4 and LU-7.5 would work to protect agricultural land from conflicts with adjacent existing or proposed nonagricultural land uses that may threaten or interfere with agricultural production. Proposed Policies LU-7.6 and LU-7.7 would require coordination with Alameda County to limit land uses to agricultural and open spaces and protect existing land uses from development inappropriate for rural areas.

Implementation of the proposed General Plan 2045 goals and policies identified would serve to reduce potential impacts related to other changes in the existing environment, which due to their location or nature, could result in conversion of farmland to nonagricultural uses by prohibiting future developments adjacent to agricultural areas that would substantially interfere with existing agricultural production and through collaboration with Alameda County and Alameda County Local Agency Formation Commission (LAFCO) to protect existing land uses from development inappropriate for rural areas. However, because the proposed Project would establish land use policies and designations that could facilitate long-term development pressure on agricultural lands, the proposed Project would involve changes in the existing environment that could result in the conversion of farmland to nonagricultural use. Therefore, this impact is *potentially significant.*

Impact AGR-3: Implementation of the proposed Project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.

As described under impact discussions (a) and (b), pursuant to CEQA, the City has considered mitigation to reduce impacts from implementation of the proposed Project that could result in conversion of farmland to nonagricultural use. However, as described, there are no feasible mitigation measures that would avoid completely avoid the conversion of farmland to nonagricultural use.

Implementation of the proposed Project would establish land use designations and policies that would guide future development in the EIR Study Area. The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that could increase development pressure on land currently used for agriculture. Due to their location and proximity to planned urban uses, these changes could result in the conversion of farmland to nonagricultural use over time. While compliance with existing LMC and LDC regulations, standards and guidelines in the SLVSP, and proposed General Plan 2045 goals and policies would reduce land use conflicts, they would not reduce impacts to a less-than-significant level. Avoiding such impacts entirely would require prohibiting development in or near land under agricultural uses, which would not be feasible nor practical, given the City's obligation to meet State housing law, increase the number and types of jobs available, and reduce the need for residents to commute to high-quality jobs. Therefore, the proposed Project would involve other changes in the existing environment which, due to their location and nature, could result in the conversion of farmland to nonagricultural use, and impacts would be **significant and unavoidable**.

3.2.5 Cumulative Impact Analysis

The cumulative setting includes growth within the EIR Study Area in combination with projected overall growth trends within Livermore and adjacent cities (e.g., the surrounding cities of Dublin and Pleasanton). The geographic scope of cumulative impacts to agriculture resources is all agricultural resources deemed to be resources of statewide importance in the surrounding incorporated and unincorporated lands, the region, and the State.

Would the project have a cumulative effect related to agricultural resources?

Significant and unavoidable. As described in Chapter 2, *Project Description*, and throughout this EIR, the proposed Project includes a buildout projection and population growth that would increase the urbanization of the EIR Study Area. The proposed Project would allow conversion of agricultural lands to various types of residential and job-generating development. Agricultural lands throughout the region face ongoing development pressure due to population growth, housing demand, and the economic incentives associated with converting agricultural lands to urban uses. As such, the region and the State have been experiencing a decline of agricultural acreages (DOC 2025c). With implementation of the proposed Project in combination with agricultural impacts identified throughout surrounding incorporated and unincorporated lands, the region, and the state, the proposed Project could contribute to cumulative impacts to agricultural resources.

As described under impact discussions (a), (b), and (c), the proposed Project could allow conversion of Farmland to nonagricultural uses, would redesignate land zoned for agricultural to nonagricultural uses, and would allow land under Williamson Act contract to be converted to

nonagricultural uses, and, due to location and proximity to planned urban uses, could result in the conversion of farmland to nonagricultural use over time. Given the programmatic nature of this analysis, it is unknown at this time to what extent, the rate at which, or if this conversion would occur. However, avoiding such impacts entirely would require prohibiting development in or near land with agricultural uses, which would not be feasible nor practical, given the City's obligation to meet State housing law, increase the number and types of jobs available, and reduce the need for residents to commute to high-quality jobs. As such, the proposed Project may contribute to the cumulative impacts of overall conversion of these lands in the surrounding incorporated and unincorporated lands, the region, and the state. Although existing regulations as previously described and the policies in the proposed General Plan 2045 would reduce and partially offset regional agricultural impacts, the proposed Project would contribute to cumulatively significant agricultural impacts in the region. Therefore, this impact is cumulatively *potentially significant.*

Impact AGR-4: Implementation of the proposed Project could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), existing zoning for agricultural uses, Williamson Act properties, and farmland to nonagricultural uses.

As described previously, implementation of the proposed Project could result in significant and unavoidable impacts related to the conversion of Farmland to nonagricultural uses, conflicts with existing zoning for agricultural use and Williamson Act contracts, and could result in the conversion of farmland to nonagricultural use over time. Although existing regulations such as those required per the LMC and the proposed General Plan 2045 goals and policies would reduce potential impacts, they would not reduce them to less than significant, and, as discussed previously, there are no feasible mitigation available to reduce potential impacts. The only way to fully avoid the agricultural impact is to not allow development on Farmland, rezoning of agricultural land to nonagricultural uses, or redesignation of land such that conflicts with Williamson Act contracts occur. However, doing so would be infeasible and inconsistent with City's planning goals and objectives. Further, the amount of growth foreseen in the region and the decisions of the surrounding counties regarding conversion of agricultural land are outside the jurisdiction of the city. Therefore, this cumulative impact is **significant and unavoidable**.

3.2.6 References

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3.3 AIR QUALITY

This section evaluates the potential air quality impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential air quality impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022a). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to air quality impacts of the proposed Project were received during the EIR scoping period.

The Bay Area Air District (Air District), formerly known as the Bay Area Air Quality Management District, is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The significance thresholds outline in the latest Air District CEQA Guidelines are analyzed in this Draft EIR. Criteria air pollutant emissions modeling for the proposed Project is included in Appendix B, *Air Quality and Greenhouse Gas Emissions Data*. Transportation-sector impacts are based on trip generation and vehicle miles traveled (VMT), as provided by Kittelson & Associates, Inc., are also included in Appendix B.

Terminology

The following terminology is used throughout this section::

- **AAQS.** Ambient Air Quality Standards
- **CES.** CalEnviroScreen. CES is a mapping tool that helps identify the California communities most affected by sources of pollution and where people are often especially vulnerable to pollution's effects.
- **Concentrations.** Refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).
- **Criteria Air Pollutants.** Those air pollutants specifically identified for control under the Federal Clean Air Act (currently seven—carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone, and coarse and fine particulates).
- **DPM.** Diesel particulate matter.
- **Emissions.** Refers to the actual quantity of pollutant, measured in pounds per day or tons per year.

- **GHG.** Greenhouse gas.
- **Impacted Community.** As defined by the Air District, an impact community is a census tract identified in CES, Version 4, that falls within the eight-hour ozone exceedance area, 24-hour $PM_{2.5}$ exceedance area, or within 2013 cumulative impact areas.
- **Overburdened Community**. As defined by the Air District, an area in a census tract identified in CES, Version 4, having an overall CES score at or above the 70th percentile, or within 1,000 feet of any such census tract.
- **ppm.** Parts per million.
- **Sensitive receptor.** Land uses that are considered more sensitive to air pollution than others due to the types of population groups or activities involved. These land uses include residential, retirement facilities, hospitals, and schools.
- **TAC.** Toxic air contaminant.
- **µg/m^3.** Micrograms per cubic meter.
- **VMT.** Vehicle miles traveled.

3.3.1 Regulatory Framework

FEDERAL AND STATE

Federal and State agencies and local air districts have passed laws and regulations intended to control and enhance air quality, including regulations imposed by the United States Environmental Protection Agency (USEPA), California Air Resources Board (CARB), the California Environmental Protection Agency (CalEPA), and the Air District.

Ambient Air Quality Standards

The federal Clean Air Act (CAA) was passed in 1963 by the United States Congress and has been amended several times. The 1970 federal CAA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting national Ambient Air Quality Standards (AAQS) and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or include other pollutants. The California CAA, signed in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the national AAQS.

The national and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very

young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 3.3-1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 3.3-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)[4]	Annual Arithmetic Mean	*	0.010 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	*	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m3	150 µg/m3	

Table 3.3-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Respirable Fine Particulate Matter ($PM_{2.5}$)[5,6]	Annual Arithmetic Mean	12 µg/m^3	9 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[7]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation.

Table 3.3-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Vinyl Chloride (chloroethene)	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Sources: CARB 2024; USEPA 2025b.

Notes: ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

1. California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (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. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
4. On December 27, 2024, the secondary annual SO_2 standard was revised to an annual average, averaged over three consecutive years, with a level of 10 parts per billion (ppb).
5. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
6. On February 7, 2024, the national annual $PM_{2.5}$ standard was lowered from 12 $\mu g/m^3$ to 9 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary), secondary annual $PM_{2.5}$ standard, and PM_{10} standards (primary and secondary) were retained
7. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions.

- **Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards**. Pavley I is a clean-car standard that reduces emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.
- **Heavy-Duty (Tractor-Trailer) Greenhouse Gas (GHG) Regulation**. The tractors and trailers subject to this regulation must either use USEPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay-verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper-cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay-verified low-rolling-resistance tires. This rule has criteria air pollutant co-benefits.
- **Senate Bill (SB) 1078 and SB 107: Renewables Portfolio Standards**. A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bill (SB) 1078 (Sher) and SB 107 (Simitian). Under this standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010.
- **California Code of Regulations (CCR) Title 20: Appliance Energy Efficiency Standards**. The 2006 Appliance Efficiency Regulations (Title 20 CCR Sections 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. This code reduces natural gas use from appliances.
- **Title 24 CCR Part 6: Building and Energy Efficiency Standards**. Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977. This code reduces natural gas use from buildings.
- **Title 24 CCR Part 11: Green Building Standards Code**. Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. This code reduces natural gas use from buildings.

In May 2025, Congress passed three Congressional Review Act (CRA) resolutions to nullify a set of California's CAA preemption waivers targeting California's vehicle emissions program (Holland & Knight 2025).

- H.J.Res. 87 disapproves the USEPA's waiver for multiple California heavy-duty vehicle programs, including Advanced Clean Trucks (requiring increasing percentages of zero-emission truck sales), Zero Emission Airport Shuttles and Zero-Emission Power Train Certification.
- H.J.Res. 88 disapproves the USEPA's waiver for Advanced Clean Cars II, which required all new passenger cars, trucks, and SUVs sold in California to be zero-emission by 2035.
- H.J.Res. 89 disapproves the USEPA's waiver for the "Omnibus" Low NO_X regulation, which establishes more stringent emissions standards for heavy-duty vehicles.

California Air Resources Board

CARB is a part of the CalEPA and is responsible for the coordination and administration of both federal and state air pollution control programs in California. In this capacity, CARB conducts research, sets the California AAQS (see Table 3.3-1), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), working closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA from the USEPA.

Nuisance Regulations

Health and Safety Code Section 41700 states,

> ... a person shall 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.

This section also applies to objectionable odors.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (Title 17 CCR Section 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal CAA (Title 42 United States Code Section 7412[b]) is a toxic air contaminant. Under State law,

the CalEPA, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and, if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **Title 13 CCR Chapter 10, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **Title 13 CCR Chapter 10, Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **Title 13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Senate Bill 535 Disadvantaged Communities

In 2012, Senate Bill 535 (SB 535) established initial requirements for minimum funding levels to "disadvantaged communities" and tasked CalEPA with the responsibility of identifying those communities based on geographic, socioeconomic, public health, and environmental hazard criteria. Under SB 535, disadvantaged communities are defined as the top 25 percent scoring areas from CES, along with other areas with high amounts of pollution and low populations.

REGIONAL

Bay Area Air District

The Air District is responsible for ensuring that the national and California AAQS are attained and maintained in the SFBAAB. Air quality conditions in the SFBAAB have improved significantly since the Air District was created in 1955. The Air District prepares air quality management plans (AQMP) to attain AAQS in the SFBAAB. The Air District prepares ozone attainment plans for the national O_3 standard and clean air plans for the California O_3 standard. The Air District prepares these AQMPs in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) to ensure consistent assumptions for regional growth.

Bay Area Air District 2017 Clean Air Plan

The Air District adopted the 2017 "Clean Air Plan: Spare the Air, Cool the Climate" (2017 Clean Air Plan) on April 19, 2017, making it the most recently adopted AQMP (Air District 2017a). The 2017 Clean Air Plan incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2017 Clean Air Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues to provide the framework for SFBAAB to achieve attainment of the California and national AAQS. The 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California CAA. It sets a goal of reducing health risk impacts to local communities by 20 percent between 2015 and 2020 and lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy was developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHGs from a full range of emission sources. These control measures cover the following sectors: (1) stationary (industrial) sources, (2) transportation, (3) energy, (4) agriculture, (5) natural and working lands, (6) waste management, (7) water, (8) super-GHG pollutants, and (9) buildings.

The control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and TACs from all key sources.
- Reduce emissions of "super-GHGs," such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

Air District Community Air Risk Evaluation Program

The Air District Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area, primarily diesel particulate matter (DPM). Carcinogenic compounds from gasoline-powered cars and light-duty trucks were also identified as significant cancer risks: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ocean-going vessels and harbor craft (13 percent). Overall, cancer risk from TAC exposure dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions (Air District 2014).

Modeled cancer risks from TAC in the Bay Area in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland, and near the Maritime Port of Oakland. The Air District has identified seven impacted communities in the Bay Area.

The major contributor to acute and chronic non-cancer health effects in the Air Basin is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports (Air District 2006). Currently, CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the Air District does not conduct health risk screening analysis for acrolein emissions (Air District 2021).

Assembly Bill 617 Community Action Plans

AB 617 (C. Garcia, Chapter 136, Statues of 2017) was signed into law in July 2017 to develop a new community-focused program to more effectively reduce exposure to air pollution and preserve public health in environmental justice communities. AB 617 directs CARB and all local air districts to take measures to protect communities disproportionally impacted by air pollution by monitoring emissions and implementing air pollution control strategies.

On September 27, 2018, CARB approved the Air District's recommended communities for monitoring and emission-reduction planning. The State approved communities for year 1 of the program as well as communities that would move forward over the next five years. Bay Area recommendations included all the CARE program areas as well as areas with large sources of air pollution (refineries, seaports, airports, etc.), areas identified via statewide screening tools as having pollution and/or health burden vulnerability, and areas with low life expectancy (Air District 2019a).

- Year 1 Communities:
  - *West Oakland*. The West Oakland community was selected for the Air District's first Community Action Plan. In 2017, cancer risk from sources in West Oakland (local sources) was 204 per one million. The primary sources of air pollution in West Oakland include heavy trucks and cars, port and rail sources, large industries, and, to a lesser extent, other sources such as residential sources (i.e., wood burning). The majority (over 90 percent) of cancer risk is from $DPM_{2.5}$ (Air District 2019b).
  - *Richmond*. Richmond was selected for a community monitoring plan in year 1 of the AB 617 program. The Richmond area is in western Contra Costa County and includes most of the City of Richmond and portions of El Cerrito. It also includes the following unincorporated areas in Contra Costa County: Bay View, East Richmond Heights, Rollingwood, Tara Hills, Montalvin Manor, North Richmond, and El Sobrante. The Path to Clean Air (PTCA) Plan was adopted in April 2024 and includes strategies to reduce harmful air pollution emissions and exposure to PTCA communities. The Plan lays out a series of measures to be implemented over the next ten years by State, regional, and local agencies to reduce pollution in the community (Air District 2024).
- Year 2 to 5 Communities: East Oakland/San Leandro, Eastern San Francisco, the Pittsburg-Bay Point area, San Jose, Tri-Valley, and Vallejo are slated for action in years 2 to 5 of the AB 617 program (Air District 2019a).
  - *Tri-Valley.* The Air District determined that the Tri-Valley cities of Livermore, Pleasanton, Dublin, and San Ramon are impacted communities because both ozone and fine particulate matter ($PM_{2.5}$) levels exceed air quality standards. In March 2020, the Air District funded the Tri-Valley Air Quality Community Alliance (TVAQCA) to engage the Tri-Valley community and propose strategies for continued long-term improvement of local air quality.

Air District Rules and Regulations

Regulation 7, Odorous Substances

The Air District's Regulation 7, *Odorous Substances*, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under Regulation 1, Rule 1-301, *Public Nuisance*, as discussed previously under *Nuisance Regulations.* Under the Air District's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other Air District Regulations

In addition to the plans and programs described previously in this section, the Air District administers several specific regulations on various sources of pollutant emissions:

- Regulation 2, Rule 2, *Permits, New Source Review*
- Regulation 2, Rule 5, *New Source Review of Toxic Air Contaminants*
- Regulation 2, Rule 6, *Permits, Major Facility Review*
- Regulation 6, Rule 1, *General Requirements*
- Regulation 6, Rule 2, *Commercial Cooking Equipment*
- Regulation 8, Rule 3, *Architectural Coatings*
- Regulation 8, Rule 4, *General Solvent and Surface Coatings Operations*
- Regulation 8, Rule 7, *Gasoline Dispensing Facilities*
- Regulation 9, Rule 4, *Inorganic Gaseous Pollutants*
- Regulation 9, Rule 6, *Nitrogen Oxides from Natural Gas-Fired Furnaces*
- Regulation 9, Rule 8, *Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines*
- Regulation 11, Rule 2, *Asbestos, Demolition, Renovation and Manufacturing*
- Regulation 11, Rule 18, *Reduction of Risk from Air Toxic Emissions at Existing Facilities*

Plan Bay Area 2050

ABAG and MTC adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021). Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375, which is described further in Section 3.8, *Greenhouse Gas Emissions*. Strategies to reduce GHG emissions include focusing housing and commercial construction in walkable, transit-accessible places; investing in transit and active transportation; and shifting the location of jobs to encourage shorter commutes. To achieve ABAG/MTC's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan for the region concentrates most of the new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity

areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions.

Plan Bay Area 2050 is currently undergoing an update, Plan Bay Area 2050+. Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong economy, and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of publication of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

Nitrogen Oxides from Natural Gas-Fired Furnaces, Boilers, and Water Heaters

The Air District adopted amendments to Regulation 9, *Inorganic Gaseous Pollutants*; Rule 4, *Nitrogen Oxides from Natural Gas-Fired Furnaces (Rule 9-4)*; and Rule 6, *Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters (Rule 9-6)*. Space- and water-heating appliances generate a large portion of NO_X emissions from sources in the Bay Area. NO_X is a key criteria pollutant as a precursor to ozone and secondary particulate matter formation. The amendments require more stringent NO_X emission standards for space- and water-heating appliances within Air District's jurisdiction starting in year 2023 and would substantially reduce NO_X emissions from these appliances commonly found in single-family homes and commercial applications. The amendments to Rules 9-4 and 9-6 include the following elements:

- Sales and installation of smaller water heaters and boilers (below 75,000 British thermal units [BTU]/hour) must be zero emission, starting in 2027.
- Sales and installation of furnaces (heat input rate less than 175,000 BTU/hour) must be zero emission starting in 2029.
- Sales of larger water heaters and boilers (between 75,000 and 2 million BTU/hour) must be zero emission starting in 2031.
- Existing appliances can remain in operation, but the rule would apply once they need replacement.

Alameda County Transportation Authority Congestion Management Plan

The Alameda County Transportation Commission (CTC) is responsible for developing, updating, and implementing the county's Congestion Management Program (CMP). The CMP is a short-range plan that includes a variety of congestion and travel demand element strategies, programs, and projects that support the larger Countywide Transportation Plan (CTP). CMPs are

required to be developed in collaboration with relevant local and regional agency partners and must be updated every other year. The 2025 CMP updates references to policies in plans that have been adopted since the 2023 CMP. As provided in the 2023 CMP, it contributes to maintaining or improving transportation system service levels and estimate roadway level of service, conforms to MTC's criteria for consistency with Plan Bay Area, provides a travel mode consistent with MTC's regional model and adopted Transportation Control Measures, identifies candidate projects for the regional transportation improvement program, and considers transportation needs of future land use and benefits of GHG reductions (Alameda CTC 2025).

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives pertaining to air quality. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to air quality impacts are in Title 15, *Building and Construction,* as follows:

- **Chapter 12.20, *Street Trees and Tree Preservation,*** provides requirements to planting, trimming, and removing of trees to protect and enhance the environmental benefits provided by the City's urban forest.
- **Chapter 15.26, Section 15.26.070, *GSBC Section 4.106.4 amended – Electric vehicle (EV) charging for new construction***, requires new residential construction to include electric vehicle charging infrastructure consistent with the mandatory measures of the California Green Building Standards Code (CALGreen).
- **Chapter 15.26, Section 15.26.220, *GSBC Section 5.106.5.3 amended – Electric vehicle (EV) charging*,** requires new nonresidential construction to include electric vehicle charging infrastructure consistent with the mandatory measures of CALGreen.
- **Chapter 15.26, Section 15.26.280, *GSBC Section 5.106.13.1 added – New construction*,** requires new construction to be designed all-electric but provides exemptions for commercial cooking uses where no electric alternative is available, clothes drying equipment for hotels and motels with 80 or more units, and laboratories.
- **Chapter 15.30, Section 15.30.150, *General Requirements*,** requires certain installation standards for wood burning appliances to reduce exposure to fine particles from woodsmoke.
- **Chapter 15.32, *Civic Green Buildings,*** requires all city projects to meet a minimum LEED "Silver" rating under the LEED rating system, or a city-approved equivalent. The green building compliance official shall be responsible for verifying the appropriate green building rating.

Climate Action Plan

The City of Livermore adopted the 2022 Climate Action Plan (CAP) on November 28, 2022 (City of Livermore 2022b). The 2022 CAP lays out a plan for cutting GHG emissions, preparing for extreme weather, expanding dependable renewable energy, protecting natural habitats and biodiversity, and making sure all community members share in the benefits of a sustainable future. This plan provides a community-wide GHG inventory and identifies strategies to reduce the City's emissions and help the City monitor progress to achieving GHG reduction goals. The 2022 CAP established per-capita GHG emission reduction targets aimed to reduce GHG emissions by 40 percent below 1990 levels by 2030 and achieve carbon neutrality by 2045. Various strategies from the 2022 CAP help improve air quality by reducing pollution from transportation and buildings, expanding clean and renewable energy, improving energy efficiency, and lowering emissions from fossil-fuel use across the community.

3.3.2 Existing Conditions

AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. ROG and NO_X are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Table 3.3-2, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

Table 3.3-2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	▪ Chest pain in heart patients ▪ Headaches, nausea ▪ Reduced mental alertness ▪ Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves

Table 3.3-2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Ozone (O_3)	▪ Cough, chest tightness ▪ Difficulty taking a deep breath ▪ Worsened asthma symptoms ▪ Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO_2)	▪ Increased response to allergens ▪ Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} and $PM_{2.5}$)	▪ Hospitalizations for worsened heart diseases ▪ Emergency room visits for asthma ▪ Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO_2)	▪ Aggravation of respiratory disease (e.g., asthma and emphysema) ▪ Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	▪ Behavioral and learning disabilities in children ▪ Nervous system impairment	Contaminated soil

Source: CARB 2025c.

A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death (Air District 2017b).
- **Nitrogen Oxides (NOx)** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NOx are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NOx produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NOx. NO_2 is an acute

irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm) (Air District 2017b).

- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue (Air District 2017b).
- **Suspended Particulate Matter (PM_{10})** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. In the SFBAAB, most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less.

  Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates (Air District 2017b).
- **Suspended Particulate Matter ($PM_{2.5}$)** is another form of fine particulate matter that has an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch). Fine particulate matter originates from a variety of sources, including fossil fuel combustion, residential wood burning and cooking, and natural sources, such as wildfires and dust. As mentioned above, extended exposure to particulate matter can cause negative effects on the respiratory system, such as triggering asthma attacks, aggravating bronchitis, and

diminishing lung function. $PM_{2.5}$ studies have also found harm to the cardiovascular system and impacts on the brain, such as reduced cognitive function.

Local jurisdictions have the option of developing community risk reduction plans to cumulatively reduce community wide $PM_{2.5}$ concentrations by following a comprehensive plan. Stationary source screening maps contain all the facilities in the Bay Area where a permit has been issued and that emit one or more TACs. These stationary source screening maps can be used as a basis for community baseline conditions and to evaluate screening-level health risk impacts using the cavity effects equation. An alternative screening methodology is to use the CARB's gas station screening tool to estimate cancer risk and chronic/acute hazards from gas station emissions (Air District 2017b).

- **Ozone (O_3)** is a key ingredient of "smog" and is a gas that is formed when ROGs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma; reduce lung function; and inflame the linings of the lungs. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics (Air District 2017b).
- **Reactive Organic Gases (ROGs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, the Air District has established a significance threshold for this pollutant (Air District 2017b).
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Because emissions of lead are found only in projects that are permitted by the Air District, lead is not an air quality of concern for the proposed Project (Air District 2017b).

TOXIC AIR CONTAMINANTS

People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2025a). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, including particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC (CARB 1998). Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory symptoms and may exacerbate existing allergies and asthma symptoms (USEPA 2002).

SAN FRANCISCO BAY AREA AIR BASIN CONDITIONS

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The state is divided into 15 air basins. The EIR Study Area is in the SFBAAB. Air pollutants of concern are criteria air pollutants and TACs. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality.

The Air District is the regional air quality agency for the SFBAAB, which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in this area is determined by natural factors such as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions (Air District 2023). The following discussion identifies the natural factors in the SFBAAB that affect air pollution.

Meteorology

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range[1] splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley. The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills. Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon and the sea breeze deepens and increases in velocity while spreading inland. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing, which occurs when there is a lack of or little wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

[1] The Coast Range traverses California's west coast from Humboldt County to Santa Barbara County.

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit (°F) cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10°F. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime, the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large. The average low is reported at 40.9°F in January, while the average high is 82.3°F in August (USA.com 2025).

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, thus pollution levels tend to be low (i.e., air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods occur, where mixing and ventilation are low and pollutant levels build up. Rainfall averages 21.90 inches per year in Livermore (USA.com 2025).

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall, winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up valley during the day, and cold air drainage flows move the air mass down valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthy levels.

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions[2] are more common in the summer and fall, and radiation inversions[3] are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

ATTAINMENT STATUS OF THE SFBAAB

The AQMP provides the framework for air quality basins to achieve attainment of the State and federal AAQS through the SIP. Areas that meet AAQS are classified as attainment areas, and areas that do not meet these standards are classified as nonattainment areas. Severity classifications for O_3 range from marginal, moderate, and serious, to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SFBAAB is shown in Table 3.3-3, *Attainment Status of Criteria Pollutants in the SFBAAB.* The SFBAAB is currently designated as a nonattainment area for California and national O_3, California $PM_{2.5}$, and California PM_{10} AAQS.

Table 3.3-3 Attainment Status of Criteria Pollutants in the SFBAAB

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)[1]
Ozone – 8-hour	Nonattainment (serious)	Nonattainment
PM_{10}	Nonattainment	Unclassified/Attainment[2]
$PM_{2.5}$	Nonattainment	Unclassified/Attainment[3]

[2] When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

[3] During the night, the ground cools off, radiating the heat to the sky.

Table 3.3-3 Attainment Status of Criteria Pollutants in the SFBAAB

Pollutant	State	Federal
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
All others	Attainment	Unclassified/Attainment

Source: CARB 2025d.

1. On June 15, 2005, the federal 1-hour Ozone standard was revoked for all areas except certain Early Action Compact (EAC) areas.
2. In December 2014, the USEPA issued final area designations for the 2012 primary annual $PM_{2.5}$ national AAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
3. On February 7, 2024, the national annual $PM_{2.5}$ standard was lowered from 12 µg/m^3 to 9 µg/m^3. Based on 2021-2023 $PM_{2.5}$ air quality monitoring data for the 9.0 µg/m^3 annual $PM_{2.5}$ standard, CARB will recommend to USEPA that the attainment status of the SFBAAB be changed to nonattainment on February 7, 2025.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the EIR Study Area have been documented and measured by the Air District. The Air District has 24 permanent monitoring stations around the Bay Area. The station nearest to the EIR Study Area is the Livermore-793 Rincon Avenue Monitoring Station, which monitors O_3, NO_2, and $PM_{2.5}$. Data for PM_{10} is supplemented by Concord-2975 Treat Boulevard Monitoring Station. Table 3.3-4, *Ambient Air Quality Monitoring Summary*, shows occasional violations of the State/federal O_3 standards and the federal $PM_{2.5}$ standard within the last three years.

Table 3.3-4 Ambient Air Quality Monitoring Summary

	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations[1,2]		
Pollutant/Standard	**2022**	**2023**	**2024**
Ozone (O_3)			
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	2	0	0
State & Federal 8-hour ≥ 0.070 ppm (days exceed threshold)	2	1	0
Max. 1-Hour Conc. (ppm)	0.101	0.088	0.041
Max. 8-Hour Conc. (ppm)	0.077	0.075	0.037
Nitrogen Dioxide (NO_2)			
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0
Max. 1-Hour Conc. (ppb)	0.0421	0.0352	0.0275

Table 3.3-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations[1,2]		
	2022	2023	2024
Coarse Particulates (PM_{10})			
State 24-Hour > 50 µg/m^3 (days exceed threshold)	0	0	0
Federal 24-Hour > 150 µg/m^3 (days exceed threshold)	0	0	0
Max. 24-Hour Conc. (µg/m^3)	33.4	38.8	*
Fine Particulates ($PM_{2.5}$)			
Federal 24-Hour > 35 µg/m^3 (days exceed threshold)	0	1	0
Max. 24-Hour Conc. (µg/m^3)	25.9	43.2	15.8

Source: CARB 2025a.

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; * = Data not available

1. Data for O_3, NO_2, and $PM_{2.5}$ from Livermore-793 Rincon Avenue Monitoring Station. Data for PM_{10} from Concord-2975 Treat Boulevard Monitoring Station.

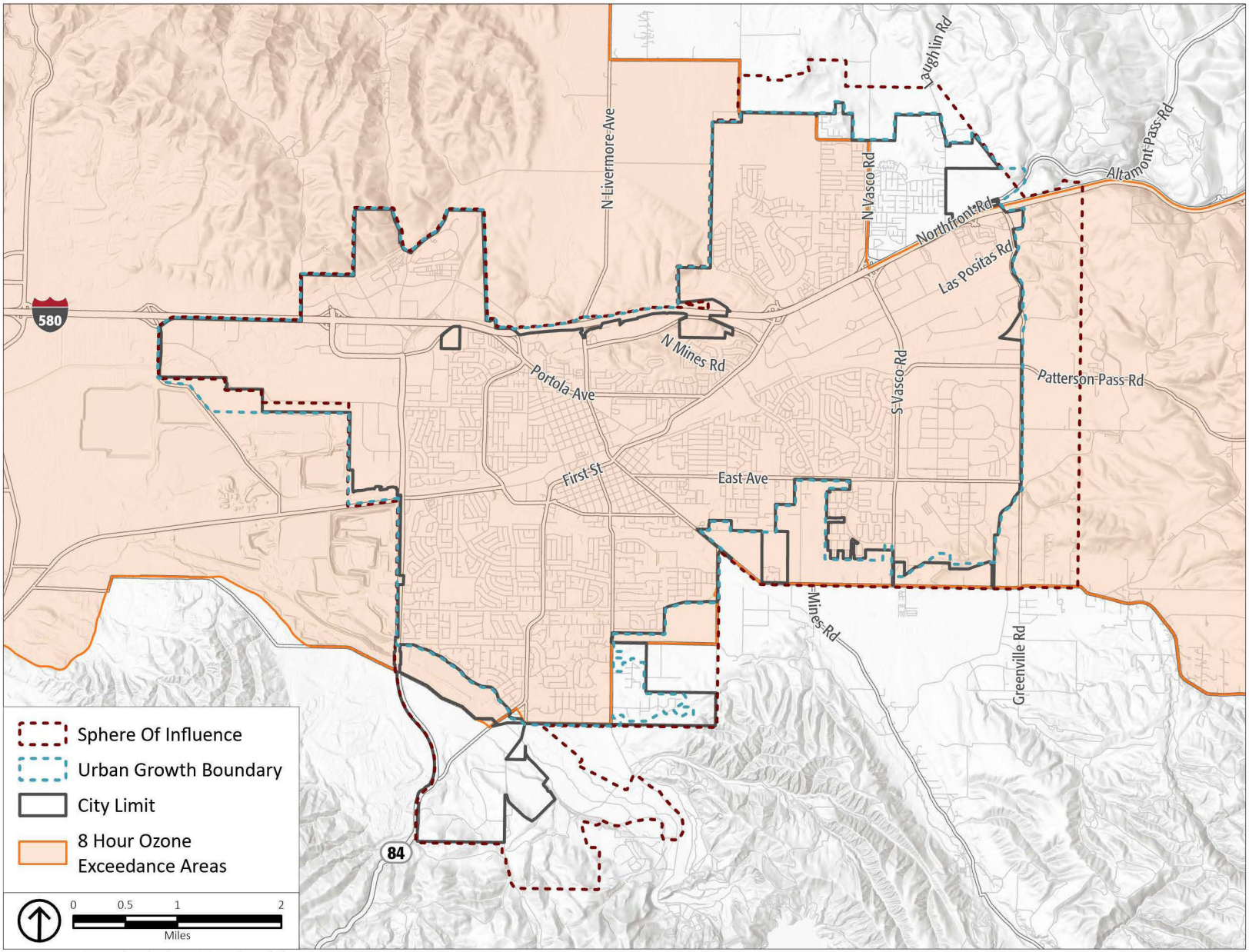
2. Most recent data available as of December 2025.

The Air District also provides data that show areas in the SFBAAB that have elevated pollution levels and are identified as "impacted areas" (see Figure 3.3-1, *Air District Impacted Communities Map*). Based on the Air District's Community Risk Evaluation Program maps, portions of the EIR Study Area are within the eight-hour ozone exceedance area.

Existing Emissions

The EIR Study Area consists of a mix of residential neighborhoods, commercial corridors and centers, mixed-use spaces, industrial districts, open spaces, and community facilities. These uses currently generate criteria air pollutant emissions from natural gas use for energy, heating, and cooking; vehicle trips associated with each land use; and area sources such as landscaping equipment and consumer cleaning products.[4] Table 3.3-5, *Existing Criteria Air Pollutant Emissions Inventory in the EIR Study Area*, shows the average daily emissions inventory currently associated with the existing land uses in the EIR Study Area.

[4] Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by the Air District and are not under the jurisdiction of the City of Livermore.



Source: Bay Area Air District, 2014; City of Livermore, 2022.

Figure 3.3-1
Air District Impacted Communities Map

Table 3.3-5 Existing Criteria Air Pollutant Emissions Inventory in the EIR Study Area

Sector	ROG	NO_X	PM_{10}	$PM_{2.5}$
Existing Criteria Air Pollutant Emissions (Tons/Year)				
Transportation[1]	20	297	4	8
Energy[2]	5	91	7	7
Off-Road Equipment[3]	74	54	2	1
Consumer Products[4]	249	—	—	—
Total	***348***	***442***	***13***	***16***
Existing Criteria Air Pollutant Emissions (lbs/day)				
Transportation[1]	117	1,714	23	46
Energy[2]	29	498	40	40
Off-Road Equipment[3]	405	297	10	7
Consumer Products[4]	1,363	—	—	—
Total	***1,913***	***2,509***	***73***	***93***

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: ROG = reactive organic gases; NO_x = nitrogen oxides; $PM_{2.5}$ =suspended particulate matter; PM_{10} = suspended particulate matter. Totals may not sum due to rounding.

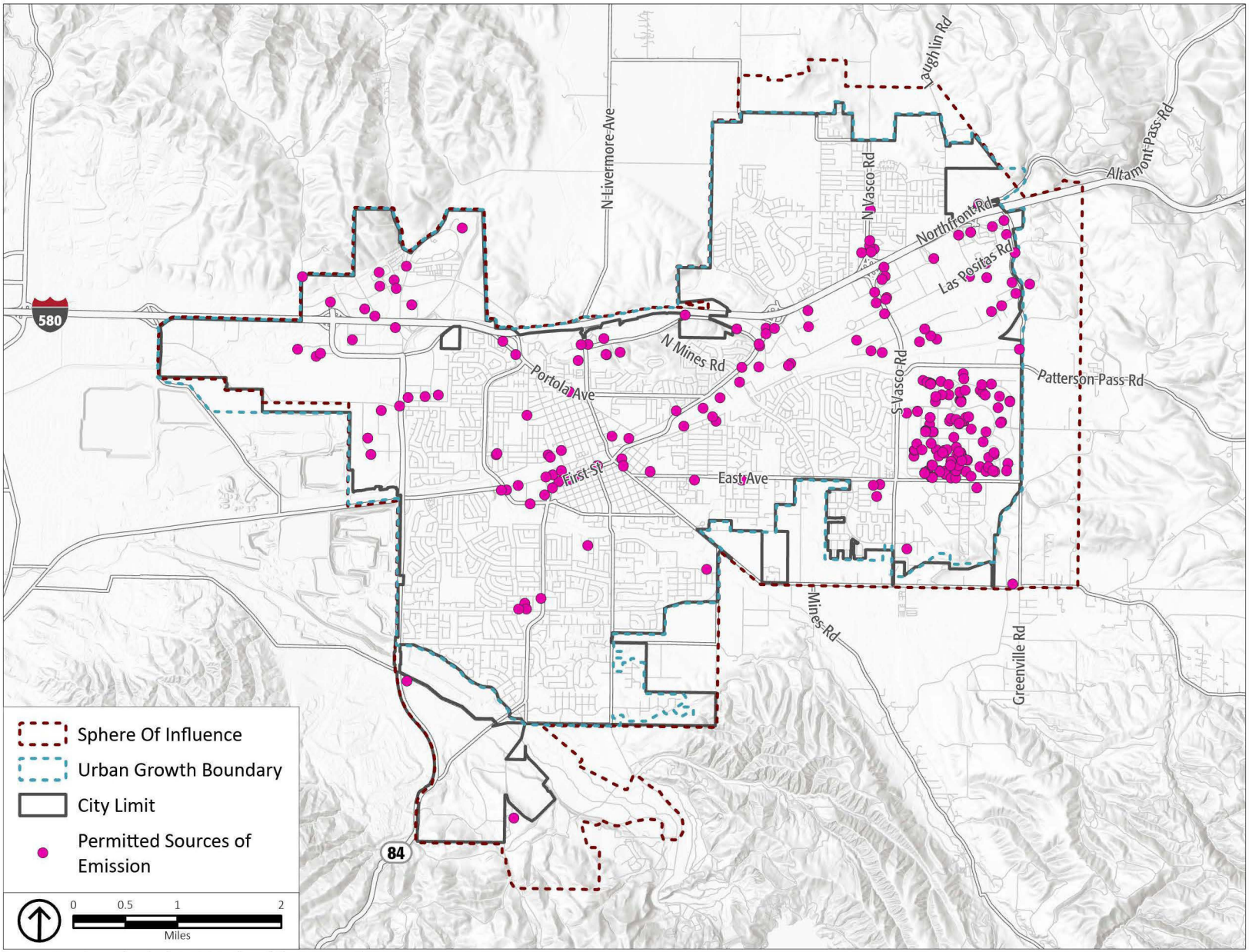
1. EMFAC2021 Version 1.0.2 emission rates with adjusted factors. Based on daily VMT provided by Kittelson & Associates, Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*).
2. Based on natural gas use provided by PG&E and Ava Energy.
3. Off-Road Web Query Version 1.1.0 Emissions Inventory.
4. Based on CalEEMod 2022 User's Guide methodology.

Permitted Sources of Emissions

The Air District regulates stationary sources of emissions through source-specific rules that have been adopted to reduce criteria air pollutant emissions and TACs. Point sources of emissions (also referred to as stationary source emissions) within the EIR Study Area are identified in Figure 3.3-2, *Permitted Sources of Emissions*. Permitted stationary source emissions generate criteria air pollutant emissions and TACs from boilers, emergency generators, and gas stations.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Disadvantaged communities identified in CalEnviroScreen 4.0 (CES) may be disproportionately affected by and vulnerable to poor air quality (City of Livermore 2022a). As previously mentioned, under SB 535, disadvantaged communities are defined as the top 25 percent scoring areas from CES, along with other areas with high amounts of pollution and low populations.



Source: Bay Area Air District, 2014; City of Livermore, 2022.

Figure 3.3-2
Permitted Sources of Emissions

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because many of the workers tend to stay indoors most of the time.

Placement of New Sensitive Receptors

Because placement of sensitive land uses falls outside CARB's jurisdiction, CARB developed and approved the Air Quality and Land Use Handbook: A Community Health Perspective to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities (CARB 2005). This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources.

CARB's recommendations on the siting of new sensitive land uses identified in Table 3.3-6, *CARB Recommendations for Siting New Sensitive Land Uses*, were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic TACs that constitute most of the known health risks from motor vehicle traffic: DPM from trucks and benzene and 1,3-butadiene from passenger vehicles.

Table 3.3-6 CARB Recommendations for Siting New Sensitive Land Uses

Source/Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.

Table 3.3-6 CARB Recommendations for Siting New Sensitive Land Uses

Source/Category	Advisory Recommendations
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: CARB 2005.

In 2017, CARB provided a supplemental technical advisory to the handbook for near-roadway air pollution exposure, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways.* Strategies include practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution (or the dilution of pollution in the air), or remove pollution from the air (CARB 2017).

CalEnviroScreen Air Quality Indicators

CES is a mapping tool that helps identify the California communities that are most affected by sources of pollution and where people are especially vulnerable to pollution's effects. People in environmental justice (EJ) areas identified by CES Version 4.0 (CES4) may be disproportionately affected by and vulnerable to poor air quality. CES's "pollution burden" map identifies communities that are exposed to pollution from human activities, such as air pollution (ozone, $PM_{2.5}$, DPM), water pollution (drinking water contaminants), hazardous materials (pesticide use, children's lead exposure, toxic releases), and traffic density.

Figure 3.3-3, *CES4 Indicator - Pollution Burden by Percentile*, shows the pollution burden percentile for the EIR Study Area by census tract. The CES pollution burden scope considers the disproportionate effect of pollution on EJ communities because the score weighs socioeconomic factors (e.g., educational attainment, poverty) and sensitivity of the population (e.g., asthma rates, cardiovascular disease). Additionally, Figure 3.3-4, *CES4 Indicator - Diesel Particulate Matter by Percentile*, shows the DPM percentile for the EIR Study Area by census tract. This figure shows that the DPM burden for the EIR Study Area relative to California is closely correlated with potential relative health risk. For instance, areas shown in the 10-20 DPM percentile represent DPM exposure that is higher than 10 to 20 percent of the exposure experienced in Census tracts statewide. Traffic along Interstate 580 (I-580) is a significant source of DPM emissions that affects the areas closest to the freeway, particularly south of I-580. The DPM emissions in these Census tracts are higher than 71 to 77 percent of the Census tracts in California.

3.3.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant air quality impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan.

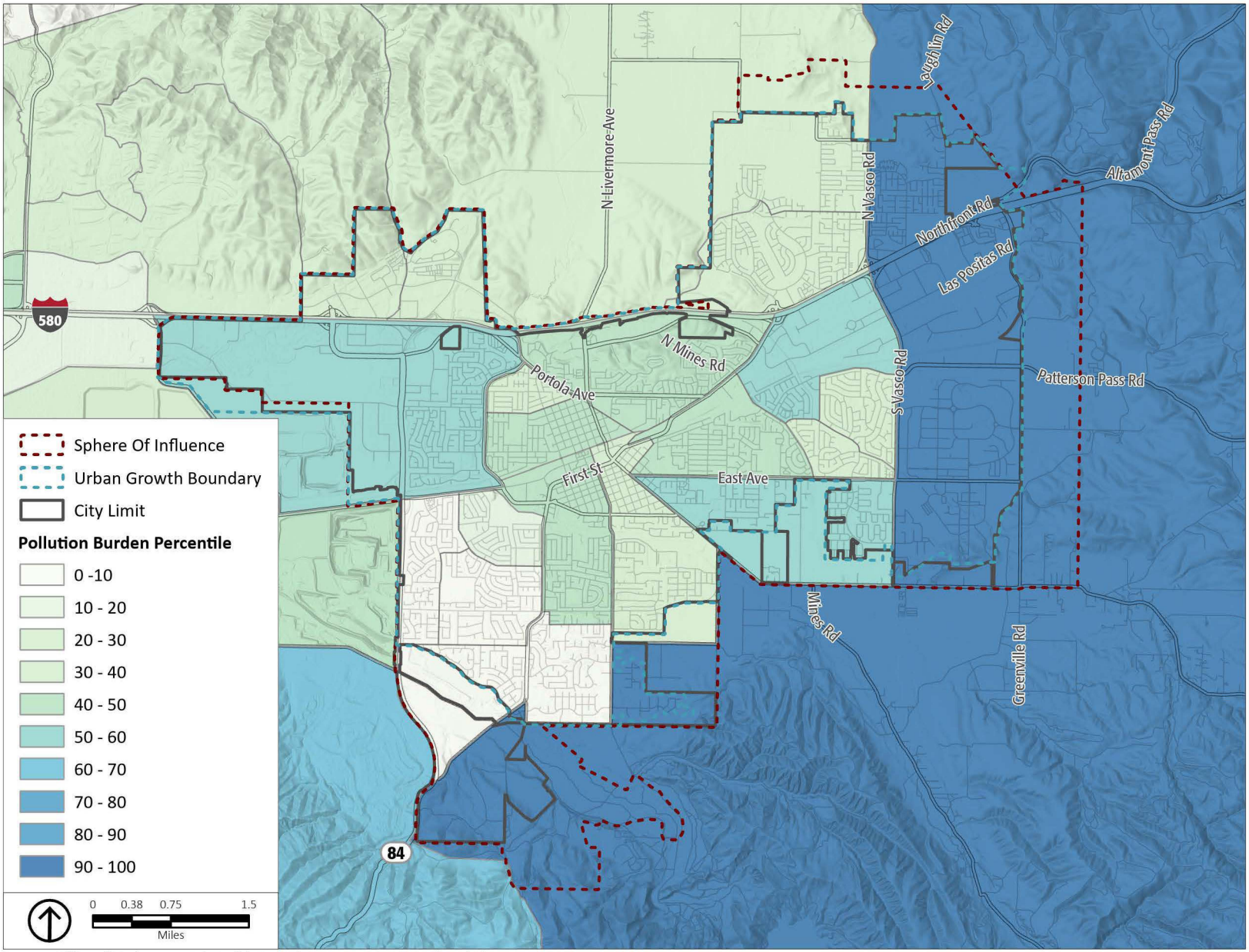
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

c) Expose sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

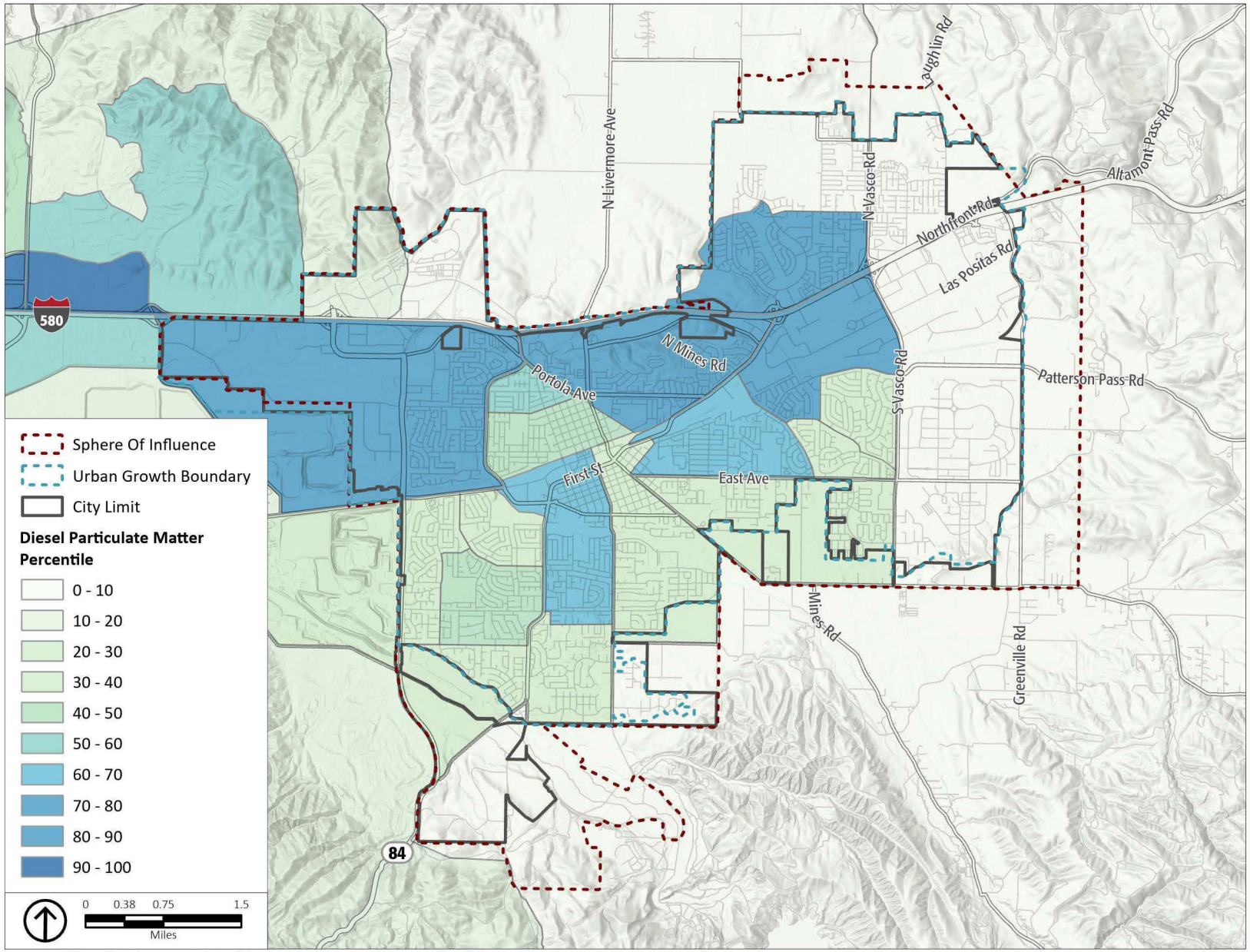
AIR DISTRICT PLAN-LEVEL SIGNIFICANCE CRITERIA

The Air District's *CEQA Air Quality Guidelines* were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, GHG emissions, and environmental justice.



Source: Office of Environmental Health Hazard Assessment, 2021; City of Livermore, 2022.

Figure 3.3-3
CES4 Indicator – Pollution Burden by Percentile



Source: Office of Environmental Health Hazard Assessment, 2021; City of Livermore, 2022.

Figure 3.3-4
CES4 Indicator – Diesel Particulate Matter by Percentile

In June 2010, the Air District's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which the Air District believed air pollution emissions would cause significant environmental impacts under CEQA. The Air District published a new version of the Guidelines dated April 2023 (Air District 2023), which was used to prepare the analysis in this Draft EIR.

Clean Air Plan Consistency

Under its plan-level review criteria, which apply to long-range plans such as the proposed Project, the Air District recommends a consistency evaluation of the plan with its current AQMP control measures. The Air District considers a plan to be consistent with the applicable AQMP, which is currently the 2017 Clean Air Plan, if it is consistent with below considerations:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measure?
- Does the project result in VMT growth that is equal to or less than the projected population growth?

Criteria Air Pollutant Emissions and Precursors

The Air District's regional significance criteria for projects that exceed the screening thresholds are shown in Table 3.3-7, *Air District Regional Criteria Air Pollutant Significance Thresholds*. Criteria for both the construction and operational phases of the project are shown.

Table 3.3-7 Air District Regional Criteria Air Pollutant Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
Project-Level			
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None
Plan-Level			
All Criteria Air Pollutants	No Net Increase		

Source: Air District 2023.

Notes: ROG = reactive organic gases; NO_x = nitrogen oxides; $PM_{2.5}$ = suspended particulate matter; PM_{10} = suspended particulate matter

While the proposed Project is a local long-range plan, the land use pattern envisioned by the proposed Project has regional implications, such as changes to interjurisdictional transportation behavior and jobs-to-housing ratios; therefore, according to the Air District's CEQA Air Quality Guidelines, it would have a less-than-significant impact related to air quality if it demonstrates a "no net increase" in criteria air pollutants. To demonstrate a no net increase, the Air District's CEQA Guidelines require two comparative analyses for the projected future emissions:

- **Scenario 1: Project to Existing Conditions (base-to-future-year comparison).** Compare the existing (base year) emissions with projected future year emissions plus the regional plan's emissions (base year/regional plan comparison).
- **Scenario 2: Project to Future No Project Conditions (future baseline comparison).** Compare projected future year emissions with projected future year emissions plus the regional plan's emissions (no regional plan/regional plan comparison). This scenario isolates changes in emissions due solely to the project since both the scenarios consider emissions reductions from federal and state regulations.

If both comparative analyses demonstrate no net increase in emissions, the air quality and GHG impacts of the regional plan would be less than significant.

Health Effects of Criteria Air Pollutants

If projects exceed the emissions in Table 3.3-7, emissions would cumulatively contribute to an existing or projected nonattainment status (see Table 3.3-3) and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

However, for projects that exceed the emissions in Table 3.3-7, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the SFBAAB would be affected by the health effects cited above. The Air District is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SFBAAB and, at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978* (Friant Ranch).

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting

ground-level ozone concentrations in relation to the national AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the USEPA, the air districts prepare AQMPs that detail regional programs to attain the AAQS. However, if a project exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until such time the attainment standards are met in the SFBAAB.

Receptor Exposure to Pollutant Concentrations

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). Under a plan-level review, the Air District does not require an evaluation of CO hotspots. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and national AAQS for CO emissions, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, the Air District does not require a CO hotspot analysis if the following criteria are met (Air District 2023):

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

Community Risk and Hazards

The Air District's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The proposed Project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at nearby receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations (see Table 3.3-7). The Air District has adopted screening tables for air toxics evaluation during construction. Construction-related TAC and $PM_{2.5}$ impacts are addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site and on-site receptors, as applicable (Air District 2023).

Community Risk and Hazards: Project

Project-level emissions of TACs or $PM_{2.5}$ from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk in the absence of a qualified community risk reduction plan (Air District 2023):

- An excess (i.e., increased) cancer risk level of more than 10 in one million
- Noncancer (i.e., chronic or acute) hazard index greater than 1.0
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$

The EIR Study Area does not currently contain an adopted community risk reduction plan.

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within a 1,000-foot evaluation zone. A project would have a cumulatively considerable impact 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 location of a receptor, plus the contribution from the project, exceeds any of the following in the absence of a qualified community risk reduction plan:

- An excess cancer risk level of more than 100 in one million (from all sources)
- Chronic noncancer hazard index (from all local sources) greater than 10.0
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$ (from all local sources)

In February 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer-causing chemicals, and age-specific breathing rate (Air District 2023).

Odor Impacts

The Air District's thresholds for odors are qualitative based on the Air District's Regulation 7, *Odorous Substances*. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. In addition, odors are also regulated under Air District Regulation 1, Rule 1-301, *Public Nuisance*, as described previously. Under Air District's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. The Air District has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants (Air District 2023). For a

plan-level analysis, the Air District requires the potential existing and planned locations of odor sources to be identified and policies to reduce odors.

3.3.4 Project Impact Analysis

The following air quality analysis is based on the conditions present at the time the Notice of Preparation was issued in March 2023. The Travel Demand Model used in the traffic analysis is keyed to a base year of 2020. The 2020 data was adjusted for population and employment in in calendar year 2023. Therefore, the impacts of the proposed Project are largely compared to existing conditions in 2023.

METHODOLOGY

Emissions Quantification

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed Project. The Air District has published CEQA Guidelines that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. The criteria air pollutant emissions inventory includes the following sectors:

- **Transportation:** Transportation emissions forecasts were modeled using emission rates from CARB's EMFAC2021, version 1.0.2, web database, including the USEPA's Off-Model Adjustment Factors to Remove the Impact of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Heavy-Duty Omnibus and Warranty Phase I Regulations ("EMFAC2021 adjustment factors"). Model runs were based on daily VMT data provided by Kittelson and Associates, Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*) adjusted for the population and employment in the EIR Study Area in calendar year 2023 (existing) and 2045 (forecasted) emission rates. The VMT is based on the origin-destination method using the Alameda Countywide Transportation Model and based on the recommendations of CARB's Regional Targets Advisory Committee under SB 375. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement (CARB 2025b), daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.
- **Energy**: Energy use for residential and nonresidential land uses in the EIR Study Area was modeled using natural gas data provided by PG&E and Ava Energy. Energy usage for national laboratories (Lawrence Livermore National Laboratory and Sandia National Laboratories) was estimated based on facility square footage and annual energy use factors by land use type from the CalEEMod Users Guide. Residential energy and non-residential energy forecasts are adjusted for increases in housing units and non-residential square footage, respectively.

- **Off-road Equipment**: OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB. Off-road equipment in the EIR Study Area is based on year 2023 (existing) and 2045 (forecasted) emission rates for Alameda County obtained from CARB's Off-Road Web Query, version 1.1.0 and 1.1.2, web database. OFFROAD was used to estimate criteria air pollutant emissions from agricultural, construction equipment, lawn and garden, and light commercial/industrial equipment in the county and EIR Study Area. Agricultural equipment is based on the percentage of farmland acreage in the EIR Study Area compared to Alameda County and forecasted based on the change in farmland acreage in the EIR Study Area. Because the OFFROAD database is based on county-level data, construction equipment use in the EIR Study Area is estimated based on the proportion of building permits issued in Alameda County that are issued in the EIR Study Area, based on data compiled by the US Census, and conservatively assumes that construction equipment use for the forecast year does not account for equipment or fleet turnover. Similarly, lawn and garden equipment is based on the percentage of housing units in the EIR Study Area compared to Alameda County and forecast based on the change in housing growth in the EIR Study Area. Light commercial equipment is estimated based on employment for the EIR Study Area as a percentage of Alameda County and forecast based on the change in employment in the EIR Study Area.
- **Area Sources:** Area sources are based on the emission factors from the latest CalEEMod Users Guide for emissions generated from use of household consumer products and cleaning supplies.

Impacts of the Environment on a Project

The Air District's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential quantitative impacts from placing sensitive receptors proximate to major air pollutant sources as part of individual projects. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high-volume roadways, large distribution centers, and permitted sources. For plan-level impact determination, such as this EIR, which evaluates potential impacts associated with the proposed Project, the analysis is limited to whether the plan has policies or overlay zones to reduce impacts. The Air District's CEQA Guidelines refers to CARB's *Air Quality and Land Use Handbook* for recommended planning goals, policies, and objectives to avoid or reduce impacts on sensitive receptors, including establishing buffer distances when siting new sensitive receptors near major air pollutant sources.

Implementation of the proposed Project could result in siting sensitive uses (e.g., residential) near major sources of emissions (e.g., freeways, industrial uses, etc.). Developing new sensitive land uses near sources of emissions could expose people to potential air quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the proposed Project on the environment, not the significant effects of the environment on the proposed Project, as determined by the California Supreme Court in

California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in the impact discussion that follows.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than significant. The proposed Project plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

The Air District requires a consistency evaluation of a proposed plan with the current AQMP control measures. As previously discussed, the Air District considers project consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- Is the project VMT or vehicle trip increase less than or equal to the projected population increase?

2017 Clean Air Plan Goals

The primary goals of the 2017 Clean Air Plan are to attain the State and federal AAQS, reduce population exposure and protect public health in the Bay Area, reduce GHG emissions, and protect the climate. Furthermore, the 2017 Clean Air Plan lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and the long-term GHG reduction goals.

Attain Air Quality Standards

The 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG, which are based in part on cities' General Plan land use designations. These demographic projections are incorporated into Plan Bay Area. Demographic trends incorporated into Plan Bay Area determine projected VMT in the Bay Area, which the Air District uses to forecast future air quality trends.

The 2017 Clean Air Plan is based on data used in Plan Bay Area 2040. Plan Bay Area 2040 has since been superseded by Plan Bay Area 2050 as a regional growth projection and the expected buildout under the proposed Project would not exceed the Plan Bay Area 2050 regional growth projections for the county.[5] As further described in Section 3.14, *Population and Housing*, the ABAG/MTC projections for Alameda County estimate 847,000 households and 1,182,000 jobs by 2050. The addition of 16,610 housing units and 6,110 jobs associated with the proposed Project would not result in an exceedance of these projections for the county (refer to Table 3.14-3, *Proposed General Plan 2045 Growth Projections*, in Section 3.14).

The proposed Project would also ensure that residents and workers in the EIR Study Area have sufficient access to affordable housing. The proposed Project allows for housing and jobs in the Downtown PDA and Transit Priority Area (TPA), the Isabel Avenue/BART Station Planning Area PDA and TPA, and the McGrath Southfront PDA and TPA, which are areas designated for growth under Plan Bay Area 2050. The Land Use (LU) Element of the proposed General Plan 2045 also provides goals and policies that would serve to minimize potential adverse impacts related to growth in the EIR Study Area (see impact discussion (a) in Section 3.14).

In addition, as shown in Table 3.3-8, *Comparison of the Change in Population and VMT in the EIR Study Area*, the proposed Project would result in an overall decrease in VMT per service population compared to existing conditions.

Table 3.3-8 Comparison of the Change in Population and VMT in the EIR Study Area

Category	Baseline Year (2023)	Forecasted Year (2045)	Change from Baseline	
			Change	%
Service Population[1]	145,150	195,080	49,930	34%
Daily VMT[2]	2,235,816	2,872,190	636,374	28%
Daily VMT/Service Population	15.40	14.74	-0.68	-4%

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: VMT = vehicle miles traveled

1. Service Population accounts for total population and jobs. See Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study* Area, in Chapter 2, *Project Description*.
2. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee created under SB 375.

Implementation of the proposed Project would not introduce substantial unplanned growth in the EIR Study Area, and the proposed Project would be consistent with the infill focus of Plan Bay Area 2050. Therefore, the emissions resulting from future development associated with the

[5] It should be noted that Plan Bay Area 2040 projections have been superseded by Plan Bay Area 2050 projections, but ABAG/MTC has not made updated projections available at the jurisdiction level, so it is not possible to compare projected growth under the proposed Project to Plan Bay Area 2050 projections.

proposed Project are included in the Air District projections, and future development would not hinder the Air District's ability to attain the California or national AAQS.

Reduce Population Exposure and Protect Public Health

While it is generally not within the purview of CEQA to analyze impacts of the environment on a project, the proposed Project includes policy guidance which would ensure priority of the health of Livermore residents through enforcement of the LMC and incorporation of design features to minimize air quality impacts and to achieve appropriate health standards.

Future development could result in new sources of TACs and $PM_{2.5}$. Stationary sources, including smaller stationary sources associated with residential development (e.g., emergency generators and boilers), are subject to review by the Air District as part of the permitting process. Adherence to the Air District permitting regulations would ensure that new stationary sources of TACs do not expose populations to significant health risk. Mobile sources of air toxics (e.g., truck idling) are not regulated directly by the Air District. However, residential development would not generate substantial truck traffic or idling. Furthermore, individual development projects subject to CEQA would be required to be evaluated against the project-level risk thresholds established by the Air District and incorporate features and/or mitigation measures to reduce emissions.

Reduce GHG Emissions and Protect the Climate

Consistency of the proposed Project with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed in Section 3.8, *Greenhouse Gas Emissions*. Future development would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of SB 32 and AB 1279. The proposed Project is consistent with regional strategies for infill development identified in Plan Bay Area 2050 through the proposed General Plan 2045 goals and policies previously identified in Table 3.3-9 for Transportation Control Measures.

Furthermore, impact discussion (a) in Section 3.8, *Greenhouse Gas Emissions*, identifies that the proposed Project would result in a net decrease in GHG emissions and in GHG emissions per service population. Therefore, the proposed Project is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate.

2017 Clean Air Plan Control Measures

Table 3.3-9, *Control Measures from the Air District 2017 Clean Air Plan*, identifies the control measures included in the 2017 Clean Air Plan that are required by the Air District to reduce emissions for a wide range of both stationary and mobile sources. As shown in Table 3.3-9, the proposed Project would not conflict with the 2017 Clean Air Plan and would not hinder the Air District from implementing the control measures in the 2017 Clean Air Plan.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
Stationary Source Control Measures	▪ SS 1 – Fluid Catalytic Cracking in Refineries ▪ SS 2 – Equipment Leaks ▪ SS 3 – Cooling Towers ▪ SS 4 – Refinery Flares ▪ SS 5 – Sulfur Recovery Units ▪ SS 6 – Refinery Fuel Gas ▪ SS 7 – Sulfuric Acid Plants ▪ SS 8 – Sulfur Dioxide from Coke Calcining ▪ SS 9 – Enhanced NSR Enforcement for Changes in Crude Slate ▪ SS 10 – Petroleum Refining Emissions Tracking ▪ SS 11 – Petroleum Refining Facility-Wide Emission Limits ▪ SS 12 – Petroleum Refining Climate Impacts Limit ▪ SS 13 – Oil and Gas Production, Processing and Storage ▪ SS 14 – Methane from Capped Wells ▪ SS 15 – Natural Gas Processing and Distribution ▪ SS 16 – Basin-Wide Methane Strategy ▪ SS 17 – GHG BACT Threshold ▪ SS 18 – Basin-Wide Combustion Strategy ▪ SS 19 – Portland Cement ▪ SS 20 – Air Toxics Risk Cap and Reduction from Existing Facilities ▪ SS 21 – New Source Review for Toxics ▪ SS 22 – Stationary Gas Turbines ▪ SS 23 – Biogas Flares ▪ SS 24 – Sulfur Content Limits of Liquid Fuels	**Consistent.** Stationary and area sources are regulated directly by the Air District; therefore, as the implementing agency, new stationary and area sources within the EIR Study Area would be required to comply with Air District regulations. The Air District routinely adopts/revises rules or regulations to implement the stationary source (SS) control measures to reduce stationary source emissions. Future development within the buildout horizon of the proposed Project involves typical urban residential and commercial uses that would not include major stationary sources of emissions. Boilers and emergency generators for multi-family residential products would be required to follow the Air District's permitting requirements. Major stationary sources are more commonly associated with industrial manufacturing or warehousing. The proposed Project would accommodate new industrial growth in the EIR Study Area, including in the Midtown Specific Plan area. However, the Air District has existing regulations in place to ensure future development would not conflict with the applicable stationary source control measures (i.e., Best Available Control Technology [BACT] and Best Available Control Technology for Toxics [TBACT] requirements for commonly permitted sources subject to New Source Review in the Bay Area). Non-residential land uses may generate small quantities of stationary source emissions during project operation (e.g., emergency generators, dry cleaners, and gasoline dispensing facilities); however, these small-quantity generators would require review by the Air District for permitted sources of air toxics, which would ensure consistency with the 2017 Clean Air Plan. Overall, implementation of the proposed Project would not hinder the ability of the Air District to implement these stationary source control measures.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
	▪ SS 25 – Coatings, Solvents, Lubricants, Sealants and Adhesives ▪ SS 26 – Surface Prep and Cleaning Solvent ▪ SS 27 – Digital Printing ▪ SS 28 – LPG, Propane, Butane ▪ SS 29 – Asphaltic Concrete ▪ SS 30 – Residential Fan Type Furnaces ▪ SS 31 – General Particulate Matter Emission Limitation ▪ SS 32 – Emergency Backup Generators ▪ SS 33 – Commercial Cooking Equipment ▪ SS 34 – Wood Smoke ▪ SS 35 – PM from Bulk Material Storage, Handling and Transport, Including Coke and Coal ▪ SS 36 – PM from Trackout ▪ SS 37 – PM from Asphalt Operations ▪ SS 38 – Fugitive Dust ▪ SS 39 – Enhanced Air Quality Monitoring ▪ SS 40 – Odors	
Transportation Control Measures	▪ TR 1 – Clean Air Teleworking Initiative ▪ TR 2 – Trip Reduction Programs ▪ TR 3 – Local and Regional Bus Service ▪ TR 4 – Local and Regional Rail Service ▪ TR 5 – Transit Efficiency and Use ▪ TR 6 – Freeway and Arterial Operations ▪ TR 7 – Safe Routes to Schools and Safe Routes to Transit ▪ TR 8 – Ridesharing, Last-Mile Connection	**Consistent.** Transportation (TR) control measures are strategies to reduce vehicle emissions by reducing vehicle trip frequencies, personal vehicle reliance, vehicle trip distance, and vehicle idling. Although most of the transportation control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. The Land Use (LU) Element, Community Identity (CI) Element, Mobility (M) Element, and Open Space and

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
	▪ TR 9 – Bicycle and Pedestrian Access and Facilities ▪ TR 10 – Land Use Strategies ▪ TR 11 – Value Pricing ▪ TR 12 – Smart Driving ▪ TR 13 – Parking Policies ▪ TR 14 – Cars and Light Trucks ▪ TR 15 – Public Outreach and Education ▪ TR 16 – Indirect Source Review ▪ TR 17 – Planes ▪ TR 18 – Goods Movement ▪ TR 19 – Medium and Heavy Duty Trucks ▪ TR 20 – Ocean Going Vessels ▪ TR 21 – Commercial Harbor Craft ▪ TR 22 – Construction, Freight and Farming Equipment ▪ TR 23 – Lawn and Garden Equipment	Conservation (OS) Element contain the following goals and policies to help reduce vehicle emissions: ▪ **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities. ○ **Policy LU-1.7: Transit-Supportive Development.** Facilitate new development in major commercial and transit-supportive development areas, including the Downtown, Isabel Neighborhood, Brisa Neighborhood, and Midtown area, and appropriate areas around Livermore Municipal Airport, to maximize the density and intensity specified in the Land Use Plan and to efficiently use land and infrastructure resources. ○ **Policy LU-1.8: Sustainable Land Use Practices.** Advance land use strategies that reduce greenhouse gas emissions and vehicle miles traveled, including compact development, walkable and bikeable neighborhoods, and access to transit and services. ○ **Policy LU-1.9: Infill and Reinvestment.** Maximize infill development for locations near transit, nodes for active transportation, or major commercial sites or other activity centers. Update the Development Code and Specific Plans accordingly. ▪ **Goal LU-2:** Establish a coherent and logical pattern of urban uses that protects and enhances open space and agricultural uses by providing a clear and permanent boundary for urban uses within the City's Planning Area. The provisions of the North Livermore Urban Growth Boundary Initiative, and as readopted by the South Livermore Urban Growth Boundary Initiative, shall be amended only by a vote of the people. ○ **Policy LU-2.1 Urban Growth Boundary.** Urban development and uses inconsistent with the city's General Plan land use designations shall not be permitted beyond the Urban Growth Boundary as described in Appendix A (of the General Plan). Limit residential development to areas within the Urban Growth Boundary. Non-urban uses, such as

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		agriculture, parks, and open space, and other uses consistent with the city's general plan land use designations may be permitted within and beyond the Urban Growth Boundary. ▪ **Goal LU-4:** Establish mixed-use districts that integrate housing, commercial, and employment uses to increase housing supply, support economic vitality, and create walkable neighborhoods with a strong sense of place. ○ **Policy LU-4.1: Mixed Use District Planning.** Plan and implement high-density mixed-use districts in strategic locations, such as near transit, commercial hubs, and employment centers, to integrate housing, commercial, and employment uses. These districts should be designed to be walkable, inclusive, and compatible with surrounding neighborhoods, supporting the needs of residents, employers, and the workforce. ○ **Policy LU-4.2: Housing Integration and Livability.** Facilitate the inclusion of diverse and affordable housing types within mixed-use developments to promote proximity between jobs and housing, support inclusive communities, and reduce vehicle miles traveled (VMT). Ensure residential components are designed to minimize exposure to noise and traffic impacts, particularly along arterial corridors. ▪ **Goal LU-13:** Develop the Isabel Neighborhood as a complete neighborhood, with access to open space and community gathering spaces, a well-connected bike and pedestrian network, and high-quality design. ○ **Policy LU-13.1: Complete Neighborhood and a Mix of Uses.** Provide a mix of residential, commercial retail and services, and job- generating uses in the Isabel Neighborhood Specific Plan to create a safe and walkable neighborhood. Neighborhood development should support transit ridership (e.g., bus) in both commute directions and should not be reliant on the development of a future transit station.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		▪ **Goal CI-13:** Maintain high standards of urban design in Livermore. o **Policy CI-13.3: High-Quality, Contextual, and Human-Scaled Design.** Require high-quality design that addresses community, site, building, and landscape design. New development and redevelopment shall consider the context and character of surrounding land uses and incorporate human-scale, pedestrian-oriented features to create an engaging and compatible built environment. o **Policy CI-13.4 Sustainable Design Requirements.** Where appropriate, require design and amenities in new development and redevelopment that promote sustainability and improve the public realm, including, but not limited to: a. Interconnected street layout b. Clustering of buildings c. Landscaping on each lot d. Facilitating pedestrian activity ▪ **Goal MO-1:** Design and maintain streets that are safe, comfortable, convenient, and accommodate all users. o **Policy MO-1.1: Complete Streets Approach.** Plan for Complete Streets that support all transportation systems throughout the city and consider and balance the needs of all users, including vulnerable road users and underserved communities. ▪ **Goal MO-2:** Reduce the number and length of single-occupancy vehicle trips. o **Policy MO-2.1: Transportation Mode Choice.** Support and provide viable transportation alternatives to reduce vehicle miles traveled. o **Policy MO-2.2: Transportation Priorities.** Make transit and active transportation safe and feasible choices for residents by prioritizing transportation modes as follows: (1) public transit and active transportation, (2) zero-emission vehicles, and (3) fossil fuel vehicles.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		Support this prioritization through funding, development standards, education, and other allocation of resources. ○ **Policy MO-2.4: Transportation Demand Management (TDM) Implementation.** Promote and implement Transportation Demand Management strategies to reduce vehicle miles traveled and reliance on single-occupancy vehicles across all development types. A. New Development: Require Transportation Demand Management measures through development agreements, partnerships with Transportation Management Associations (TMAs), and collaboration with regional stakeholders. B. Existing Development: Encourage adoption of Transportation Demand Management measures by offering incentives such as grants, tax benefits, or reduced fees. C. Organizational Support: Provide technical assistance for the formation and operation of Transportation Management Associations and other entities that facilitate Transportation Demand Management programs. ▪ **Goal MO-3:** Provide comfortable access to jobs, schools, recreation, shopping, and transit on foot or by bicycle as part of daily life in a healthy and active community. ○ **Policy MO-3.1: Active Transportation Plan.** Regularly update and implement the City's Active Transportation Plan as a guide for developing pedestrian, bicycle, and trail networks. ○ **Policy MO-3.2: Bicycle/Pedestrian Connectivity.** Improve connectivity for cyclists and pedestrians between and through neighborhoods and to and from activity centers in collaboration with the community and stakeholders.

		▪ **Goal MO-4:** Make transit a viable option by supporting frequent, reliable, cost-efficient, and connected service. o **Policy MO-4.1: Local Transit Ridership.** Increase local transit ridership and service as an alternative to driving by supporting Livermore Amador Valley Transit Authority and Altamont Corridor Express services. ▪ **Goal MO-11:** Build a values-driven regulatory, management, and partnership framework that flexibly encourages beneficial transportation technologies in service of City and community goals. o **Policy MO-11.5: Intelligent Transportation Systems.** Evaluate and deploy Intelligent Transportation Systems measures to efficiently manage traffic operations and incident response, enhance transit service efficiency, and better detect and prioritize the travel and safety of people walking and biking. ▪ **Goal OS-6:** Protect and improve Livermore's air quality. o **Policy OS-6.10: Vehicle Emissions Reduction.** Work with regional municipalities and State agencies to reduce automobile-related vehicle emissions. o **Policy OS-6.11: Vehicle Trip Reduction Incentives.** Develop incentives to reduce vehicle trips and increase ridesharing to reduce pollutants generated by vehicular combustion engines. o **Policy OS-6.12: Anti-Idling Requirements.** Reduce and limit idling of municipal, community, and/or commercial vehicles. o **Policy OS-6.16: Privately Owned Zero-Emission Equipment.** Work with local and regional partners to publicize the advantage of zero-emission equipment and any available financial incentives. o **Policy OS-6.17: Low-Emission City Vehicles.** Purchase City vehicles that have alternative fuel systems with reduced emissions as suitable models are available. Therefore, implementation of the proposed Project would not conflict with these control measures.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
Energy and Climate Control Measures	▪ EN 1 – Decarbonize Electricity Production ▪ EN 2 – Renewable Energy Decrease Electricity Demand	**Consistent.** The energy and climate (EN) control measures are intended to reduce energy use to reduce adverse air quality emissions. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. The Open Space and Conservation (OS) Element contains the following goal and policies that align with the City's goals to meet the State's carbon neutrality initiatives: ▪ **Goal OS-7:** Make Livermore strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate. o **Policy OS-7.1: Climate Action Plan Updates.** Update the Livermore Climate Action Plan (CAP) at least every five years, maintaining the CAP as a Qualified Greenhouse Gas (GHG) Reduction Strategy under the Guidelines for the California Environmental Quality Act as laid out by the State and Bay Area Air Quality Management District. The CAP shall include an inventory of the level of GHG emissions within the city for a recent year, in comparison to a 2005 baseline, and shall set out specific policies and actions to be undertaken by the City to reduce GHG emissions to a level that meets or exceeds State GHG reduction targets. The policies and actions will include incentives, actions, and requirements to reduce the city's GHG emissions, the GHG emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce GHG emissions. Updates to the CAP will include a public and stakeholder engagement process. o **Policy OS-7.2: Climate Action Plan Implementation.** Continue to implement the Climate Action Plan (CAP). Identify key City staff and partner agencies responsible for implementing CAP strategies and actions. Integrate CAP strategies and actions into annual department workplans and budget. Continue to identify and pursue funding mechanisms for CAP implementation.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		○ **Policy OS-7.3: Planning for Climate Change.** Account for the effects of climate change in updating or amending the General Plan or Development Code, disaster planning efforts, City projects, infrastructure planning, future policies, and long-term strategies, as feasible. Recognize potential climate change consequences, such as flooding, wildfire, hotter temperatures, and changing air quality. Protect the community from the effects of climate hazards, including against risks of displacement and challenges in rebuilding after major incidents. ○ **Policy OS-7.4: Climate Awareness.** Maintain a climate protection action-awareness campaign as well as support and coordinate other similar efforts in order to make residents, public institutions and businesses aware of the link between their everyday energy use and greenhouse gas emissions. ○ **Policy OS-7.5: Climate Action Coordination.** Coordinate climate action efforts and implementation of climate adaptation projects across City departments. ▪ **Goal OS-8:** Promote a clean, reliable, and equitable energy system by increasing energy efficiency, expanding the use of renewable and carbon-free energy sources, and reducing greenhouse gas emissions from buildings, transportation, and infrastructure. ○ **Policy OS-8.1: Climate Action Plan Implementation.** Implement Climate Action Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions. ○ **Policy OS-8.2:** Per-Capita Energy Use. Reduce per-capita energy use. ○ **Policy OS-8.3: Clean and Resilient Energy for Public Facilities.** Ensure City facilities and operations use clean, reliable, and resilient energy sources that reduce emissions and support long-term sustainability. Prioritize energy systems that improve efficiency and maintain essential services during power disruptions.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		○ **Policy OS-8.4: Sustainable Energy through Electrification.** Develop strategies and standards to advance sustainable energy by requiring efficient, all-electric appliances in new buildings, where feasible. Encourage property owners to transition existing buildings to electric appliances over time through partnerships, incentives, and public education that promotes clean energy. ○ **Policy OS-8.5: Energy-Efficient Development Decisions.** Consider the energy efficiency of proposed development when making land use and development review decisions. ○ **Policy OS-8.6: Solar Access.** Consider solar access, siting structures to maximize natural heating and cooling, and landscaping during the design review process to aid passive cooling protection from prevailing winds and maximize year-round solar access. Furthermore, new development would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Therefore, implementation of the proposed Project would not conflict with these energy and climate control measures.
Buildings Control Measures	▪ BL 1 – Green Buildings ▪ BL 2 – Decarbonize Buildings ▪ BL 3 – Market-Based Solutions ▪ BL 4 – Urban Heat Island Mitigation	**Consistent.** The buildings (BL) control measures focus on working with local governments to facilitate adoption of best GHG emissions control practices and policies. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. The same Open Space and Conservation (OS) Element goal and policies identified for Energy and Climate Control Measures would also promote energy efficiency and sustainability. In addition, as stated previously, new development would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Thus, the proposed Project would not conflict with the buildings control measures.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
Agriculture Control Measures	▪ AG 1 – Agricultural Guidance and Leadership ▪ AG 2 – Dairy Digesters ▪ AG 3 – Enteric Fermentation ▪ AG 4 – Livestock Waste	**Consistent.** Agricultural practices in the Bay Area account for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane and nitrous oxide, in addition to carbon dioxide. The City prioritizes preserving agricultural land and contains important agricultural resources, including Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Future development would be reviewed to ensure consistency with the General Plan 2045 goals and policies. The Open Space and Conservation (OS) Element contains the following goal and policies to support agricultural land conservation: ▪ **Goal OS-4:** Protect agricultural land and the working landscapes as vital parts of the Livermore open space network in and around the Planning Area. ○ **Policy OS-4.1: Farmland Preservation.** Preserve undeveloped lands with an agricultural or open space designation, to the greatest extent feasible (i.e., through zoning, conservation easements, or other measures), for open space or agricultural use. ○ **Policy OS-4.4: Permanent Conservation Easements.** Promote awareness of permanent conservation easements as an opportunity to monetize land stewardship and support agricultural production, open space, and sensitive natural resources. ○ **Policy OS-4.5: Williamson Act Land Conservation.** Recruit agricultural landowners to enter the agricultural preserve program established under the Land Conservation (Williamson) Act, particularly in areas adjacent to urban designations in the General Plan. ○ **Policy OS-4.6: Agricultural Soil Management.** Protect and manage valuable agricultural soils in the Planning Area. ○ **Policy OS-4.7: Agricultural Preservation Funding.** Monitor and identify potential funding mechanisms to support the preservation of agricultural uses.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		○ **Policy OS-4.8: Agricultural Preservation Agency Coordination.** Work with the County of Alameda, land trust organizations, other conservation groups, and water purveyors to preserve agricultural and related supporting uses outside the urban growth boundary. Therefore, implementation of the proposed Project would not conflict with these agriculture control measures.
Natural and Working Lands Control Measures	▪ NW 1 – Carbon Sequestration in Rangelands ▪ NW 2 – Urban Tree Planting ▪ NW 3 – Carbon Sequestration in Wetlands	**Consistent.** The control measures for the natural and working lands sector focus on increasing carbon sequestration on rangelands and wetlands. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. The Open Space and Conservation (OS) Element contains the following goal and policies to promote carbon sequestration: ▪ **Goal OS-2:** Preserve and enhance biological resources. (new) ○ **Policy OS-2.4: Existing Native Vegetation.** Conserve Livermore's native trees and vegetation, which are important biological resources in the Planning Area. ○ **Policy OS-2.6: Avoidance of Sensitive Features.** Protect wetland and biological resources by requiring new development to avoid areas that support wildlife and plant habitats that contribute to ecological connectivity. Instead, integrate these features into overall development to support long-term ecological health. ○ **Policy OS-2.7: Habitat Mitigation and Long-Term Management.** Use habitat mitigation as a tool to support the long-term protection and management of sensitive natural habitats, including alkali sinks, riparian vegetation, freshwater marshes, vernal pools, wetlands, and woodlands. Support the use of mitigation banks and other mechanisms that provide durable, landscape-scale conservation outcomes.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		○ **Policy OS-2.9: Riparian Enhancements.** Promote the long-term health and ecological function of riparian areas by ensuring that adjacent development supports the protection, enhancement, and restoration of native riparian vegetation. ○ **Policy OS-2.12: Native Vegetation and Pollinator Support.** Require new development to plant native plants and native flowering plants, shrubs, and trees that provide nectar and pollen sources throughout the growing season in new construction and public spaces. Prohibit the use of invasive non-native plant species. ○ **Policy OS-2.14: Biological Resource Preservation Grant Funding.** Work with local, regional, and State natural resource agencies and area nonprofit organizations to develop programs and apply for grants to fund preservation of sensitive biological resources, including arroyos, wetlands, riparian areas, and grasslands. Therefore, implementation of the proposed Project would not conflict with these control measures.
Water Control Measures	▪ WR 1 – Limit GHGs from publicly owned treatment works (POTWs) ▪ WR 2 – Support Water Conservation	**Consistent.** The 2017 Clean Air Plan includes measures to reduce water use. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. The Infrastructure (INF) Element contains the following goals and policies to increase water efficiency and conservation: ▪ **Goal INF-2:** Provide sufficient water supplies and facilities that meet current and future needs in an efficient and sustainable manner. ○ **Policy INF-2.2: Water Efficiency**. Increase water efficiency in all new development and existing building stock. ○ **Policy INF-2.3: Water Supply Conservation Improvements.** Participate in regional programs and projects that target the improvement and conservation of the region's groundwater and surface water supply. ○ **Policy INF-2.4: Recycled Water.** Use and expand the use of recycled water for appropriate uses, where and when available.

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		○ **Policy INF-2.5: On-Site Water Reuse.** Allow on-site stormwater capture and greywater reuse in commercial and residential settings. ○ **Policy INF-2.9: Water Infrastructure Development Requirements.** Require new development projects be responsible for constructing an adequate potable water distribution system and paying water connection fees to construct additional necessary storage, pumping, and distribution facilities. ▪ **Goal INF-3:** Plan, manage, and develop wastewater collection, treatment, and disposal systems in ways that are safe, sanitary, resilient to climate change, and financially sound. ○ **Policy INF-3.7: Inflow and Infiltration Reduction.** Implement programs to identify and reduce inflow and infiltration in the wastewater collection system to maintain system capacity, reduce treatment costs, and protect water quality. Therefore, implementation of the proposed Project would not conflict with these control measures.
Super-GHG Control Measures	▪ SL 1 – Short-Lived Climate Pollutants ▪ SL 2 – Guidance for Local Planners ▪ SL 3 – GHG Monitoring and Emissions Measurements Network	**Consistent.** Super-GHGs include methane, black carbon and fluorinated gases. The compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally fairly short. Measures to reduce super GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. Through ongoing implementation of the City's CAP, the City will continue to reduce local GHG emissions, meet State, regional, and local reduction targets, which would ensure implementation of the proposed Project would not conflict with these SL control measures. Future development would be reviewed to ensure consistency with the proposed General Plan 2045 goals and policies. In addition to the Open Space and Conservation (OS) Element goal and policies identified for Energy and Climate Control Measures, the Land Use (LU) Element contain the following policy for encouraging use of renewable energy and reduction in GHG emissions:

Table 3.3-9 Control Measures from the Air District 2017 Clean Air Plan

Type	Measure Number / Title	Consistency
		▪ **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities. ○ **Policy LU-1.6: Climate-Responsive and Green Building Practices.** Promote environmentally responsive site and building design that reduces construction impacts and supports long-term climate resilience. Encourage the use of green building practices in both public and private development, consistent with CalGreen and Title 24 standards. Therefore, implementation of the proposed Project would not conflict with these control measures.
Further Study Control Measures	▪ FSM SS 1 – Internal Combustion Engines ▪ FSM SS 2 – Boilers, Steam Generator and Process Heaters ▪ FSM SS 3 – GHG Reductions from Non Cap-and Trade Sources ▪ FSM SS 4 – Methane Exemptions from Wastewater Regulation ▪ FSM SS 5 – Controlling start-up, shutdown, maintenance, and malfunction (SSMM) Emissions ▪ FSM SS 6 – Carbon Pollution Fee ▪ FSM SS 7 – Vanishing Oils and Rust Inhibitors ▪ FSM SS 8 – Dryers, Ovens and Kilns ▪ FSM SS 9 – Omnibus Rulemaking to Achieve Continuous Improvement ▪ FSM BL 1 – Space Heating ▪ FSM AG 1 – Wineries	**Consistent.** The majority of the further study control measures apply to sources regulated directly by the Air District. Because the Air District is the implementing agency, new and existing sources of stationary and area sources in the EIR Study Area would be required to comply with these additional further study control measures in the 2017 Clean Air Plan. Therefore, implementation of the proposed Project would not conflict with these control measures.

Source: Bay Area Air District 2017c.

Regional Growth Projections for VMT and Population

One of the criteria for determining consistency with the current AQMP is comparing the anticipated VMT growth with population growth over the same planning horizon. Kittelson and Associates provided daily VMT generation for the proposed Project in the baseline year (2020) and forecasted year (2045) with proposed Project scenario (see Section 3.16, *Transportation*, for a more detailed VMT discussion).

Consistency with the 2017 Clean Air Plan requires that the VMT increase be proportional to or lower than the projected population increase from the proposed Project (e.g., generate the same or less VMT per capita). However, because the proposed Project accommodates both residential and nonresidential growth, a better indicator of how efficiently the EIR Study Area is growing can be made by comparing the increase in VMT to the increase in service population (e.g., generate the same or less VMT per service population). This approach is similar to the efficiency metrics for GHG emissions, which consider the total service population when calculating project efficiency.

As shown in Table 3.3-8, implementation of the proposed Project would result in a reduction of VMT per service population in comparison to existing conditions (4 percent decrease). This indicates that the proposed Project would promote more efficient land use, reducing VMT per resident and employee. Thus, the proposed Project would be consistent with the 2017 Clean Air Plan*'s* goal of maintaining VMT growth proportional to increase in service population.

Environmental Justice

The Air District's CEQA Guidelines also require a consistency analysis of the proposed Project with applicable Community Emission Reduction Plans and local environmental justice policies. Environmentally overburdened, underserved, and economically distressed communities may be subject to a higher risk of pollution-related health effects than the general population because they may be exposed to higher pollutant concentrations; they may experience a larger health impact at a given pollutant concentration; or they may be adversely affected by lower pollutant concentrations than the general population. The most critical air pollutant affecting health in the SFBAAB is $PM_{2.5}$, which includes DPM. The burden of breathing unhealthy air is often disproportionately borne by low-income communities and communities of color, many of which are situated closer to busy highways, ports, factories, and other pollution sources (Air District 2023).

The Open Space and Conservation (OS) Element and Safety (S) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to reduce environmental effects on vulnerable and sensitive populations:

- **Goal OS-6:** Protect and improve Livermore's air quality.
  - **Policy OS-6.2: Health Risk Assessment**. Require new development that introduces new sensitive receptors near existing or planned sources of toxic air contaminants to prepare a Health Risk Assessment. Identify appropriate mitigation, based on the findings of the Health Risk Assessment, to reduce health risks from major sources of toxic air pollution, such as high-volume roadways, stationary sources, and warehousing.
  - **Policy OS-6.3: Development Requirements Near Interstate 580.** For new development that is within 1,000 feet from Interstate 580, require installation of enhanced ventilation systems and other strategies to protect people from respiratory, heart, and other health effects associated with breathing polluted air in both indoor and outdoor spaces.
  - **Policy OS-6.4: Sensitive Receptors.** 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 OS-6.5: Toxic Air Contaminants Sources.** Require that when new development that would be a source of toxic air contaminants is proposed near residences or sensitive receptors, the project applicant shall provide adequate buffer distances (based on recommendations and requirements of the California Air Resources Board and the Bay Area Air District or requirements that are more stringent), or the project applicant shall incorporate filters or other equipment/solutions into the new development to reduce nearby receptors' exposure to acceptable levels. The project applicant shall coordinate potential mitigation associated with this policy requirement with any required permit conditions from the Bay Area Air District.

    When new residential or other sensitive receptors are proposed near existing sources of Toxic Air Contaminants, the project applicant shall provide adequate buffer distances (based on recommendations and requirements of the California Air Resources Board and the Bay Area Air District or requirements that are more stringent), or the project applicant shall incorporate filters or other equipment/solutions into the new residential and sensitive receptor development or the Toxic Air Contaminant source to reduce the potential exposure to acceptable levels.
  - **Policy OS-6.6: Odor-Generating Land Use.** When development of a known odor-generating land use is proposed near residences or sensitive receptors, the project applicant shall provide adequate buffer distances (based on recommendations and requirements of the California Air Resources Board [CARB] and the Bay Area Air District), or the project applicant shall incorporate filters or other equipment/solutions into the new odor-generating development to reduce nearby receptors' exposure to acceptable levels.

    When new residential or other sensitive receptors are proposed near existing sources of odors, the project applicant shall provide adequate buffer distances (based on recommendations and requirements of CARB and the Bay Area Air District), or the

project applicant shall incorporate filters or other equipment/solutions into the new residential and sensitive receptor development to reduce the receptor's exposure to acceptable levels.

- **Goal S-11:** Minimize Livermore residents' exposure to the harmful effects of hazardous materials and waste.
  - **Policy S-11.3: Hazardous Materials Transport**. Promote the safe transport of hazardous materials in Livermore through implementation of the following measures:
    a. Maintain formally designated hazardous material carrier routes to direct hazardous materials away from populated and sensitive areas;
    b. Prohibit parking of vehicles transporting hazardous materials on city streets;
    c. Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the greatest extent possible.

As shown previously in this section, the proposed Project considers measures to reduce emissions and improve community health within Impacted Communities consistent with the Air District's environmental justice goals.

Summary

The proposed Project would not exceed the Plan Bay Area 2050 regional growth projections, would be consistent with the current AQMP (2017 Clean Air Plan) control measures, and would decrease VMT per service population. Therefore, impacts would be **less than significant**.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Significant and Unavoidable.

Construction

The proposed Project would not directly result in construction of any development or infrastructure; however, future development would result in short-term construction-related criteria pollutant emissions that have the potential to have an adverse effect on air quality. Although the exact coverage, location, and duration of future construction projects is unknown at the time of preparation of this program-level Draft EIR, short-term criteria pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with individual development projects. ROG and NO_X emissions are primarily associated with gasoline and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) are primarily associated with site preparation and vary as a function of such parameters as soil silt

content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks.

The proposed Land Use Map primarily capitalizes on infill opportunities, which could require the demolition of existing structures in the event of parcel redevelopment. Fugitive dust emissions would typically be greatest during building demolition, site preparation, and grading activities due to the disturbance of soils and transport of material. NO_X emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty vehicles and equipment (e.g., backhoes, bulldozers, excavators). The types and quantities of equipment, as well as the duration of construction activities, would be dependent on site-specific conditions for each individual project. Larger development projects would require more equipment over a longer timeframe than that required for redevelopment of a single, residential home, for example.

As previously discussed, a criterion identified by the Air District for determining plan-level significance with respect to criteria air pollutants and ozone precursors is determining project consistency with the current AQMP control measures, which are intended to ensure the region's achievement and maintenance of attainment of federal and State AAQS. As the SFBAAB is currently designated as a nonattainment area for PM (both $PM_{2.5}$ and PM_{10}), impacts related to construction fugitive dust would require mitigation.

The Air District does not recommend plan-level thresholds of significance for construction emissions; however, the Air District does maintain and recommend project-level thresholds of significance for construction emissions that future development projects facilitated by the proposed Project would be subject to. In addition, the Air District's *CEQA Air Quality Guidelines* identify and recommend a series of "Basic" measures to control and reduce construction-related fugitive dust emissions. For all projects, the Air District recommends implementation of nine Basic Construction Measures to reduce construction fugitive dust and determines a project's fugitive dust impacts during construction to be less than significant if the following Basic Construction Measures are incorporated into project construction (Air District 2023):

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, 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 trackout 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 miles per hour (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 the sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Prior to the commencement of construction activities, individual project proponents shall post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District phone number shall also be visible to ensure compliance with applicable regulations.

The Air District has also established preliminary screening criteria and tools to determine when commercial, educational, industrial, recreational, residential, and retail projects would result in less-than-significant air quality impacts and therefore would not require a detailed air quality assessment. For construction activities, the screening criteria apply when a project is at or below the applicable screening size shown in Table 4-1 of the Bay Area Air District's *CEQA Air Quality Guidelines* (Chapter 4); incorporates the Bay Area Air District's basic best management practices; construction-related activities do not overlap with operational activities; and construction would not include demolition, simultaneous occurrence of two or more construction phases (e.g., paving and building construction would occur simultaneously), extensive site preparation (e.g., grading, cut and fill, or earth movement), extensive material transport (e.g., soil import and export requiring a considerable amount of haul truck activity), or stationary sources (e.g., back up generators) subject to Air District rules and regulations. For mixed-use projects, construction-related activities must not overlap with operational activities, and such projects can be screened using the Mixed Land Use Screening Tool.

If a project does not meet the Bay Area Air District's screening criteria, an evaluation is required to be prepared in conformance with current Bay Area Air District methodology for assessing air quality impacts identified in the Bay Area Air District's *CEQA Air Quality Guidelines*. If construction-related criteria air pollutants are determined to have the potential to exceed the Air District's adopted thresholds of significance, feasible mitigation measures to reduce air quality emissions are required. Feasible measures to reduce construction exhaust emissions may include:

- Using construction equipment rated by the USEPA as having Tier 4 interim or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.

The Open Space and Conservation (OS) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts related to construction emissions:

- **Goal OS-6:** Protect and improve Livermore's air quality.
  - **Policy OS-6.1: Air Quality Thresholds of Significance.** Use thresholds of significance that match or are more stringent than the air quality thresholds of significance identified in the current Bay Area Air District Air Quality Guidelines when evaluating air quality impacts of projects.
  - **Policy OS-6.7: Construction Dust Control Plan.** Require project developers to develop and implement a construction-period dust control plan, consistent with the Basic Best Management Practices for Construction-Related Fugitive Dust Emissions outlined in the Bay Area Air District's California Environmental Quality Act Air Quality Guidelines.
  - **Policy OS-6.8: Construction Air Quality Impacts Reduction.** Require the project applicant to minimize air quality impacts generated during construction activities in compliance with the Bay Area Air District's regulations and guidelines on construction activity impacts.
  - **Policy OS-6.18: Agency Coordination for Dust Control.** Coordinate with other local and regional agencies (e.g., the Livermore Area Recreation and Park District, Livermore Valley Joint Unified School District, Alameda County) to manage and control fugitive dust from sources, including, but not limited to, quarries, ballfields, construction sites, and landscaping and maintenance activities.
  - **Policy OS-6.19: Project-Specific Emissions.** Require projects that exceed the Bay Area Air District (Air District) screening criteria to evaluate project-specific construction and operational emissions in conformance with the Air District's methodology, and if criteria air pollutants are determined to have the potential to exceed the Air District thresholds of significance, require mitigation of impacts to an acceptable level.

Specifically, proposed Policy OS-6.7 would require future development to implement the Air District's basic construction measures, which would reduce construction fugitive dust impacts during construction to be less than significant. Proposed Policies OS-6.8 and OS-6.19 would require future development to minimize construction air quality impacts in compliance with the Air District's regulations.

While adherence to existing regulations and the proposed General Plan 2045 goals and policies may reduce construction phase (short-term) emissions, the likely scale and extent of construction activities associated with the proposed Project would likely continue to generate construction exhaust emissions in exceedance of the Air District's thresholds for some projects, contributing to the nonattainment designations of the SFBAAB. Therefore, impacts would be *potentially significant*.

Impact AQ-2.1: Construction of future development could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.

While proposed General Plan 2045 goals and policies, such as Policies OS-6.8 and OS-6.19, have the potential to reduce construction emissions for individual projects, future development could still exceed the Air District's significance thresholds for construction and cumulatively contribute to the nonattainment designations of the SFBAAB because site-specific details concerning development schedules, areas of disturbance, distance to sensitive receptors, overlapping equipment use, type of equipment, and overall intensity of development across the EIR Study Area is currently unknown. Therefore, implementation of the proposed Project could result in **significant and unavoidable** construction-related regional air impacts from construction equipment exhaust. This finding does not preclude a finding of less-than-significant impacts at the project level.

Operation

Operational (long-term) activities associated with future development could generate a substantial increase in long-term criteria air pollutant emissions compared with existing conditions that could exceed the Air District's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SFBAAB.

Implementation of the proposed Project would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Mobile-source criteria air pollutant emissions are based on the traffic analysis conducted by Kittelson and Associates for the proposed Project (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*). The 2045 emissions forecast for the EIR Study Area under the proposed Project compared to 2023 existing conditions is shown in Table 3.3-10, *Proposed Project Criteria Air Pollutant Emissions Forecast Compared to Existing Conditions*. This is Scenario 1, as required by the Air District and explained under the "Criteria Air Pollutant Emissions and Precursors" subheading in Section 3.3.3, *Standards of Significance*.

Table 3.3-10 Proposed Project Criteria Air Pollutant Emissions Forecast Comparison to Existing Conditions

	Criteria Air Pollutants (Tons/Year)			
Sectors	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Land Uses – Year 2023				
On-Road Transportation[1]	20	297	4	8
Energy[2]	5	91	7	7
Off-road Equipment[3]	74	54	2	1
Consumer Products[4]	249	-	-	-

Table 3.3-10 Proposed Project Criteria Air Pollutant Emissions Forecast Comparison to Existing Conditions

Sectors	Criteria Air Pollutants (Tons/Year)			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Total Existing Land Uses (tons/year)	***348***	***442***	***13***	***16***
Proposed Project – Year 2045				
On-Road Transportation[1]	9	216	44	16
Energy[2]	7	127	10	10
Off-road Equipment[3]	27	50	1	1
Consumer Products[4]	408	-	-	-
Proposed Land Uses Total (tons/year)	***452***	***393***	***56***	***26***
Change in Emissions from Existing Conditions (Year 2045)				
On-Road Transportation[1]	-11	-82	40	8
Energy[2]	2	36	3	3
Off-road Equipment[3]	-47	-4	-1	-1
Consumer Products[4]	159	-	-	-
Net Change from Existing Conditions	***103***	***-50***	***43***	***10***
Increase?	***Yes***	*No*	***Yes***	***Yes***
Sectors	**Criteria Air Pollutants (lbs/day)**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Land Uses – Year 2023				
On-Road Transportation[1]	117	1,714	23	46
Energy[2]	29	498	40	40
Off-road Equipment[3]	405	297	10	7
Consumer Products[4]	1,363	-	-	-
Total Existing Land Uses (lbs/day)	***1,913***	***2,509***	***73***	***93***
Proposed Project – Year 2045				
On-Road Transportation[1]	54	1,242	255	89
Energy[2]	40	695	55	55
Off-road Equipment[3]	150	275	7	4
Consumer Products[4]	2,233	-	-	-
Proposed Land Uses Total (lbs/day)	***2,477***	***2,212***	***317***	***149***
Change in Emissions from Existing Conditions (Year 2045)				
On-Road Transportation[1]	-63	-472	232	44
Energy[2]	11	197	16	16
Off-road Equipment[3]	-255	-22	-4	-4
Consumer Products[4]	870	-	-	-

Table 3.3-10 Proposed Project Criteria Air Pollutant Emissions Forecast Comparison to Existing Conditions

	Criteria Air Pollutants (Tons/Year)			
Sectors	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Net Change from Existing Conditions	***564***	***-296***	***245***	***56***
Increase?	***Yes***	*No*	***Yes***	***Yes***

Source: Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: ROG = reactive organic gases; NO_x = nitrogen oxides; $PM_{2.5}$ =suspended particulate matter; PM_{10} = suspended particulate matter. Emissions may not total to 100 percent due to rounding.

1. EMFAC2021 V.1.0.2 Emissions Database with Adjusted Factors. Based on daily VMT provided by Kittelson and Associates, Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*).

2. Based on natural gas use provided by PG&E and Ava Energy.

3. Off-Road Web Query V.1.1.0 Emissions Inventory

4. Based on CalEEMod User's Guide methodology to calculate ROG emissions from use of household consumer cleaning products.

As shown in Table 3.3-10, implementation of the proposed Project would result in an increase in criteria air pollutant emissions from existing conditions. This increase is based on the difference between existing land uses and land uses associated with future development, as well as an estimate of population and employment in the EIR Study Area in the 2045 horizon year. Therefore, future development projects would generate operational (long-term) air pollutant emissions that exceed the Air District's significance thresholds (no net increase) for ROG and particulate matter (PM_{10} and $PM_{2.5}$) in 2045. Emissions of ROG that exceed the Air District's regional threshold would cumulatively contribute to the O_3 nonattainment designation of the SFBAAB. Emissions of particulate matter (PM_{10} and $PM_{2.5}$) that exceed the Air District's regional significance thresholds would cumulatively contribute to the particulate matter (PM_{10} and $PM_{2.5}$) nonattainment designations of the SFBAAB.

As shown in Table 3.3-11, *Net Change in Regional Criteria Air Pollutant Emissions Forecast Compared to Future No Project Conditions*, the proposed Project would generate a net increase in all criteria air pollutant emissions compared with the future, no project conditions. This is Scenario 2, as recommended by the Air District and explained under the "Criteria Air Pollutant Emissions and Precursors" subheading in Section 3.3.3, *Standards of Significance*.

Table 3.3-11 Net Change in Regional Criteria Air Pollutant Emissions Forecast Compared to Future No Project Conditions

Sectors	Criteria Air Pollutants (Tons/Year)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Existing Land Uses – Year 2045				
On-Road Transportation[1]	6	193	38	13
Energy[2]	5	91	7	7
Off-road Equipment[3]	74	54	2	1
Consumer Products[4]	249	-	-	-
Total Existing Land Uses (tons/year)	***334***	***338***	***47***	***22***
Proposed Project – Year 2045				
On-Road Transportation[1]	9	216	44	16
Energy[2]	7	126	10	10
Off-road Equipment[3]	27	50	1	1
Consumer Products[4]	408	-	-	-
Proposed Land Uses Total (tons/year)	***452***	***393***	***56***	***26***
Change in Emissions from No Project Conditions				
On-Road Transportation[1]	3	22	7	2
Energy[2]	2	36	3	3
Off-road Equipment[3]	-47	-4	-1	-1
Consumer Products[4]	159	-	-	-
Change in Emissions from No Project Conditions	***117***	***54***	***9***	***5***
Increase?	***Yes***	***Yes***	***Yes***	***Yes***
Sectors	**Criteria Air Pollutants (lbs/day)**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Land Uses – Year 2045				
On-Road Transportation[1]	37	1,114	216	76
Energy[2]	29	498	40	40
Off-road Equipment[3]	405	297	10	7
Consumer Products[4]	1,363	-	-	-
Total Existing Land Uses (lbs/day)	***1,834***	***1,908***	***266***	***123***
Proposed Project – Year 2045				
On-Road Transportation[1]	54	1,242	255	89
Energy[2]	40	695	55	55
Off-road Equipment[3]	150	275	7	4
Consumer Products[4]	2,233	-	-	-

Table 3.3-11 Net Change in Regional Criteria Air Pollutant Emissions Forecast Compared to Future No Project Conditions

Sectors	Criteria Air Pollutants (Tons/Year)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Proposed Land Uses Total (lbs/day)	***2,477***	***2,212***	***317***	***149***
Change in Emissions from No Project Conditions				
On-Road Transportation[1]	17	129	39	13
Energy[2]	11	197	16	16
Off-road Equipment[3]	-255	-22	-4	-4
Consumer Products[4]	870	-	-	-
Change in Emissions from No Project Conditions	***643***	***304***	***51***	***25***
Increase?	***Yes***	***Yes***	***Yes***	***Yes***

Source: Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: ROG = reactive organic gases; NO_x = nitrogen oxides; $PM_{2.5}$ =suspended particulate matter; PM_{10} = suspended particulate matter. Emissions may not total to 100 percent due to rounding.

1. EMFAC2021 V.1.0.2 Emissions Database with Adjusted Factors. Based on daily VMT provided by Kittelson and Associates, Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*).
2. Based on natural gas use provided by PG&E and Ava Energy.
3. Off-Road Web Query V.1.1.0 Emissions Inventory
4. Based on CalEEMod User's Guide methodology to calculate ROG emissions from use of household consumer cleaning products.

As shown in these tables, future development would generate an increase in criteria air pollutant emission from both existing conditions (Scenario 1) as well as the future no-project conditions (Scenario 2).

The Air District has established preliminary screening criteria and tools to determine when commercial, educational, industrial, recreational, residential, and retail projects would result in less-than-significant air quality impacts and therefore would not require a detailed air quality assessment. For operational activities, the screening criteria apply when the project size is at or below the applicable screening size shown in Table 4-1 of the Bay Area Air District's *CEQA Air Quality Guidelines* (Chapter 4); operational activities would not include stationary engines (e.g., backup generators) and industrial sources subject to Air District rules and regulations; and operational activities would not overlap with construction-related activities. For mixed-use projects, construction-related activities must not overlap with operational activities, and such projects can be screened using the Mixed Land Use Screening Tool.

If the project does not meet the Air District's screening criteria, the evaluation shall be prepared in conformance with Air District methodology in assessing air quality impacts identified in Bay Area Air District's current *CEQA Air Quality Guidelines* at the time that the project is considered.

If operation-related air pollutants are determined to have the potential to exceed the Air District-adopted thresholds of significance, feasible mitigation measures to reduce air quality emissions are required. Possible mitigation measures to reduce long-term emissions could include, but are not limited to, the following:

- Implementing commute trip reduction programs
- Unbundling residential parking costs from property costs
- Expanding bikeway networks
- Expanding transit network coverage or hours
- Using cleaner-fueled vehicles
- Exceeding the current Title 24 Building Envelope Energy Efficiency Standards
- Establishing on-site renewable energy generation systems
- Requiring all-electric buildings
- Replacing gas-powered landscaping equipment with zero-emission alternatives
- Implementing organics diversion programs
- Expanding urban tree planting

Furthermore, the proposed General Plan 2045 goals and policies previously identified in Table 3.3-9 for Transportation Control Measures and Energy and Climate Control Measures, in addition to the following goals and policies from the Open Space and Conservation (OS) Element, are designed to minimize potential adverse impacts related to long-term, regional criteria air pollutant emissions:

- **Goal OS-6:** Protect and improve Livermore's air quality.
  - **Policy OS-6.9: Refrigerated Trucks.** Require new development, when applicable, to provide adequate truck parking loading space, and a zero-emission power source for refrigerated trucks to minimize idling during truck operation.
  - **Policy OS-6.13: Wildfire Health Protection**. Work with the Alameda County Public Health Department to distribute health information and N95 masks during poor air quality events.
  - **Policy OS-6.14: Clean Air Center.** Operate equitably located, accessible clean air centers on poor air quality days.
  - **Policy OS-6.15: Public Transit Support.** Work with transit providers and implement local improvements to maximize the use of regional and local mass transit systems. To this end, the City shall actively support:
    a. Federal, State, and regional funding for construction of Valley Link passenger rail service.
    b. The designation of special lanes on Interstate 580 for the exclusive use of commuter buses during peak-traffic periods.

c. Efficient operations of local and regional transit systems to minimize the travel time between communities and major generating areas served by the regional system.
d. Transit connections to ACE and BART in close coordination with the Livermore Amador Valley Transit Authority.
e. Improved bicycle and pedestrian connections to ACE stations and the Livermore transit center.

- **Policy OS-6.16: Privately Owned Zero-Emission Equipment.** Work with local and regional partners to publicize the advantage of zero-emission equipment and any available financial incentives.

Compliance with applicable policies and programs would contribute towards minimizing long-term emissions; however, the quantitative implementation of these policies and programs can not accurately be accounted for in the emissions forecasts in this analysis. As such, implementation of the proposed Project would still exceed the Air District's significance threshold (no net increase) for operation.

Consistency with AQMP Control Measures

As previously mentioned, the Air District's plan-level guidance does not require an emissions inventory of criteria air pollutants for plan-level analysis; however, the Air District recommends that one method used for determining plan-level impact significance is to analyze the proposed plan's consistency with the current AQMP control measures. As discussed in Table 3.3-9, the proposed Project would be consistent with the applicable 2017 Clean Air Plan control measures. As such, the proposed Project would be consistent with the current AQMP control measures.

VMT and Population Growth

As previously mentioned, the Air District's plan-level guidance does not require an emissions inventory of criteria air pollutants for plan-level analysis; however, the Air District recommends that the second method for determining plan-level impact significance is to analyze the proposed plan's projected VMT growth versus its projected population growth from existing conditions through its planning horizon year. If a proposed plan's projected VMT growth outpaces its projected population growth, then that proposed plan would result in a cumulatively considerable net increase in criteria pollutants, and this impact would be potentially significant. As shown in Table 3.3-8, the daily per service population VMT facilitated by the proposed Project would constitute an approximately 4 percent decrease through 2045. Therefore, the forecasted VMT growth would not outpace the forecasted population growth facilitated by the proposed Project.

Operation Summary

Compliance with the Air District rules and implementation of the proposed General Plan 2045 goals and policies would help reduce operation air quality impacts of future development. However, the overall magnitude of development allowed under the proposed Project would collectively contribute to regional air quality impacts, resulting in cumulative emissions that exceed the Air District's thresholds. Therefore, implementation of the proposed Project would significantly contribute to the nonattainment designations of the SFBAAB, resulting in a *potentially significant* impact.

Impact AQ-2.2: Operation of future development could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.

This EIR quantifies the increase in criteria air pollutants emissions in the EIR Study Area. However, at the programmatic level, it is not feasible to quantify the increase in TACs from stationary sources associated with the proposed Project or meaningfully correlate how regional criteria air pollutant emissions above the Air District's significance thresholds correlate with basin-wide health impacts.

To determine cancer and noncancer health risk, the location, velocity of emissions, meteorology and topography of the area, and locations of receptors are equally important as model parameters as the quantity of TAC emissions. The white paper prepared by the Association of Environmental Professionals' Climate Change Committee, *We Can Model Regional Emissions, But Are the Results Meaningful for CEQA,* describes several of the challenges of quantifying local effects—particularly health risks—for large-scale, regional projects, and these are applicable to both criteria air pollutants and TACs. Similarly, the two amicus briefs filed by the air districts on the Friant Ranch case describe two positions regarding CEQA requirements, modeling feasibility, variables, and reliability of results for determining specific health risks associated with criteria air pollutants. The discussions also include the distinction between criteria air pollutant emissions and TACs with respect to health risks. The following summarizes major points about the infeasibility of assessing health risks of criteria air pollutant emissions and TACs associated with implementation of a general plan. The white paper and amicus briefs are provided in Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

To achieve and maintain air quality standards, the Air District has established numerical emission indicators of significance for regional and localized air quality impacts for both construction and operational phases of a local plan or project. The numerical emission indicators are based on the recognition that the air basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. The thresholds represent the maximum emissions from a plan or project that are expected not to cause or contribute to an exceedance of the most stringent applicable

national or State ambient air quality standard. By analyzing the plan's emissions against the thresholds, an EIR assesses whether these emissions directly contribute to any regional or local exceedances of the applicable ambient air quality standards and exposure levels.

The Air District currently does not have methodologies that would provide the City with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a project's mass emissions. For criteria air pollutants, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model. The Air District has not provided the methodology to assess the specific correlation between mass emissions generated and their effect on health.

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of particulate matter and ozone can occur far from sources as a result of regional transport due to wind and topography (e.g., low-level jet stream). Photochemical modeling depends on all emission sources in the entire domain (i.e., modeling grid). Low resolution and spatial averaging produce "noise" and modeling errors that usually exceed individual source contributions. Because of the complexities of predicting ground-level ozone concentrations in relation to the national and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

Current models used in CEQA air quality analyses are designed to estimate potential project construction and operation emissions for defined projects. The estimated emissions are compared to significance thresholds, which are keyed to reducing emissions to levels that will not interfere with the region's ability to attain the health-based standards. This serves to protect public health in the overall region, but there is currently no CEQA methodology to determine the impact of emissions (e.g., pounds per day) on future concentration levels (e.g., parts per million or micrograms per cubic meter) in specific geographic areas. CEQA thresholds, therefore, are not specifically tied to potential health outcomes in the region.

The EIR must provide an analysis that is understandable for decision making and public disclosure. Regional-scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation. Additionally, this type of analysis is not feasible at a general plan level because the location of emissions sources and quantity of emissions are not known. However, because cumulative development within the EIR Study Area would exceed the regional significance thresholds, this EIR finds that the proposed Project could contribute to an increase in health effects in the basin until the attainment standards are met in the SFBAAB.

In summary, implementation of the proposed Project would generate emissions that would exceed the Air District's regional significance thresholds for reactive organic gases (ROG) and particulate matter ($PM_{2.5}$ and PM_{10}). The proposed General Plan 2045 includes goals and policies to reduce these long-term regional criteria air pollutant emissions. Specifically, proposed Policy OS-6.19 requires future development in Livermore that exceeds the Air District screening criteria to prepare and submit a technical assessment evaluating potential project operational air quality impacts to the City of Livermore for review and approval prior to project approval by the City. Where the technical assessment determines the Air District-adopted thresholds are exceeded, the applicants for new development projects would be required to incorporate mitigation measures to reduce air pollutant emissions during operational activities. Due to the programmatic nature of this EIR, no mitigation measures are available, and this impact is found to be **significant and unavoidable**. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for future development projects that meet applicable thresholds of significance.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than significant.

Construction

Future development projects would temporarily elevate concentrations of TACs and DPM in the vicinity of sensitive land uses during construction activities. Since the details regarding future construction activities are not known at this time due to the programmatic nature of the proposed Project—including phasing of future individual projects, construction duration and phasing, and preliminary construction equipment—construction emissions are evaluated qualitatively in accordance with the Air District's plan-level guidance. Subsequent environmental review of future development projects subject to CEQA would be required to assess potential impacts under the Air District's project-level thresholds. Construction emissions associated with the proposed Project could exceed the Air District's project level and cumulative significance thresholds for community risk and hazards.

The Air District's CEQA Guidelines advise that plan-level air quality analyses should include policies and land use designations that proactively reduce exposure of sensitive receptors to TACs. One key recommended approach is to establish overlay zones or buffer areas around existing and future TAC sources (e.g., major roadways, industrial facilities) in land use plans so that sensitive land uses are not sited where they would be exposed to elevated cancer risk and $PM_{2.5}$ concentrations. These overlay zones and related policies should be reflected in the plan's land use map to provide proactive siting guidance for future development and to reduce future exposures of sensitive land uses to TAC and health risks.

As such, the same proposed General Plan 2045 goals and policies from the Open Space and Conservation (OS) Element and Safety (S) Element previously identified under impact discussions (a) and (b), would serve to reduce potential health risks and protect sensitive receptors from poor air quality in the EIR Study Area. proposed Policy OS-6.7 would require future development to implement the Air District's basic construction measures, which would reduce construction fugitive dust impacts during construction to be less than significant. Proposed Policies OS-6.8 and OS-6.19 would require future development to minimize construction air quality impacts in compliance with the Air District's regulations.

Operation

Types of land uses that typically generate substantial quantities of TACs and $PM_{2.5}$ include industrial and manufacturing (stationary sources), warehousing land uses that have the potential to generate DPM from onsite equipment, and mobile sources (trucks). Industrial growth associated with the proposed Project could generate small and medium sized truck trips for deliveries, which could result in localized increase in TACs and $PM_{2.5}$. Additionally, operation of new land uses consistent with the proposed Land Use Map could generate new sources of criteria air pollutants and TACs in the EIR Study Area associated with CO hotspots. The following describes potential localized operational air quality impacts from implementation of the proposed Project.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of elevated CO concentrations, called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9 ppm. Since CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

An overarching goal of Plan Bay Area 2050 is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per-capita passenger vehicle VMT and associated GHG emissions reductions. As described under impact discussion (b) in Section 3.8, *Greenhouse Gas Emissions*, the proposed Project would be consistent with the overall goals of Plan Bay Area 2050.

Furthermore, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—to generate a significant CO impact (Air District 2023). Implementation of the proposed Project would result in hourly traffic increases at intersections across the EIR Study Area largely due to an increase in population and employment through

2045. According to traffic volume data provided by Kittelson and Associates, Inc., the roadway segment that would experience the greatest traffic volumes in 2045 would be Isabel Avenue south of Vallecitos Road, with an estimated 80,109 average daily trips (ADT) (Appendix C, *Noise Data*). As an industry standard, the ADT are divided by 10 to identify the estimated peak hour traffic volumes at this intersection. Based on adjusting the ADT to identify the peak hour volumes, this roadway segment would experience an estimated 8,011 peak hour vehicle trips. As such, although this roadway segment would experience the greatest peak hour trips in 2045, the volumes would be substantially below the Air District's significance criteria of 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—and therefore the proposed Project would not be considered to generate a CO hotspot.

Overall, the proposed Project would not have the potential to substantially increase CO hotspots at intersections in the EIR Study Area and vicinity.

Operational Community Risk and Hazards from Stationary Sources

Common sources of TAC emissions are stationary sources (e.g., dry cleaners, diesel backup generators, and gasoline stations), which are subject to the Air District permit requirements. Future development could result in new sources of TACs and $PM_{2.5}$. Stationary sources, including smaller stationary sources associated with residential development (e.g., emergency generators and boilers), are subject to review by the Air District as part of the permitting process. Adherence to the Air District permitting regulations would ensure that new permitted stationary sources of TACs do not expose populations to significant health risk. Mobile sources of air toxics (e.g., truck idling) are not regulated directly by the Air District. However, residential development associated with the proposed Project would not generate substantial truck traffic or idling. Permitted stationary sources and nonpermitted sources are discussed in greater detail below.

Stationary (Permitted) Sources

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the SFBAAB are regulated and controlled by the Air District. Land uses that would require a permit from the Air District for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from stationary sources would be controlled by the Air District through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under Regulation 2, *New Source Review*, as well as Regulation 11, Rule 18, *Reduction of Risk from Air Toxic Emissions at Existing Facilities*. Additionally, review under New Source Review ensures that stationary source emissions (permitted sources) would be reduced or mitigated below the Air District's community risk and hazards thresholds. Though these

sources would incrementally contribute to emissions in the EIR Study Area individually, they would be mitigated pursuant to the Air District standards.

The same proposed General Plan 2045 goals and policies from the Open Space and Conservation (OS) Element identified under the "Environmental Justice" subheading in impact discussion (a) would also serve to minimize impacts related to air quality and to sensitive receptors. Specifically, proposed Policies OS-6.2 and OS-6.5 require project applicants to prepare a health risk assessment and identify appropriate mitigation (e.g., buffer distances, filters) to reduce health risk from major sources of toxic air pollution. These proposed General Plan 2045 policies would ensure future development would identify project-specific mitigation measures to reduce potential health risks and protect sensitive receptors from poor air quality from permitted sources associated with development of industrial and commercial land uses.

Nonpermitted Sources

TACs and $PM_{2.5}$ from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by the Air District, and have the potential to generate substantial concentrations of air pollutants. The primary mobile source of TACs within the EIR Study Area includes truck idling and use of off-road equipment.

While the land use pattern envisioned by the proposed Project does not involve a substantial increase in industrial or trucking facilities, new warehousing operations present the potential to generate substantial DPM and $PM_{2.5}$ emissions from off-road cargo-handling equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of TRUs for cold storage. New land uses that use trucks and TRUs could generate an increase in DPM that would contribute to cancer and noncancer health risk in the SFBAAB. Additionally, these types of facilities could also generate particulate matter (PM_{10} and $PM_{2.5}$) that may cause an exceedance or contribute to the continuing exceedance of the federal and State AAQS. These new land uses could be near existing sensitive receptors. In addition, trucks would travel on regional transportation routes through the Bay Area, contributing to near-roadway DPM concentrations.

Implementation of the proposed Project would include industrial growth, including high-tech industrial growth in the Midtown Specific Plan. However, until specific future development projects are proposed, the associated emissions and concentrations cannot be determined or modeled.

The same proposed General Plan 2045 goals and policies from the Open Space and Conservation (OS) Element and Safety (S) Element identified under the "Environmental Justice" subheading in impact discussion (a) and the "Operation" subheading in impact discussion (b), would also minimize health risk impacts related to nonpermitted sources in the EIR Study Area. Specifically, proposed Policies OS-6.2, OS-6.4, and OS-6.5 would require project applicants to prepare a health risk assessment and identify appropriate mitigation (e.g., buffer distances,

filters) to reduce health risk from major sources of toxic air pollution. These proposed General Plan 2045 policies would ensure future development would identify project-specific mitigation measures to reduce potential health risks and protect sensitive receptors from poor air quality from nonpermitted sources associated with development of industrial and commercial land uses.

Summary

As described previously, construction and long-term operation of the proposed Project would not have the potential to generate CO hotspots. With incorporation of proposed General Plan 2045 goals and policies, including proposed Policies OS-6.2 through OS-6.5, construction and long-term operation of the proposed Project would not result in a substantial increase in criteria air pollutants and TACs in the EIR Study Area. Additionally, permitted sources of emissions would be regulated by the Air District to ensure that, on a project-by-project basis, emissions achieve their permit thresholds. Therefore, this impact is **less than significant**.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than significant. Identification of potential impacts to odor receptors resulting from construction-generated odors, such as equipment exhaust, would require project-specific information for future individual land use development projects that is not currently known given the programmatic nature of the proposed Project. Nonetheless, odors are regulated under Air District Regulation 1, Rule 1-301, *Public Nuisance*. Compliance with Air District Regulation 1 would ensure that odor impacts associated with the proposed Project are minimized. As previously discussed, consistent with the Air District's CEQA Air Quality Guidelines, a plan-level analysis must acknowledge odor sources within the EIR Study Area and identify policies, goals, and objectives aimed at reducing potential odor impacts.

According to the Air District's CEQA Air Quality Guidelines, land uses associated with odor complaints typically include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations such as chemical and other manufacturing. While odors do not themselves present a health risk, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources.

Future environmental review could be required for future industrial projects listed in the Air District's *CEQA Guidelines* Table 5-4, *Odor Screening Distances,* to ensure that sensitive land uses are not exposed to nuisance odors. Consequently, review of projects using the Air District's odor screening distances and compliance with applicable Air District odor regulations are necessary to ensure that odor impacts are minimized. An increase in residential uses would not generate substantial odors that would affect a substantial number of people. During operation,

residences could generate odors from cooking. However, odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people.

The Open Space and Conservation (OS) Element of the proposed General Plan 2045 contains goals and policies that require local planning and development decisions to consider impacts to air quality, including odors. Specifically, proposed Policy OS-6.6 would require adequate buffer distances or incorporation of filters or other equipment/solutions into the new odor-generating development to reduce nearby receptors' exposure to acceptable levels.

Compliance with proposed General Plan 2045 goals and policies, as well applicable Air District rules and regulations, would prevent odor emissions from adversely affecting a substantial number of people in the EIR Study Area. Furthermore, nuisance odors are regulated under Air District Regulation 7, *Odorous Substances*, which requires abatement of any nuisance generating an odor complaint, and Air District Regulation 1, Rule 1-301, *Public Nuisance*. Compliance with these Air District regulations would ensure that odor impacts associated with the proposed Project are minimized. Therefore, impacts would be **less than significant**.

3.3.5 Cumulative Impact Analysis

California is divided into air basins for the purpose of managing the air resources of the state on a regional basis based on meteorological and geographic conditions. Air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as a nonattainment area. Impacts to sensitive receptors are considered for the entire EIR Study Area. The following discussion considers the proposed Project's potential cumulative contribution to the air quality of the SFBAAB.

Would the project have a cumulative effect related to air quality?

Significant and unavoidable.

Air Quality Management Plan

The proposed Project would not exceed the Plan Bay Area 2050 regional growth projections, would be consistent with the current AQMP control measures, and would decrease VMT per service population. Therefore, the proposed Project's contribution related to consistency with air quality plans from implementation of the proposed Project would not be cumulatively considerable.

Criteria Air Pollutants

Similar to GHG emissions impacts, air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as a nonattainment area. Criteria air pollutant emissions generated by cumulative development associated with

buildout of the proposed Project would exceed the Air District's project-level significance thresholds during construction and operation and would contribute to the nonattainment designations of the SFBAAB. The SFBAAB is currently designated as a nonattainment area for O_3 and particulate matter (PM_{10} and $PM_{2.5}$). Therefore, this impact is cumulatively considerable.

Toxic Air Contaminants

The proposed Project would generate new sources of TAC near existing or planned sensitive receptors. Review of future development projects by the Air District for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure that health risks are minimized. Proposed General Plan 2045 Policy OS-6.2 and OS-6.4 would require project applicants to prepare a health risk assessment and identify appropriate mitigation to reduce health risk impacts from major sources of TACs. Because TAC impacts are generally localized and the proposed Project would ensure that future development identifies project-specific mitigation measures to reduce potential health risk impacts, the proposed Project's contribution to health risk resulting from implementation of the proposed Project would not be cumulatively considerable.

Odors

All projects in the SFBAAB would be subject to Air District Regulation 1, Rule 1-301, *Public Nuisance*, Air District Regulation 7, *Odorous Substances*, and Air District's CEQA Guidelines Table 5-4, *Odor Screening Distances*. Additionally, potential future development in the EIR Study Area would be subject to proposed General Plan 2045 Policy OS-6.6, which would ensure the use of adequate buffer distances and implementation of appropriate measures to reduce odor impacts. As a result, such development would not contribute to cumulative odor impacts and would protect sensitive land uses from exposure to nuisance odors. Therefore, the proposed Project's contribution to odors resulting from implementation of the proposed Project would not be cumulatively considerable.

Summary

The proposed Project would not result in a cumulatively considerable impact regarding consistency with an AQMP, exposure of sensitive receptors to substantial pollutant concentrations, and other emissions, such as those leading to odors. However, the proposed Project would exceed the Air District's project-level significance thresholds during construction and operation and would contribute to the nonattainment designations of the SFBAAB for O_3 and particulate matter (PM_{10} and $PM_{2.5}$). Therefore, this impact is cumulatively *potentially significant.*

Impact AQ-5: Implementation of the proposed Project could result in cumulative air quality impacts with respect to generation of criteria pollutants and exposure of substantial pollutant concentrations at sensitive receptors.

Criteria air pollutant emissions generated by land uses consistent with the proposed General Plan 2045 land use map could exceed the Bay Area Air District's regional thresholds. Due to the programmatic nature of the proposed Project, no mitigation measures are available. Air pollutant emissions associated with the proposed project would result in a cumulatively considerable contribution to air quality impacts and remain **significant and unavoidable** at the program level. The identification of this program-level cumulative impact does not preclude the finding of less-than-significant cumulative impacts for subsequent projects analyzed at the project level.

3.3.6 References

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3.4 BIOLOGICAL RESOURCES

This section evaluates the potential biological resources impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential biological resources impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to biological resources were received during the EIR scoping period.

3.4.1 Regulatory Framework

FEDERAL

Federal Endangered Species Act

The United States Fish and Wildlife Services (USFWS) has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (FESA) and its implementing regulations prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the FESA. FESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Title 50, Part 17, Section 17.3, *Definitions*, of the Code of Federal Regulations (CFR), defines the term "harass" as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering. Furthermore, Section 17.3 defines "harm" as an act that either kills or injures a listed species. By definition, "harm" includes habitat modification or degradation that kills or injures a listed species by significantly impairing essential behavior patterns such as breeding, spawning, rearing, migrating, feeding, or sheltering. Section 10(a) of the FESA establishes a process for obtaining an incidental take permit that authorizes nonfederal entities to incidentally take federally listed wildlife or fish. Incidental take is defined by FESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Preparation of a habitat conservation plan (HCP) is required for all Section 10(a) permit applications. USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service have joint authority under the FESA for administering the incidental take program. The Fisheries

Service has jurisdiction over anadromous fish species, and USFWS has jurisdiction over all other fish and wildlife species. Section 7 of the FESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the FESA, or result in the destruction or adverse modification of its habitat. Federal agencies are also required to minimize impacts to all listed species resulting from their actions, including issuance of permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (FESA requires that USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered). This consultation results in a biological opinion prepared by USFWS stating whether implementation of the HCP will result in jeopardy to any HCP covered species or will adversely modify critical habitat and the measures necessary to avoid or minimize effects to listed species. Although federally listed animals are legally protected from harm no matter where they occur, Section 9 of the FESA provides protection for endangered plants by prohibiting the malicious destruction on federal land and other take that violates State law. Protection for plants not living on federal lands is provided by the California Endangered Species Act (CESA).

Clean Water Act

The United States Army Corps of Engineers (USACE) is responsible under Section 404 of the Clean Water Act to regulate the discharge of fill material into waters of the United States (U.S.). These waters and their lateral limit include streams that are tributaries to navigable waters and their adjacent wetlands (Title 33 CFR Section 328.3). The lateral limits of jurisdiction for a nontidal stream are measured at the line of the ordinary high-water mark or the limit of adjacent wetlands. Any permanent extension of the limits of an existing water of the U.S., whether natural or human-made, results in a similar extension of USACE jurisdiction.

Waters of the U.S. fall into two broad categories: wetlands and other waters. Other waters include waterbodies and watercourses generally lacking plant cover such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries. Wetlands are aquatic habitats that support hydrophytic wetland plants and include marshes, wet meadows, seeps, floodplains, basins, and other areas experiencing extended seasonal soil saturation. Seasonally or intermittently inundated features, such as seasonal ponds, ephemeral streams, and tidal marshes, are categorized as wetlands if they have hydric soils and support wetland plant communities. Seasonally inundated water bodies or watercourses that do not exhibit wetland characteristics are classified as other waters of the U.S.

Waters and wetlands that cannot trace a continuous hydrologic connection to a navigable water of the U.S. are not tributary to waters of the U.S. These are termed “isolated wetlands.” Isolated wetlands are jurisdictional when their destruction or degradation can affect interstate or foreign commerce (33 CFR 328.3). USACE may or may not take jurisdiction over isolated wetlands depending on the specific circumstances.

In general, a project proponent must obtain a Section 404 permit from USACE before placing fill or grading in wetlands or other waters of the U.S. Prior to issuing the permit, USACE is required to consult with USFWS under Section 7 of the FESA if the project may affect federally listed species.

All USACE permits require water quality certification under Section 401 of the Clean Water Act. In the EIR Study Area, this regulatory program is administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB). Project proponents who propose to fill wetlands or other waters of the U.S. must apply for water quality certification from the San Francisco Bay RWQCB.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term "take" is defined as "to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires." Most bird species native to North America are covered by this act. The MBTA prohibits the intentional or incidental killing of birds or destruction of their nests when in active use.

STATE

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) has jurisdiction over State-listed endangered, threatened, and rare plant and animal species under CESA (California Fish and Game Code [CFGC] Section 2050 et seq.). CESA is similar to FESA both in process and substance; it is intended to provide additional protection to threatened and endangered species in California. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws apply) or under only one act. A candidate species is one that the Fish and Game Commission has formally noticed as being under review by CDFW for addition to the State list. Candidate species are protected by the provisions of CESA.

California Environmental Quality Act

The California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.) applies to projects proposed to be undertaken or requiring approval by State and local government agencies. Projects are defined as having the potential to have physical impact on the environment. Under Section 15380 of the CEQA Guidelines (California Code of Regulations Sections 15000 et seq.), a species not included on any formal list "shall nevertheless be considered rare or endangered if the species can be shown by a local agency to meet the criteria" for listing. With sufficient documentation, a species could be shown to meet the

definition of rare or endangered under CEQA and be considered a “de facto” rare or endangered species.

Projects that undergo independent CEQA review would be required to determine whether there is potential habitat on-site for special-status species. If potential habitat were found on-site, focused surveys for those special-status species potentially present would be required. If special-status species were found, the project proponent would be required to consult with the CDFW regarding impacts to special-status species and ensuing mitigation. Mitigation for impacts to special-status species is often in the form of acquisition or restoration of habitat, on-site or off-site, at a ratio to the area of impacted land that would be determined by the CDFW or USFWS. For projects sited in critical habitat for a listed species and are proposed by federal agencies or involve federal permits or funding, the project proponent would be required under the FESA to consult with the USFWS regarding impacts and mitigation. As part of the permitting process with the USACE, projects affecting federally regulated waters must demonstrate that they would not have an adverse effect on federally listed species or would be required to provide adequate compensatory mitigation where avoidance is infeasible.

California Fish and Game Code

CDFW is responsible for enforcing the CFGC, which contains several protections from take for a variety of species. CDFW also protects streams, water bodies, and riparian corridors through the Streambed Alteration Agreement process under Sections 1601 to 1606 of the CFGC. The CFGC stipulates that it is “unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake” without notifying CDFW, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. CDFW’s jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

The CFGC also lists animal species designated as fully protected or protected, which may not be taken or possessed at any time. The CDFW does not issue licenses or permits for take of these species except for necessary scientific research, habitat restoration/species recovery actions, or live capture and relocation pursuant to a permit for the protection of livestock. Fully protected species are listed in CFGC Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish), while protected amphibians and reptiles are listed in Chapter 5, Sections 41 and 42, respectively.

Several provisions in the CFGC provide for the protection of birds and bird nests in active use. Unless the CFGC or its implementing regulations provide otherwise, the following is unlawful under California law:

- Take a bird, mammal, fish, reptile, or amphibian.
- Take, possess, or needlessly destroy the nest or eggs of any bird.
- Take, possess, or destroy any bird of prey in the orders Strigiformes (owls) and Falconiformes (such as falcons, hawks, and eagles) or the nests or eggs of such bird.
- Take or possess any of the 13 fully protected bird species listed in CFGC Section 3511.
- Take any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).
- Take or possess any migratory non-game bird as designated in the MBTA or any part of such bird, except as provided by rules or regulations adopted by the Department of the Interior under the MBTA.
- Take, import, export, possess, purchase, or sell any bird (or products of a bird), listed as an endangered or threatened species under the CESA unless the person or entity possesses an Incidental Take Permit or equivalent authorization from CDFW.

Non-native species, including European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columba livia*), are not afforded any protection under the MBTA or CFGC.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 through 14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. The RWQCB asserts jurisdiction over isolated waters and wetlands, as well as waters and wetlands that are regulated by USACE. Therefore, even if a project does not require a federal permit, it still requires review and approval by the RWQCB. When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of waste discharge requirements into projects that will require discharge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction best management practices (BMPs).

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under the CESA but rather under CEQA.

The California Native Plant Society (CNPS) is a non-governmental conservation organization that has developed a list of plants of special concern in California. The following explains the designations for each plant species (CNPS 2025):

- **Rank 1A.** Plants presumed extirpated in California and either rare or extinct elsewhere
- **Rank 1B.** Plants rare, threatened, or endangered in California and elsewhere
- **Rank 2A.** Plants presumed extirpated in California, but common elsewhere
- **Rank 2B.** Plants rare, threatened, or endangered in California, but more common elsewhere
- **Rank 3.** Plants about which more information is needed; a review list
- **Rank 4.** Plants of limited distribution; a watch list

California Natural Communities

Sensitive natural communities are natural community types considered to be rare or of a "high inventory priority" by the CDFW. Although sensitive natural communities have no legal protective status under FESA or CESA, they are provided some level of consideration under CEQA. Appendix G of the CEQA Guidelines identifies potential impacts on a sensitive natural community as one of six criteria to consider in determining the significance of a proposed project. While no thresholds are established as part of this criterion, it serves as an acknowledgement that sensitive natural communities are an important resource and, depending on their rarity, should be recognized as part of the environmental review process. The level of significance of a project's impact on any sensitive natural community will depend on that natural community's relative abundance and rarity.

As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland, and/or other sensitive natural community would normally be considered to have a significant effect on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts to the specific community type.

California Migratory Bird Protection Act

Passed in 2025, the California Migratory Bird Protection Act (Assembly Bill 454) made permanent California's protections for migratory birds by tying State law to the federal MBTA. The act prohibits the taking or possession of migratory birds, their nests, or eggs, except as allowed under federal MBTA.

REGIONAL

East Alameda County Conservation Strategy

The East Alameda County Conservation Strategy (EACCS) provides a 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 (ICF 2010). The EACCS focuses on biological resources such as endangered and other special-status species, as well as sensitive habitat types (e.g., wetlands, riparian corridors, rare upland communities). The EACCS does not include incidental take permits for threatened or endangered species, similar to that provided by an HCP. Participating in the EACCS is voluntary. The City of Livermore (City) is a partner in the EACCS and uses the document for guidance and input on managing biological resources and conservation priorities during project-level planning.

East Bay Regional Conservation Investment Strategy

The East Bay Regional Conservation Investment Strategy (RCIS) covers Alameda and Contra Costa counties and was approved by CDFW in January 2021 (ICF 2021). The RCIS is a voluntary, non-regulatory, and non-binding conservation assessment that includes information and analyses relating to the conservation of focal species, their associated habitats, and the conservation status of the RCIS land base. RCIS establishes biological goals and objectives at the species level and describes conservation actions and habitat enhancement actions that, if implemented, will contribute to those goals and objectives. Those actions will benefit the conservation of focal species, habitats, and other natural resources, and they may be used as a basis to provide advance mitigation or inform other conservation investments. The development of RCISs does not create, modify, or impose regulatory requirements or standards, regulate land use, establish land use designations, or affect the land use authority of a public agency.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to biological resources. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to biological resources are in Title 12, *Streets, Sidewalks, and Public Places.* Chapter 12.30, *Street Trees and Tree Preservation*, defines "protected trees" based on trunk circumference at breast height (i.e., 4.5 feet above grade). The definition of a protected tree varies depending on several factors, including existing land use and property ownership status. This chapter requires that prior to the removal of a protected tree, all trees on site must be surveyed by a certified arborist. Following the arborist survey, a tree action permit, which

must include an arborist's report, must be approved by the City. Furthermore, the City may require mitigation measures as conditions of approval for the removal of protected trees.

Livermore Stream Maintenance Program

In 2015, the City developed a programmatic Stream Maintenance Program (SMP) for routine creek and channel maintenance in coordination with the RWQCB, CDFW, USACE, and USFWS (City of Livermore 2023). The SMP serves as a permitting framework for routine maintenance work in and around channels. It also defines BMPs to minimize the impacts of routine maintenance to listed species and sensitive habitat and to mitigate for these impacts.

3.4.2 Existing Conditions

VEGETATION COMMUNITIES AND HABITAT TYPES

The EIR Study Area consists largely of urban developed areas surrounded by agriculture and grassland. Figure 3.4-1, *Vegetation Communities and Land Cover*, shows the extent of urbanization, agricultural areas, and vegetative communities.

In general, each cover type differs in its relative value as wildlife habitat and can be characterized by both vegetation community and associated animal species that are dependent on that habitat. Some wildlife species may use more than one habitat type. The characteristic plant and wildlife species typically associated with each of these habitat types are summarized herein (City of Livermore 2022).

Urban Developed Areas

Urban developed areas occupy most of the EIR Study Area, as shown on Figure 3.4-1. Urban developed areas include residential, commercial, industrial, transportation, landscaping, and recreational uses (e.g., sites with structures, paved surfaces, horticultural plantings, golf courses, and irrigated lawns). Most plant species used in landscaping are non-native ornamentals, consisting of a wide variety of trees, shrub, groundcover, and turf species. Ruderal species (non-native, invasive) tend to dominate locations where the ground surface has been disturbed. Native trees are scattered throughout the established residential and urbanized areas, including buckeye (*Aesculus californica*), london planetree (*Platanus x acerifoia*), and coast live oak (*Quercus agrifolia*).

Several wildlife species use urban areas for foraging, roosting, and/or nesting. These species include native animals that have adapted well to living near humans such as Pacific treefrog (*Hyla regilla*), western fence lizard (*Sceleroporus occidentalis*), barn swallow (*Hirundo rustico*), black phoebe (*Saynoris nigricans*), and other common but protected species of nesting birds, in addition to non-native species such as house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*). Urban-adapted mammal species, including raccoon (*Procyon lotor*) and

opossum (*Didelphis virginiana*), are also common in this setting. In addition, a few protected species live in urban developed areas such as burrowing owl (*Athene cunicularia*), northwestern and southwestern pond turtle (*Actinemys marmorata*), and some species of bats. Some artificial water bodies in urban areas, including stormwater conveyances or detention basins, may also support fish and amphibians when inundated.

Agricultural Areas

The EIR Study Area includes cultivated agriculture and pastureland. Cultivated agriculture encompasses all areas where the native vegetation has been cleared for irrigated agriculture use or dryland farming (e.g., cropland, orchards, and vineyards). Pastureland is typically similar to grassland as it is not as intensively managed and less altered than cultivated agricultural land.

Wildlife that may use grazing land in the EIR Study Area and surrounding region include species that thrive in open environments with relatively little cover or edge habitats such as California ground squirrel (*Spermophilus beecheyi*), black-tailed deer (*Odocoileus hemionus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Many bird species, including birds of prey such as red-tailed hawks (*Buteo jamaicensis*), may nest in trees adjacent to agricultural areas and often can be found foraging on small mammals or insects. Intensively farmed lands do not typically support native plant communities. However, wildlife species, particularly migrating waterfowl and raptors, use these fields for foraging and/or roosting. The edges of agricultural fields may provide opportunities for burrowing animals such as California ground squirrels and burrowing owls. In addition, agricultural areas are often some of the few sites with readily available water, irrigation ditches, and stock ponds that are not heavily disturbed and often support various species of reptiles and amphibians.

Grassland

Grassland occupies most of the undeveloped areas north, east, and south of the EIR Study Area. Grassland in the EIR Study Area consists of alkali meadow and scalds, California annual grassland, and valley sink scrub grassland communities.

California annual grassland is the most common grassland community in the EIR Study Area covering 3,738 acres. California annual grassland is generally composed of introduced grasses and can be found in areas that have been grazed or in abandoned agricultural fields and vacant lots. Dominant species typically observed in California annual grassland include foxtail brome (*Bromus madritensis*), ripgut brome (*Bromus diandrus*), slim oat (*Avena barbata*), and wild oats (*Avena fatua*). Non-native forbs such as filaree (*Erodium* sp.) and mustard (*Brassica* sp.) are often found in non-native annual grassland.

Alkali meadow and scalds occur in the northern portion of the EIR Study Area. Dominant species in alkali meadows include barley (*Hordeum* sp.), beardless wild rye (*Elymus triticoides*), and salt grass (*Distichilis spicata*). Associated plant species consist of halophytes, including alkali heath

(*Frankenia salina*), alkali weed (*Cressa truxillensis*), alkali mallow (*Malvella leprosa*), common tarweed (*Centromadia pungens*), and saltbush (*Atriplex* sp.).

Valley sink scrub occurs in the northern portion of the EIR Study Area. Valley sink scrub develops where clay-rich alkaline soils area seasonally saturated because of a shallow water table, low surface runoff, and slow infiltration. The herbaceous layer consists of a patchwork of barren, salt-encrusted scalds and alkali grassland vegetation, including alkali heath, iodine bush (*Allenrolfea occidentalis*), and salt grass.

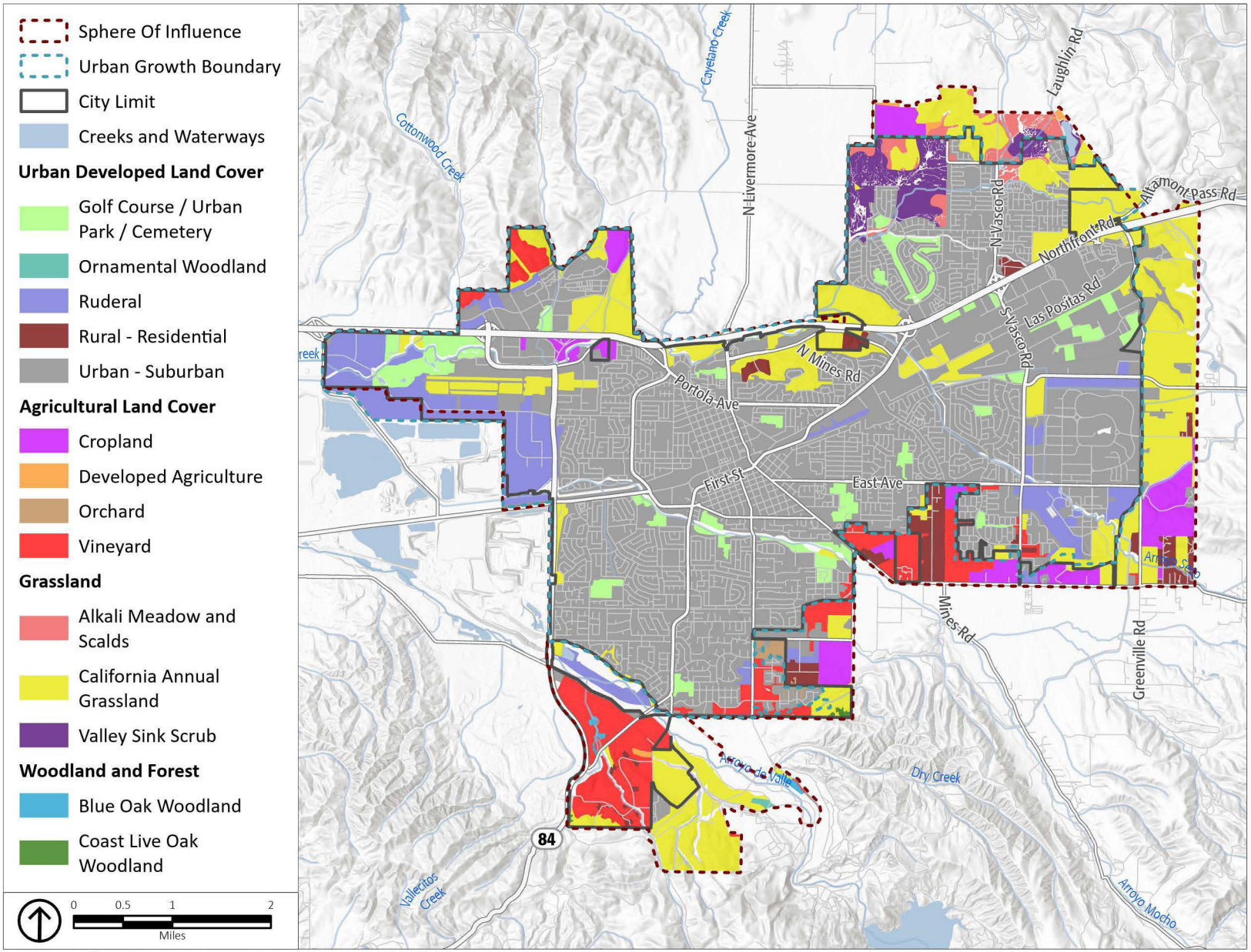
Many wildlife species use both non-native and native grasslands, including northern pacific rattlesnake (*Crotalus viridis*), California horned lark (*Eremophila alpestris*), and black-tailed jackrabbit (*Lepus californicus*). California ground squirrels may also be found in these habitats, whose burrows may be occupied by burrowing owl where vegetation height is suitable. In addition, grassland habitats support vernal pools and seasonal wetland features, where federally listed endangered branchiopods such as vernal pool fairy shrimp (*Branchinecta lynchi*) can be found. These vernal pool habitats may also support special-status amphibians such as federally and/or State-listed California tiger salamander (*Ambystoma californiense*) and federally listed California red-legged frog (*Rana draytonii*) when inundated.

Woodland and Forest

Woodland and forested habitats are largely restricted to the north and east-facing slopes or higher elevations to the south and west of the EIR Study Area. The moist microclimate produced by the altitude, steepness, and/or aspect of these areas has allowed the establishment of dense stands of trees. Two woodland/forest communities are present in the EIR Study Area, depending on the microclimate of the site: coast live oak woodland and blue oak woodland.

Coast live oak woodland is typically located on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content. These woodlands are extensive on west-facing slopes from the ridgeline to mid-elevation. The dominant tree species is coast live oak. Wildlife species found in coast live oak woodlands include a variety of bird species, including birds of prey such as white-tailed kite (*Elanus leucurus*) and cavity nesters such as acorn woodpeckers (*Melanerpes formicivorus*), a variety of reptiles and amphibians, and common mammals such as black-tailed deer.

Blue oak woodland is usually found in low to mid-elevation hills in slightly drier microclimates. Blue oak woodland is dominated by blue oak (*Quercus douglasii*), a drought-tolerant species adapted to grow on thin soils in the dry foothills. California buckeye (*Aesculus californica*) and foothill pine (*Pinus sabiniana*) are associated tree species in blue oak woodland. The understory varies from dense to open with a composition similar to California annual grassland. Understory species typically include coffeeberry (*Rhamnus californica*), holly leaf cherry (*Prunus ilicifolia*), and poison oak (*Toxicodendron divesilobum*).



Source: East Alameda County Conservation Strategy, 2011; City of Livermore, 2022.

Figure 3.4-1
Vegetation Communities and Land Cover

Because they generally offer opportunities for basking in canopy openings, woodland communities are home to a number of reptile species, including the federally and State-listed Alameda whipsnake (*Masticophis lateralis euryxanthus*), northern pacific rattlesnake, California kingsnake (*Lampropeltis getulus*), western fence lizard, and northern alligator lizard (*Elgaria coerulea*). Bird species include California thrasher (*Toxostoma redivivum*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculatus*), and California quail (*Callipepla californica*). Mammals that are likely to use this habitat for cover and forage include black-tailed deer, coyote, gray fox (*Urocyon cinereoargenteus*), black-tailed jackrabbit, and various rodents.

SPECIAL-STATUS SPECIES

Special-status species are plants and animals that are legally protected under FESA, CESA, or other regulations, as well as other species that are considered rare by the scientific community and resource agencies to warrant special consideration, particularly regarding protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat (see Section 3.4.1, *Regulatory Framework*). Species with legal protection under the FESA and CESA often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species. Special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the FESA.
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the CESA.
- Plant species with a rank of 1A, 1B, and 2 in the CNPS Inventory of Rare and Endangered Plants.
- Animal species designated as Species of Special Concern or Fully Protected by the CDFW.
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA Guidelines.
- Focal Species from the EACCS.
- Species considered a taxon of special concern by relevant local agencies.

The primary information source on the distribution of special-status species in California is the California Natural Diversity Database (CNDDB) inventory, which is maintained by the Biogeographic Data Branch of CDFW. The CNDDB inventory provides the most comprehensive statewide information on the location and distribution of special-status species and sensitive natural communities. Occurrence data is obtained from a variety of scientific, academic, and professional organizations, private consulting firms, and knowledgeable individuals, and entered into the inventory as expeditiously as possible. The occurrence of a species of concern in a particular region is an indication that an additional population may occur at another location if habitat conditions are suitable. However, the absence of an occurrence in a particular location

does not necessarily mean that special-status species are absent from the area in question; only that no data has been entered into the CNDDB inventory. Detailed field surveys are generally required to provide a conclusive determination on presence or absence of sensitive resources from a particular location, where there is evidence of potential occurrence.

Special-Status Plants

Review of the CNDDB, USFWS's Information for Planning and Consultation (IPac) resource list (USFWS 2025), and CNPS occurrence records indicate a total of 25 special-status plant species that have been reported within or in the vicinity of the EIR Study Area (CDFW 2025). These special-status plant species are listed in Table 3.4-1, *Special-Status Plant Species in the EIR Study Area*, together with information on their status, description of typical habitat characteristics, and normal flowering season.

Existing development limits the likelihood of continued occurrences of populations of special-status plant species within the EIR Study Area, with the possible exception of riparian and wetland-dependent species that may occur along arroyo and stream corridors and other major drainages, or species associated with seasonal wetlands and grassland where suitable habitat remains. Special-status plant species with the potential to occur in the grassland and aquatic resources land cover types in the EIR Study Area include big tarplant (*Blepharizonia plumosa*, California Rare Plant Rank [CRPR] 1B.1), brittlescale (*Atriplex depressa*, CRPR 1B.2), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*, CRPR 1B.1), hispid salty bird's-beak (*Chloropyron molle* ssp. *hispidum*, CRPR 1B.1), Livermore tarplant (*Deinandra bacigalupii*, CRPR 1B.1), palmate-bracted bird's-beak (*Chloropyron palmatum*, FE, SE, CRPR 1B.1), and San Joaquin spearscale (*Extriplex joaquinana*, CRPR 1B.2). Focused surveys would be required to provide confirmation of presence or absence of special-status plant species on undeveloped portions of the EIR Study Area where thorough studies have not been conducted.

Special-Status Animals

Based on a review of the CNDDB, the IPac resource list, and other sources, a total of 51 special-status animal species are known or suspected to potentially occur in the EIR Study Area and surrounding region. A total of 30 of these special-status animal species have been reported by the CNDDB within or near EIR Study Area (CDFW 2025). These species are listed in Table 3.4-2, *Special-Status Animal Species in the EIR Study Area*, together with information on their status, and description of typical habitat characteristics. As shown on Figure 3.4-2, *Critical Habitats*, critical habitat has been designated by USFWS for California red-legged frog in the northeastern foothills and for vernal pool fairy shrimp in open spaces at the northern edge of the EIR Study Area.

Table 3.4-1 Special-Status Plant Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat
Astragalus tener var. *tener*	Alkali milk-vetch	—	—	1B.2	Alkaline soils. Playas, valley and foothill grassland (adobe clay), and vernal pools. Elevation ranges from 3 to 197 feet (1 to 60 meters). Blooms March–June.
Atriplex cordulata var. cordulata	heartscale	—	—	1B.2	Alkaline substrates in chenopod scrub, meadows and seeps, and valley and foothill grassland habitats. Elevation below 1,230 feet (375 meters). Blooms April–October.
Atriplex depressa	brittlescale	—	—	1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. Elevation ranges from 5 to 1,050 feet (1 to 320 meters). Blooms April–October.
Atriplex minuscula	lesser saltscale	—	—	1B.1	Chenopod scrub, playas, and valley and foothill grassland. Elevation ranges from 50 to 655 feet (15 to 200 meters). Blooms May–October.
Balsamorhiza macrolepis	big-scale balsamroot	—	—	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland. Elevation ranges from 150 to 5,100 feet (45 to 1,555 meters). Blooms March–June.
Blepharizonia plumosa	big tarplant	—	—	1B.1	Valley and foothill grassland. Elevation ranges from 100 to 1,655 feet (30 to 505 meters). Blooms July–October.
Calochortus pulchellus	Mt. Diablo fairy-lantern	—	—	1B.2	Chaparral, cismontane and riparian woodland, and valley and foothill grassland. Elevation below 2,750 feet (840 meters). Blooms April–June.
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	—	—	1B.1	Alkaline valley and foothill grasslands. Elevation ranges from 0 to 755 feet (0 to 230 meters). Blooms May–November.
Chloropyron molle ssp. *hispidum*	hispid salty bird's beak	—	—	1B.1	Meadows and seeps, playas, and valley and foothill grassland. Elevation ranges from 5 to 510 feet (1 to 155 meters). Blooms June–September.
Chloropyron palmatum	palmate-bracted bird's-beak	Federal Endangered	State Endangered	1B.1	Chenopod scrub, and valley and foothill grassland. Elevation ranges from 15 to 510 feet (5 to 155 meters). Blooms May–October.

Table 3.4-1 Special-Status Plant Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat
Deinandra bacigalupii	Livermore tarplant	—	State Endangered	1B.1	Meadows and seeps. Elevation ranges from 490 to 605 feet (150 to 185 meters). Blooms June–October.
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	—	—	1B.2	Chaparral, cismontane woodland, and coastal scrub. Elevation ranges from 640 to 3,595 feet (195 to 1,095 meters). Blooms Apri–June.
Extriplex joaquinana	San Joaquin spearscale	—	—	1B.2	Meadows and seeps, playas, and valley and foothill grasslands. Elevation ranges from 3 to 2,740 feet (1 to 835 meters). Blooms April–October.
Fritillaria agrestis	stinkbells	—	—	4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland. Elevation ranges from 35 to 5,100 feet (10 to 1,555 meters). Blooms March–June.
Helianthella castanea	Diablo helianthella	—	—	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Elevation ranges from 200 to 4,250 feet (60 to 1295 meters). Blooms April–June.
Hesperolinon breweri	Brewer's western flax	—	—	1B.2	Chaparral, oak woodland, and grassland communities, often in open areas with low vegetation cover like transitions between grasslands and chaparral. Elevation ranges from 100 to 3,100 feet (30 to 945 meters). Blooms May–June.
Navarretia nigelliformis ssp. radians	shining navarretia	—	—	1B.2	Vernal pools within cismontane woodland and valley or foothill grassland. Elevation ranges from 150 to 330 feet (45 to 100 meters). Blooms April–July.
Navattetia prostrata	prostrate vernal pool navarretia	—	—	1B.2	Coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation ranges from 10 to 3,970 feet (3 to 1,210 meters). Blooms April–July.
Plagiobothrys glaber	hairless popcornflower	—	—	1A	Marshes and swamps, and meadows and seeps. Elevation ranges from 50 to 590 feet (15 to 180 meters). Blooms March–May.

Table 3.4-1 Special-Status Plant Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat
Puccinellia simplex	California alkali grass	—	—	1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation ranges from 5 to 3,050 feet (2 to 930 meters). Blooms March–May.
Ravenella exigua	chaparral harebell	—	—	1B.2	Chaparral communities near cliff sides or rocky areas. Elevation ranges from 900 to 4,100 feet (275 to 1,250 meters). Blooms May–June.
Senecio aphanactis	chaparral ragwort	—	—	1B.2	Chaparral, cismontane woodland, coastal scrub; sometimes in alkaline soils. Elevation ranges from 50 to 2,625 feet (15 to 800 meters). Blooms January–April.
Spergularia macrotheca var. *longistyla*	long-styled sand-spurrey	—	—	1B.2	Marshes and swamps, and meadows and seeps. Elevation ranges from 0 to 835 feet (0 to 255 meters). Blooms February–May.
Trifolium hydrophilum	saline clover	—	—	1B.2	Marshes and swamps, valley and foothill grassland, and vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms April–June.
Tropidocarpum capparideum	caper-fruited tropidocarpum	—	—	1B.1	Valley and foothill grassland. Elevation ranges from 5 to 1,495 feet (1 to 455 meters). Blooms March–April.

Source: CDFW 2025.

Notes: California Native Plant Society (CNPS) California Rare Plant Rank

- 1A: Plants presumed extinct in California.
- 1B: Plants rare, threatened, or endangered in California and elsewhere.
- 2: Plants rare and endangered in California but more common elsewhere.
- 3: Plants about which additional data are needed – a review list.
- 4: Plants of limited distribution – a watch list

Table 3.4-2 Special-Status Animal Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	Habitat
Birds				
Agelaius tricolor	tricolored blackbird	—	State Threatened; CDFW Species of Special Concern	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.
Ammodramus savannarum	grasshopper sparrow	—	CDFW Species of Special Concern	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.
Aquila chrysaetos	golden eagle	—	California Fully Protected Species	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, riverbanks, trees, and manufactured structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during the winter.
Athene cunicularia	burrowing owl	—	State Candidate (Endangered); CDFW Species of Special Concern	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.
Buteo swainsoni	Swainson's hawk	—	State Threatened	Summer resident in California's Central Valley. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.
Circus hudsonius	northern harrier	—	CDFW Species of Special Concern	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.

Table 3.4-2 Special-Status Animal Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	Habitat
Elanus leucurus	white-tailed kite	—	California Fully Protected Species	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.
Haliaeetus leucocephalus	bald eagle	—	State Endangered; California Fully Protected Species	Typically nests in forested areas near large bodies of water in the northern half of California; nests in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands.
Lanius ludovicianus	loggerhead shrike	—	CDFW Species of Special Concern	Year-round resident in open woodland, grassland, savanna, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely foliaged shrubs or trees.
Mammals				
Antrozous pallidus	pallid bat	—	CDFW Species of Special Concern	Found in a variety of habitats ranging from grasslands to mixed forests, favoring open and dry, rocky areas. Roost sites include crevices in rock outcrops and cliffs, caves, mines, and hollow trees and various human-made structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Corynorhinus townsendii	Townsend's big-eared bat	—	CDFW Species of Special Concern	Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas, e.g., along streams.
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	—	CDFW Species of Special Concern	Maritime chaparral and woodlands with moderate to dense cover and abundant dead wood for nest construction.

Table 3.4-2 Special-Status Animal Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	Habitat
Taxidea taxus	American badger	—	CDFW Species of Special Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.
Vulpes macrotis mutica	San Joaquin kit fox	Federal Endangered	State Threatened	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.
Amphibians				
Ambystoma californiense	California tiger salamander – Central coast DPS	Federal Threatened	State Threatened	Occurs in grasslands of the Central Valley and oak savanna communities in the Central Valley, the Sierra Nevada and Coast ranges, and the San Francisco Bay area. Needs seasonal or semi-permanent wetlands toreproduce, and terrestrial habitat with active ground squirrel or gopher burrows.
Rana boylii	foothill yellow-legged frog Central coast DPS	Federal Threatened	State Endangered	Found in or adjacent to rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.
Rana draytonii	California red-legged frog	Federal Threatened	CDFW Species of Special Concern	Found mainly near ponds in riparian woodlands, grasslands, coastal scrub, and stream sides with emergentvegetation. Most common in lowlands or foothills. Frequently found in woodlands adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry.
Spea hammondii	western spadefoot	Federal Proposed Threatened	CDFW Species of Special Concern	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.
Reptiles				
Actinemys marmorata	Northwestern pond turtle	Federal Proposed Threatened	CDFW Species of Special Concern	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, andeither rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.

Table 3.4-2 Special-Status Animal Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	Habitat
Actinemys pallida	Southwestern pond turtle	Federal Proposed Threatened	CDFW Species of Special Concern	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, andeither rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.
Anniella pulchra	Northern California legless lizard	—	CDFW Species of Special Concern	The most widespread of California's *Anniella* species. Occurs in sandy or loose soils under sparse vegetation from Antioch south coastally to Ventura. Bush lupine is often an indicator plant, and two melanistic populations are known.
Masticophis flagellum ruddocki	San Joaquin coachwhip	—	CDFW Species of Special Concern	Occurs in open, dry, treeless areas, including grassland and saltbush scrub. Takes refuge in rodent burrows,under shaded vegetation, and under surface objects.
Masticophis lateralis euryxanthus	Alameda whipsnake	Federal Threatened	State Threatened	Found in chaparral and sage scrub with rock outcrops, deep crevices, or abundant rodent burrows.
Phrynosoma blainvillii	coast horned lizard	—	CDFW Species of Special Concern	Occurs primarily in scrub, chaparral, and grassland habitats associated with undisturbed sandy substrates.
Insects and Crustaceans				
Bombus crotchii	Crotch's bumble bee	—	State Candidate (Endangered)	Found in a variety of habitats. Once common and widespread. Species has declined precipitously, perhaps from disease.
Bombus occidentalis	western bumble bee	—	State Candidate (Endangered)	Found in a variety of habitats. Once common and widespread. Species has declined precipitously, perhaps from disease.
Branchinecta longiantenna	longhorn fairy shrimp	Federal Endangered	—	Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.
Branchinecta lynchi	vernal pool fairy shrimp	Federal Threatened	—	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water

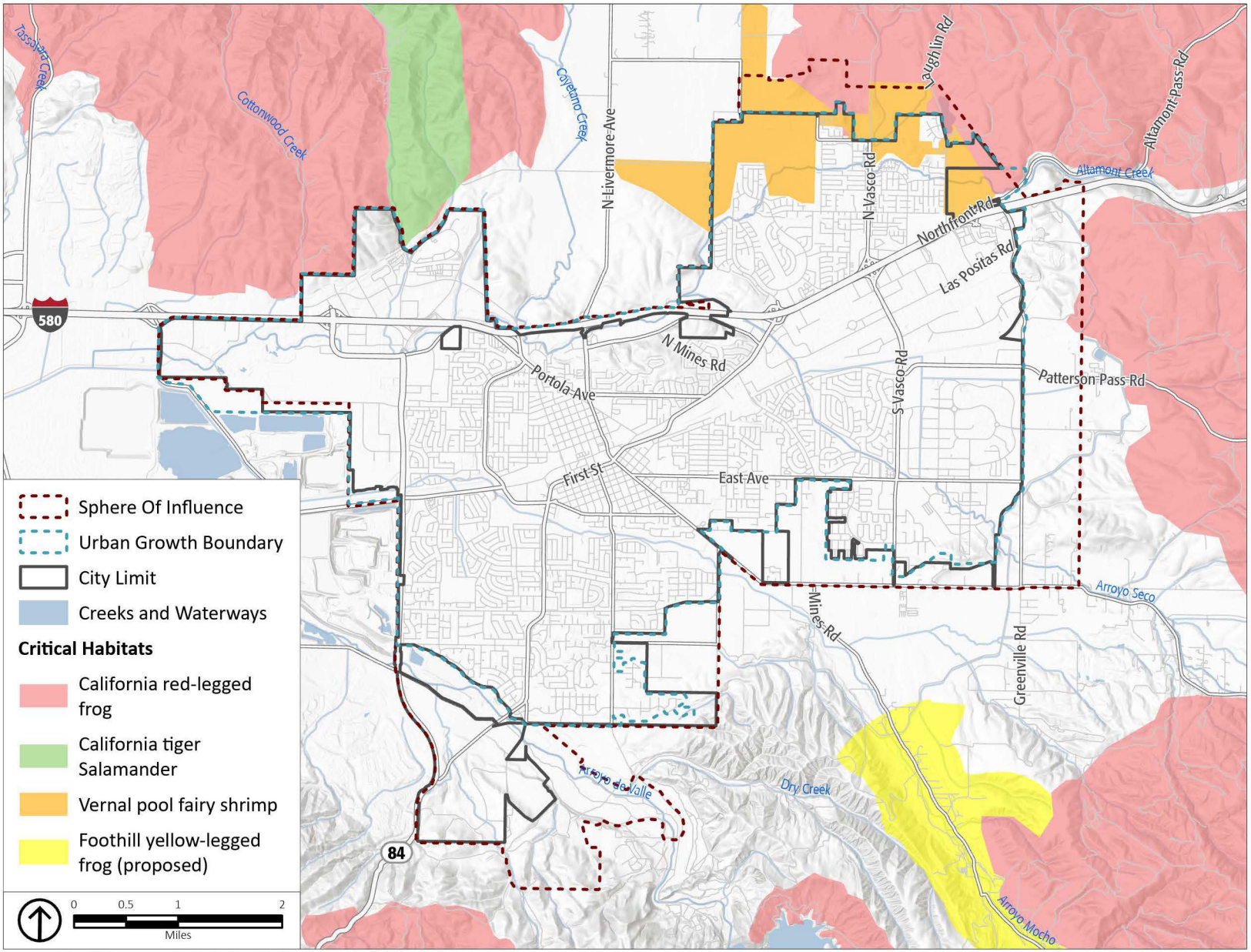
Table 3.4-2 Special-Status Animal Species in the EIR Study Area

Scientific Name	Common Name	Federal Status	State Status	Habitat
				sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.
Danaus plexippus	Monarch butterfly	Federal Proposed Threatened	—	Coastal California groves of eucalyptus, Monterey pine, or cypress. Cool and humid climate sheltered from wind. Nectar-rich stopover sites during migration routes.
Fish*				
Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Federal Threatened	—	Occurs from the Russian River south to Aptos Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.

Source: CDFW 2025.

Note: CDFW = California Department of Fish and Wildlife, DPS = distinct population segment

*Not reported by CNDDB, but EIR Study Area is known to have potential suitable habitat to support a population.



Source: City of Livermore, 2022; United States Fish and Wildlife Service, 2025.

Figure 3.4-2
Critical Habitats

Many of the special-status animal species listed in Table 3.4-2 may occasionally pass through or forage in the EIR Study Area vicinity but are not known or believed to breed in the EIR Study Area. These include San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), foothill yellow-legged frog (*Rana boylii*), and longhorn fairy shrimp (*Branchinecta longiantenna*). Most of the species listed in Table 3.4-2 without federal and/or State listing status are not closely monitored by the CNDDB, and therefore, occurrence records are typically not included in the database. These include most of the species identified as species of special concern or fully protected by the CDFW.

Special-status animal species known in the EIR Study Area are of greatest concern from a planning perspective because of their protection status or restricted distribution, which is discussed in further detail herein (City of Livermore 2022).

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is a State Threatened Species and CDFW Species of Special Concern. The tricolored blackbird is a locally common resident in the Central Valley and along coastal California. Most tricolored blackbirds reside in the Central Valley from March through August, then migrate to the Sacramento-San Joaquin Delta, and east to Merced County and coastal locations during winter. This species breeds adjacent to freshwater, preferring emergent wetlands with tall, dense cattails or tules, thickets of willow or blackberry, and/or tall herbs. Flooded agricultural fields with dense vegetation are also used. This species is highly colonial; nesting habitat must be large enough to support a minimum of 30 pairs, and colonies are commonly substantially larger (up to thousands of pairs). Tricolored blackbird often intermingles with other blackbird species during the non-breeding season. Individuals typically forage up to 5.6 miles (9 kilometers) from their colonies, although in most cases only a small part of the area within this range provides suitable foraging habitat.

Tricolored blackbird has been documented within the EIR Study Area, in created wetlands and concrete-lined channels with emergent vegetation growth. Similarly, detention basins or other artificial water bodies may support sufficiently large areas of suitable vegetation for the establishment of a tricolored blackbird colony. These habitats are scattered throughout the EIR Study Area wherever semi-perennial aquatic habitats exist.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a State Candidate (Endangered) Species and CDFW Species of Special Concern. Burrowing owl occurs as a year-round resident and winter visitor in much of California's lowlands, inhabiting open areas with sparse or non-existent tree or shrub canopies. Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands are also used. This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting, and in Northern California it

is typically found in close association with California ground squirrels. Human-made substrates such as pipes or debris piles may also be occupied in place of burrows. Prey consists of insects and small vertebrates. Breeding typically takes place from March to July.

Burrowing owl have the potential to occur widely within the EIR Study Area given the presence of ground squirrel activity (and thus suitable burrows). Ruderal uplands or grasslands in open spaces are the most likely to support both ground squirrels and burrowing owl, provided vegetation height is suitable (i.e., less than six inches). Burrowing owl may occur in relatively developed areas as well if the proper habitat elements are present.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is a CDFW Fully Protected Species. White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities. Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall. This species preys on a variety of small mammals as well as other vertebrates and invertebrates.

White-tailed kite may occur widely throughout the EIR Study Area, although most common occurrences would be in parks and open spaces given the need for foraging habitat adjacent to nest trees. Documented occurrences within the EIR Study Area are generally in semi-developed locations with suitable nest trees and ruderal uplands that likely support a suitable small mammal prey base.

California Tiger Salamander

California tiger salamander (*Ambystoma californiense*), Central Coast Distinct Population Segment, is Federal Threatened Species and State Threatened Species. California tiger salamander is restricted to grasslands and low-elevation foothill regions in California (generally under 1,500 feet) where it uses seasonal aquatic habitats for breeding. The salamanders breed in natural ephemeral pools and natural and created ponds, and occupy substantial areas surrounding the breeding pool as adults. California tiger salamanders spend most of their time in the grasslands surrounding breeding pools. They survive hot, dry summers by living underground in burrows (e.g., those created by ground squirrels and other mammals and deep cracks or holes in the ground) where the soil atmosphere remains near the water saturation point. During wet periods, the salamanders may emerge from refugia and feed in the surrounding grasslands.

California tiger salamander has generally been documented in undeveloped portions of the EIR Study Area or at the periphery of development (chiefly at the northern and southern extremes of the EIR Study Area). Rangeland areas or other similar habitats are commonly occupied by this species due to the presence of suitable aquatic habitat (i.e., stock ponds and vernal pools) adjacent to grasslands with small mammal burrows or soil fissures where they seek underground refugia. This species is rarely found in waterways within developed areas.

California Red-Legged Frog

California red-legged frog (*Rana draytonii*) is a Federal Threatened Species and CDFW Species of Special Concern. Suitable aquatic breeding habitat is characterized by deep and still or slow-moving water associated with emergent marsh and/or riparian vegetation, typically with at least 20 weeks of continuous inundation. Suitable features include ponds (perennial and non-perennial), streams/creeks, seasonal wetlands, springs, seeps, human-made features (e.g., stock ponds, roadside ditches), marshes, dune ponds, and lagoons. Dependent upon local conditions, California red-legged frog may complete its entire life cycle in a particular habitat patch (e.g., a perennial pond suitable for all life stages) or use multiple habitat types. In aquatic features that dry down seasonally, California red-legged frog often retreat to small mammal burrows or other substrates that provide suitable refugia. Adults and sub-adults (newly metamorphosed individuals) may disperse from breeding habitats to nearby riparian and/or refugia areas in the summer. Conversely, during the rainy season, California red-legged frogs may migrate from refugia sites to waters suitable for breeding. During such dispersals, frogs can travel over one mile over a variety of topographic and habitat types. Upland dispersal habitats are variable and typically include riparian corridors, grasslands, and oak savannas.

Occurrences of California red-legged frog are variable within the EIR Study Area, although they are most likely to be found in grassland or rangeland areas outside of developed areas due to the presence of both aquatic breeding habitat and upland habitat. However, unlike California tiger salamander, California red-legged frog is documented in stormwater conveyances, natural creeks, and modified channels in more developed areas within the EIR Study Area. California red-legged frog critical habitat has been designated by USFWS along the northern edge of the EIR Study Area.

Northwestern Pond Turtle and Southwestern Pond Turtle

Northwestern pond turtle (*Actinemys marmorata*) and southwestern pond turtle (*Actinemys pallida*) are Federal Proposed Threatened Species and CDFW Species of Special Concern. The taxonomy of western pond turtle has undergone a reclassification of the genus and splitting of the single species into two species: northwestern pond turtle and southwestern pond turtle. Both the northwestern pond turtle and the southwestern pond turtle are collectively referred to western pond turtle in this document. Western pond turtle is the only native freshwater turtle in California. Western pond turtle range from uncommon to common in aquatic habitat

throughout California, west of the Sierra-Cascade crest and Transverse ranges. Western pond turtle inhabits annual and perennial aquatic habitats, such as coastal lagoons, lakes, ponds, marshes, rivers, and streams from sea level to 5,500 feet in elevation. Pond turtles also occupy human-made habitats such as stock ponds, wastewater storage, percolation ponds, canals, and reservoirs. This species requires low-flowing or stagnant freshwater aquatic habitat with suitable basking structures, including rocks, logs, algal mats, mud banks, and sand. Warm, shallow, nutrient-rich waters are ideal as they support prey items, which include aquatic invertebrates and occasionally fish, carrion, and vegetation. Turtles require suitable aquatic habitat for most of the year; however, western pond turtle often occupies creeks, rivers, and coastal lagoons that become seasonally unsuitable. To escape periods of high water flow, high salinity, or prolonged dry conditions, western pond turtle may move upstream and/or take refuge in vegetated, upland habitat for up to four months. Although upland habitat is used for aestivation and nesting, this species preferentially uses aquatic and riparian corridors for movement and dispersal.

Western pond turtle has been reported from various locations within the EIR Study Area. Typical habitats within the EIR Study Area include aquatic habitats with adjacent ruderal or grassland areas, including detention basins, natural creeks, modified channels, and ponds.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is a Federal Threatened Species. Vernal pool fairy shrimp is widespread but not abundant; populations are known from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County (additional disjunct populations exist at various locations throughout the state). Vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear sandstone rock pools to large, turbid, alkaline, grassland valley floor pools.

Vernal pool fairy shrimp are limited in where they can occur by the presence of vernal pool habitats, which are generally limited to grassland areas along the northern edge of the EIR Study Area. Some vernal pool habitats may also occur within grasslands in the southeast corner of the EIR Study Area, although it is possible these areas have not been specifically surveyed for this species. Portions of the northern edge of the EIR Study Area are designated as critical habitat for vernal pool fairy shrimp.

Steelhead - Central California Coast DPS

Central California Coast DPS (*Oncorhynchus mykiss irideus*) is a Federal Threatened Species. Central California Coast DPS includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin. Steelhead typically migrate to marine waters after spending two years

in freshwater, though they may stay up to seven. They then reside in marine waters for two or three years prior to returning to their natal stream to spawn as four- or five-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels, and fast-flowing water. Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

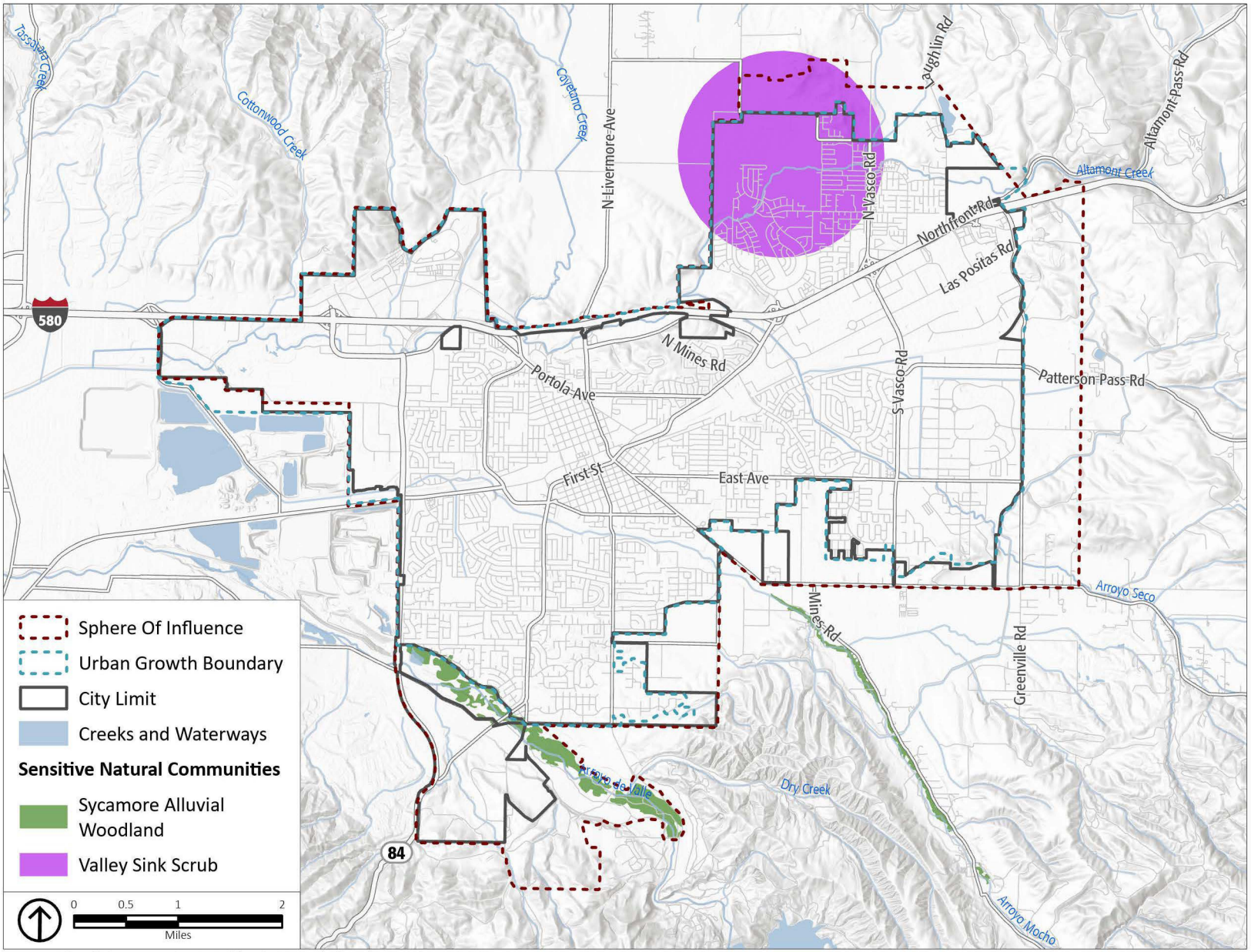
Steelhead is not documented in the CNDDB within the EIR Study Area or the immediate vicinity. However, some sources suggest that Arroyo Mocho, which flows through the EIR Study Area, contains a steelhead run or at least supports a population. This population may be historical rather than current, because downstream water control structures (e.g., dams) prevent Arroyo Mocho from being inundated for long periods of the year. Thus, under certain circumstances, Arroyo Mocho could support steelhead within the EIR Study Area, but only during conditions when Arroyo Mocho is inundated and when/if fish passage is feasible.

SENSITIVE NATURAL COMMUNITIES

As shown on Figure 3.4-3, *Sensitive Natural Communities*, sensitive natural communities documented by CNDDB within the EIR Study Area include sycamore alluvial woodlands and valley sink scrub. Occurrences of other sensitive natural communities may be present within the EIR Study Area but have not been mapped as part of EACCS or other regional mapping efforts. Detailed surveys would be required to provide confirmation on the presence or absence of any sensitive natural communities on undeveloped portions of the EIR Study Area where thorough studies have not been conducted.

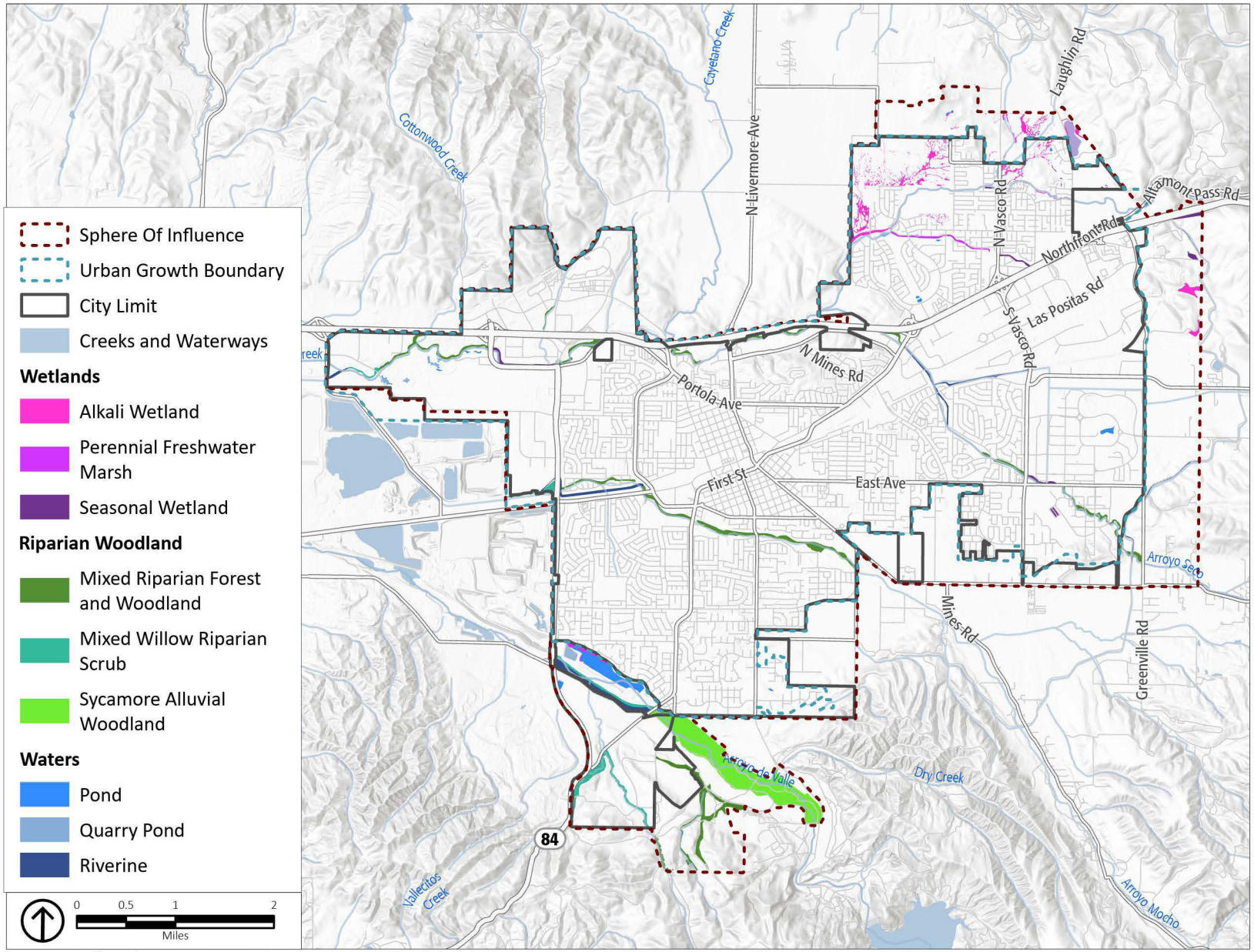
AQUATIC RESOURCES

Aquatic resources in the EIR Study Area include wetlands, streams and arroyos, modified channels, and riparian habitats. These resources are recognized as important features on a regional and national level because of their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. As shown in Figure 3.4-4, *Aquatic Resources*, features within the EIR Study Area that could be considered wetlands or other waters of the U.S. by USACE include alkali wetland, perennial freshwater marsh, seasonal wetland, and riverine features. Additional federal- and State-regulated aquatic features may be present elsewhere in the EIR Study Area, but site-specific assessments and jurisdictional delineation studies would be required to confirm presence or absence on undeveloped lands.



Source: City of Livermore, 2022; California Natural Diversity Database, 2025.

Figure 3.4-3
Sensitive Natural Communities



Source: East Alameda County Conservation Strategy, 2011; City of Livermore, 2022.

Figure 3.4-4
Aquatic Resources

As discussed in Section 3.4.1, *Regulatory Framework*, USACE, CDFW, and RWQCB generally exercise authority over aquatic resources, including wetland and non-wetland waters. Numerous features within the EIR Study Area can be assumed to fall under jurisdiction of USACE and RWQCB pursuant to Sections 404 and 401 of the Clean Water Act and Porter-Cologne Water Quality Control Act. Streams and lakes are also regulated by the CDFW pursuant to Section 1600 of the CFGC, with jurisdiction extending to the top of bank or the outer dripline of riparian vegetation along these features, whichever is greater.

The limit of federal jurisdiction in non-tidal, non-wetland waters extends to the ordinary high-water mark rather than the band of adjacent riparian vegetation, limiting USACE's jurisdiction where dense willow riparian scrub and forest extend a considerable distance from the stream bank. However, the limit of waters of the State regulated by CDFW and the RWQCB typically encompass both the bed and bank of a stream, as well as the limits of the associated riparian vegetation where it extends beyond the top of bank. Both agencies typically request that an adequate setback be provided to avoid both direct and indirect impacts on riparian corridors as part of environmental review for specific development plans.

Creeks and Waterways

Several creeks and arroyos cross the EIR Study Area. Watershed and principal waterways in the EIR Study Area are shown on Figure 3.4-4, including Altamont Creek, Arroyo Las Positas, Arroyo Mocho, Arroyo Seco, Arroyo Valle, Cottonwood Creek, Cayetano Creek, and Dry Creek and are classified as riverine aquatic features. Most of these waterways flow from east to west. The Arroyo Valle drains a relatively small area of the central and southern portion of the EIR Study Area. Arroyo Mocho flows through the southern portion of the EIR Study Area. Arroyo Las Positas generally flows along Interstate 580 through the EIR Study Area. The major tributaries to Arroyo Las Positas include Altamont Creek, Arroyo Seco, and Cottonwood Creek. Arroyo del Valle, Arroyo Las Positas, and Arroyo Mocho join Arroyo de la Laguna in Pleasanton, which drains the Livermore Valley in a southerly direction approximately 18 miles to the San Francisco Bay via Niles Canyon and Alameda Creek, which occur outside the EIR Study Area. These riverine aquatic features are associated with riparian vegetation communities described as follows (City of Livermore 2022).

Mixed Riparian Forest and Woodland

Riparian vegetation refers to native woodlands occurring along streams and riverbanks. Mixed riparian forest and woodland is found along perennial and intermittent streams in the EIR Study Area. Dominant cover includes alder (*Alnus* sp.), California sycamore, Fremont cottonwood (*Populus fremontii*), and willows (*Salix* sp.).

There are several arroyos in the EIR Study Area that support riparian vegetation. Arroyo Mocho is relatively undisturbed and supports some mature riparian woodland. Arroyo Valle, particularly within the Sycamore Grove Park, also supports mature riparian woodland. Other

arroyos, such as Arroyo Las Positas and Arroyo Seco, have been largely modified for flood-control purposes. As a result, the riparian vegetation is sparse and has been replaced by aquatic vegetation like cattails (*Typha* sp.) and rushes (*Juncus* sp.).

Riparian areas provide important breeding and foraging habitat for many amphibians, reptiles, birds, bats, and mammals and comprise one of the most biologically diverse habitats in the region. Riparian habitats may also provide upland areas that would be used by native special-status reptiles and amphibians, such as California red-legged frog and western pond turtle.

Mixed Willow Riparian Scrub

Mixed willow riparian scrub occurs in and along the margins of the active channel on intermittent and perennial streams. The most extensive reach of willow riparian forest and scrub occurs along Arroyo del Valle as it passes through the EIR Study Area. This vegetation community is dominated by shrubby willows, typically including arroyo willow (*Salix lasiolepis*), narrowleaf willow (*Salix exigua*), red willow (*Salix laevigata*), and yellow willow (*Salix lutea*). Understory development is controlled by canopy density. Where the canopy is more open and dominated by trees or scattered willow scrub, an understory of shrubs and herbs is present.

Sycamore Alluvial Woodland

Sycamore alluvial woodland is generally present on broad floodplains and terraces along low gradient streams where soils are cobbly or rocky alluvium. Within the EIR Study Area, Sycamore alluvial woodland primarily occurs along Arroyo del Valle in Sycamore Grove Park. The canopy is mostly open and dominated by California sycamore (*Platanus racemosa*). Other associated species include bigleaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), coast live oak, valley oak (*Quercus lobata*), white alder (*Alnus rhombifolia*), and willows.

Wetlands

Wetlands are natural communities that depend on year-round or seasonally dependable sources of water. The EIR Study Area supports several different types of wetlands: alkali wetland, perennial freshwater marsh, and seasonal wetlands (City of Livermore 2022).

Alkali Wetland

Alkali wetlands are typically found in valley bottoms where highly alkaline Rincon Solano, Clear Lake, and Pescadero soil series are present. The soils are seasonally saturated and slow to drain, supporting vegetation that is distinct from the surrounding grasslands or woodland. Similar to vernal pools and native grasslands, the extent of this habitat has diminished greatly with only small pockets left in the vicinity of the EIR Study Area. Plant species typically observed in alkali wetlands include salt grass, wild carrot *(Daucus pusillus)*, and palmate-bracted bird's-beak, a federally listed and State-listed endangered plant.

Perennial Freshwater Marsh

Perennial freshwater marshes occur in areas that are wet year-round and are typically associated with ponds (natural or human-made), the shallow edges of lakes, and large pools in riparian areas. Marshes typically support bulrushes (*Scirpus* sp.), cattails rushes, sedges (*Carex* sp.), and willows and provide habitat for wildlife species such as California red-legged frog, California tiger salamander, and western pond turtle.

Seasonal Wetland

Seasonal wetlands, including vernal pools, were mapped in grasslands throughout the EIR Study Area. Seasonal wetlands are freshwater wetlands that support ponded or saturated soil conditions during winter and spring and are dry through the summer and fall until the first substantial rainfall. Associated species include wetland generalists such as cocklebur (*Xanthium* sp.), hyssop loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Festuca perennis*).

To form, vernal pools require slight depressions over bedrock or hardpan soils that allow water to pool during the winter and spring rains. Since vernal pools are a unique habitat and tend to be isolated, vernal pools often support species that are endemic (i.e., restricted) to vernal pools or even to pools in that region. As a result of this endemism and the dramatic decline of vernal pools due to agriculture and development, vernal pools support many special-status plant and animal species protected by the state or federal government.

Open Water

Permanently inundated open water bodies are mostly restricted to the former sand and gravel pits west of the EIR Study Area such as Shadow Cliffs Lake within Shadow Cliffs Regional Recreation Area (City of Livermore 2022). Other open water habitats may exist as small natural or human-made ponds and reservoirs. Although open water does not provide habitat for many plant species, it is important for wildlife and fish species such as California red-legged frog (during their aquatic life history periods). These habitats may also support more common and/or invasive fish and amphibian species such as bass (*Micropterus sp*.), bluegill (*Lepomis macrochirus*), and American bullfrogs (*Lithobates catesbeianus*).

WILDLIFE CORRIDORS

Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The terms “landscape linkage” and “wildlife corridor” are often used when referring to these areas. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas. It is useful to think of a landscape linkage as valuable in a regional planning context, a broad scale mapping of natural habitat that functions to join two larger habitat blocks. The term wildlife corridor is useful in the context of smaller, local area planning, where wildlife movement may be facilitated by specific local

biological habitats or passages and/or may be restricted by barriers to movement. Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat.

The EIR Study Area is not within a designated wildlife corridor, as based on the Essential Connectivity Areas habitat mapper (CDFW 2023). The EIR Study Area is generally within a dense urban and residential matrix, which is typically considered to serve as a barrier to dispersal for most wildlife species. While common and/or urban-adapted wildlife species presumably use the EIR Study Area to some degree for movement at a local scale, the EIR Study Area itself does not provide corridor functions beyond connecting other more desirable habitat patches in surrounding areas. Peripheral portions of the EIR Study Area that are characterized by larger patches of grassland or woodlands, such as along the northern and southeastern boundary, may provide more function as corridors (ICF 2010).

3.4.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact on biological resources if it would:

a) Have a substantial 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 CDFW or USFWS.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

c) 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.

d) 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.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan.

3.4.4 Project Impact Analysis

a) Would the project have a substantial 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 CDFW or USFWS?

Less than significant. As discussed in Section 3.4.2, *Existing Conditions*, 25 special-status plant species have been reported within or in the vicinity of the EIR Study Area. Most of the special-status plant species occurrences in the EIR Study Area are associated with the grassland and aquatic resources land cover types in the EIR Study Area. Additionally, 51 special-status animal species have some potential to occur in or frequent the EIR Study Area. Of these, a total of 30 have been reported by the CNDDB to occur within the EIR Study Area. Many of the special-status animal species may occasionally pass through or forage in the EIR Study Area vicinity but are not known or believed to breed in the EIR Study Area. These include San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), foothill yellow-legged frog (*Rana boylii*), and longhorn fairy shrimp (*Branchinecta longiantenna*).

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to special-status species. The potential for occurrence of special-status species in developed areas is typically remote in comparison to undeveloped lands with natural habitat that contain essential habitat characteristics for the range of species known in the EIR Study Area vicinity. While the potential for adverse impacts on special-status species is relatively low, there remains a potential for loss or disruption due to conversion of areas of natural habitat, removal of trees and other vegetation, increases in light and noise, and other modifications and disturbance, especially where future development occurs on undeveloped land. Grading and other construction disturbance to existing natural habitat could include the direct loss of special-status plants and animal species or further isolate them from other occurrences where urbanization creates barriers between the remaining areas of natural habitat. This includes possible loss or disturbance to bird nests in active use.

Local, regional, State, and federal regulations provide varying levels of protection for special-status species, depending on several factors, including legal protective status, rarity and distribution, the magnitude of the potential impact on essential habitat, specific occurrence and overall population levels, and take of individual plants or animals. Activities requiring discretionary approvals by local, regional, State, and federal agencies provide for the greatest oversight because future development would be evaluated for potential impact on special-status species and other sensitive biological resources. Future development would be subject to

the local, regional, State, and federal regulations outlined in Section 3.4.1, *Regulatory Framework*, including requirements of USFWS and CDFW, the strategies of the EACCS, and the BMPs of the SMP to protect special-status species. The USFWS generally requires a permit under Section 10 of the ESA for incidental take of federally listed species from development activities. Additionally, the CDFW generally requires a CESA Section 2081(b) permit for incidental take of State-listed species from development activities. The SMP recognizes that maintenance activities may disturb sensitive species and includes BMPs such as seasonal scheduling to avoid sensitive periods, pre-construction surveys for special-status species, and targeted vegetation management to reduce impacts to special-status species. Future development would also undergo review through the City's entitlement process and, as applicable, CEQA to ensure consistency with federal, State, and local regulations intended to protect sensitive biological resources, including special-status species.

Additionally, the Open Space and Conservation (OS) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to address potential impacts on special-status species:

- **Goal OS-1:** Conserve the value and function of Livermore's open space for natural resource protection, recreation, and scenic value.
  - **Policy OS-1.1: Diverse Open Space System**. Foster an open space system that supports the natural function of the land, protects sensitive wildlife and plant species, preserves important viewscapes, and creates opportunities for recreation.
  - **Policy OS-1.3: Open Space Preservation and Restoration**. Prioritize opportunities to preserve, restore, rewild, and enhance natural landscapes to support environmental and community health.
  - **Policy OS-1.4: Open Space Acquisition and Connection**. Prioritize land acquisition efforts that would result in the creation and expansion of permanent open spaces or corridors that link existing or create new protected natural resource areas.
  - **Policy OS-1.6: Open Space Easement Designation**. Work with local stakeholders and agencies to use open space easements to preserve sensitive habitat and resources.
  - **Policy OS-1.10: Preservation of Natural Amenities**. Preserve and enhance, or work with other agencies, as appropriate (e.g., with joint grant applications, sharing of staff resources and legal services), to preserve and enhance the following natural amenities:
    a) Ridgelines
    b) Oak Woodlands and Grasslands
    c) Grasslands
    d) Riparian Woodland
    e) Arroyos and Creeks
    f) Knolls
    g) Doolan Canyon

h) Arroyo Mocho/Cedar Mountain
i) Corral Hollow
j) Sycamore Grove
k) Hilltops (North Livermore Urban Growth Boundary Initiative)
l) Slopes (North Livermore Urban Growth Boundary Initiative)
m) Viewscapes (North Livermore Urban Growth Boundary Initiative)
n) Frick Lake
o) Springtown Alkali Sink

- **Goal OS-2:** Protect and enhance biological resources.
  - **Policy OS-2.1: Biodiversity Preservation**. Preserve biodiversity within the Planning Area, with special emphasis on species that are sensitive, rare, declining, unique, or represent valuable biological resources.
  - **Policy OS-2.2: East Alameda County Conservation Strategy.** Require all development projects involving ground-disturbing activities to submit an Environmental Site Assessment Form as part of a complete application. The City will use this assessment to identify potential effects on special-status species and sensitive habits and require that project design and implementation are consistent with the applicable avoidance, minimization, and, where necessary, compensatory mitigation measures set forth in Tables 3.2 through 3.12 of the East Alameda County Conservation Strategy.
  - **Policy OS-2.3: Livermore Habitat Conservation Plan.** Adopt and implement the Livermore Habitat Conservation Plan to address impacts to the federally listed species that result from implementation of the City's Capital Improvement Program and Stream Maintenance Program, and other projects implemented by the City to support General Plan buildout.
  - **Policy OS-2.5: Cluster Development**. Work with project applicants to cluster new development to minimize its overall footprint in areas of ecological sensitivity, such as hillsides, alkali springs, creek corridors, and watersheds, and preserve space for habitat and wildlife connectivity.
  - **Policy OS-2.6: Avoidance of Sensitive Features.** Protect wetland and biological resources by requiring new development to avoid areas that support wildlife and plant habitats that contribute to ecological connectivity. Instead, integrate these features into overall development to support long-term ecological health.
  - **Policy OS-2.7: Habitat Mitigation and Long-Term Management.** Use habitat mitigation as a tool to support the long-term protection and management of sensitive natural habitats, including alkali sinks, riparian vegetation, freshwater marshes, vernal pools, wetlands, and woodlands. Support the use of mitigation banks and other mechanisms that provide durable, landscape-scale conservation outcomes.

- **Policy OS-2.8: Habitat Restoration.** Restore areas adjacent to existing open space areas with native plant and animal communities.
- **Policy OS-2.9: Riparian Enhancements**. Promote the long-term health and ecological function of riparian areas by ensuring that adjacent development supports the protection, enhancement, and restoration of native riparian vegetation.
- **Policy OS-2.14: Biological Resource Preservation Grant Funding.** Work with local, regional, and State natural resource agencies and area nonprofit organizations to develop programs and apply for grants to fund preservation of sensitive biological resources, including arroyos, wetlands, riparian areas, and grasslands.

Specifically, proposed Policies OS-2.5 and OS-2.6 would serve to protect sensitive species and their habitats through project design by clustering development and avoiding areas that support wildlife and plan habitats that contribute to ecological connectivity. Proposed Policies OS-1.6 and OS-1.10 require the City to work with local stakeholders and agencies to preserve sensitive habitats. Proposed Policies OS-2.2 and OS-2.3 would require the City to implement the EACCS and future, proposed Livermore HCP, which include further strategies and BMPs to minimize impacts to sensitive species and their habitats. A key strategy of the EACCS is the conservation of core habitat areas that support sensitive and special-status species, and the EACCS provides technical guidance for focal sensitive species, including recommendations for survey approaches, buffers, and mitigation to reduce disturbance. Implementation of these recommendations would be required for applicable projects per OS-2.2. Proposed Actions OS-A-1.3, OS-A-1.4, and OS-A-2.1 would further support these policies by developing a program to manage City-owned open space lands using sustainable practices and to identify, prioritize, and implement conservation easements on these lands to support habitat values and collaborating with other agencies to preserve natural and near-natural landscape communities.

Therefore, with regulatory compliance with the local, regional, State, and federal regulations listed in Section 3.4.1, *Regulatory Framework*, along with implementation of the proposed General Plan 2045 goals and policies, development would not result in significant adverse effects to special-status species, and impacts would be **less than significant**.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

Less than significant. As shown on Figure 3.4-3, sensitive natural communities in the EIR Study Area include alkali meadow and scalds and valley sink scrub. Occurrences of other sensitive natural communities may be present within the EIR Study Area but have not been mapped as part of EACCS or other regional mapping efforts. Additionally, as shown in Figure 3.4-4, aquatic features within the EIR Study Area that could be considered sensitive natural communities include alkali wetland, perennial freshwater marsh, seasonal wetland, and riverine features.

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to riparian habitats and sensitive communities; however, future development (especially on undeveloped land) could occur within riparian habitat or other sensitive communities.

As described under impact discussion (a), future development would be subject to the local, regional, State, and federal regulations outlined in Section 3.4.1, *Regulatory Framework*, including requirements of USFWS, CDFW, the strategies of the EACCS, and the BMPs of the SMP to protect sensitive natural communities. Some sensitive natural communities (e.g., wetlands and riparian habitat) and aquatic habitats qualify as protected wetlands or jurisdictional waters and are regulated through the CWA. Riparian habitats and sensitive natural communities receive protection under the CFGC (Sections 1601–1603). Any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream would be required to obtain a Streambed Alteration Agreement from the CDFW prior to any alteration of a lakebed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. A core objective of the EACCS is the avoidance and minimization of impacts to riparian forest and scrub communities, and the EACCS establishes specific conservation targets for riparian communities. The SMP includes BMPs for riparian habitat preservation during routine maintenance such as work timing controls, pre-maintenance biological training, and having an on-call qualified biologist. Future development would also undergo review through the City's entitlement process and, as applicable, CEQA to ensure consistency with federal, State, and local regulations intended to protect sensitive biological resources, including riparian habitats and sensitive natural communities.

Additionally, the proposed General Plan 2045 goals and policies identified under impact discussions (a) and (c), in addition to the following goal and policy from the Open Space and Conservation (OS) Element, are designed to protect riparian habitat and other sensitive natural communities by concentrating development in previously disturbed areas and by emphasizing avoidance, minimization, and mitigation of impacts through development guidelines and standards:

- **Goal OS-3:** Protect Livermore's groundwater resources, waterways, tributaries, and associated riparian habitats.
  - **Policy OS-3.2: Waterway Maintenance and Improvement.** Maintain and enhance Livermore's creeks, arroyos, and wetlands in as natural a state as possible to reduce erosion, improve water quality, preserve habitat, and increase resilience to climate change. Coordinate with Zone 7 Water Agency and other partners to implement nature-

based solutions that support flood protection and stormwater management, ecological function, and public safety.

Specifically, implementation of proposed Policy OS-2.9 would ensure development adjacent to riparian habitats supports the protection, enhancement, and restoration of riparian vegetation and Policy OS-2.7 would require habitat mitigation as a tool to protect sensitive natural habitats. Proposed Policies OS-1.6 and OS-1.10 require the City to work with local stakeholders and agencies to preserve sensitive habitats. A key strategy of the EACCS is the conservation of core habitat areas that support sensitive and special-status species, and the EACCS provides technical guidance for focal sensitive species, including recommendations for survey approaches, buffers, and mitigation to reduce disturbance. Implementation of these recommendations would be required for applicable projects per proposed Policy OS-2.2.

Therefore, with compliance with the proposed General Plan 2045 goals and policies and the existing federal, State, and local regulations outlined in Section 3.4.1, *Regulatory Framework*, future development would not result in significant adverse effects to riparian habitat or other sensitive natural communities, and impacts would be **less than significant**.

c) Would the project 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?

Less than significant. As shown in Figure 3.4-4, features within the EIR Study Area that could be considered wetlands or other waters of the U.S. by USACE include alkali wetland, perennial freshwater marsh, seasonal wetland, and riverine features. The proposed 2045 General Plan would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area, in proximity to wetlands.

As described under impact discussions (a) and (b), future development would be required to comply with existing federal, State, and local regulations, as detailed in Section 3.4.1, *Regulatory Framework*, including requirements of USFWS, CDFW, the strategies of the EACCS, and the BMPs of the SMP to protect wetlands. Section 404 of the CWA requires any project that impacts a protected wetland must obtain a permit that authorizes fill of that feature. If a wetland is determined to be present, then a permit must be obtained from the USACE to authorize filling of the wetland. Although future projects may impact protected wetlands, the regulatory process that is established through Section 404 of the CWA would ensure that there is “no net loss” of protected wetlands. If, through the design process, it is determined that a future development project cannot avoid a protected wetland, then the USACE would require an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Section 401 of the CWA requires that an applicant seeking a 404 permit also obtain a water quality certification from the RWQCB. To issue a water quality certification, the RWQCB must indicate that the proposed fill is consistent with the standards set forth by the State and confirm that any discharge into regulated wetlands comply with applicable water quality standards. Future development would also be reviewed through the City's entitlement process and, as applicable, CEQA, to ensure consistency with federal, State, and local regulations intended to protect sensitive biological resources, including wetlands.

Additionally, the same proposed General Plan 2045 goals and policies from the Open Space and Conservation (OS) Element identified under impact discussions (a) and (b) would also serve to minimize impacts to wetlands. Specifically, proposed Policy OS-2.6 and Policy OS-3.2 would require the City to protect wetlands by avoiding development in areas that support wildlife and plant habitats and maintaining and enhancing Livermore's creeks, arroyos, and wetlands. Proposed Policy 2.14 would require the City to work with natural resource agencies and organizations to develop programs to fund preservation of sensitive biological resources, including arroyos, wetlands, riparian areas, and grasslands.

Indirect water quality-related issues are discussed further in Section 3.10, *Hydrology and Water Quality*. Refer to Section 3.10 for a list of goals and policies that would preserve water quality of all water resources in the EIR Study Area, including wetlands. As discussed under impact discussion (a) in Section 3.10, water quality impacts are determined to be less than significant with implementation of the proposed General Plan 2045 goals and policies, in conjunction with State and local regulations.

Future development would comply with adopted State, federal, and local regulations for the protection of wetlands and waters of the United States and/or State. In addition, future projects would comply with requirements of the proposed General Plan 2045 goals and policies related to the protection of these biological resources. Implementation of these regulations would reduce impacts on State or federally protected wetlands and waters by emphasizing avoidance, minimization, and mitigation of impacts, including finding that there is "no net loss" of wetlands or other adverse effects on wetlands through hydromodification, filling, diversion, or change in water quality before approving development permits. Therefore, with mandatory regulatory compliance, future development projects would have not result in adverse effects related to State or federally protected wetlands and waters, and impacts would be **less than significant**.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

Less than significant with mitigation. As discussed in Section 3.4.2, *Existing Conditions*, the EIR Study Area is not within a designated wildlife corridor, as based on the Essential Connectivity Areas habitat mapper. The EIR Study Area is generally within a dense urban and residential matrix, which is typically considered to serve as a barrier to dispersal for most wildlife species. While common and/or urban-adapted wildlife species presumably use the EIR Study Area to some degree for movement at a local scale, the EIR Study Area itself does not provide corridor functions beyond connecting other more desirable habitat patches in surrounding areas. Peripheral portions of the EIR Study Area that are characterized by larger patches of grassland or woodlands, such as along the northern and southeastern boundary, may provide more function as corridors.

The proposed 2045 General Plan would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to wildlife movement corridors; however, future development (especially on undeveloped land) could occur on the peripheral portions of the EIR Study Area that provide function as corridors.

Future development would be required to comply with existing federal, State, and local regulations, as detailed in Section 3.4.1, *Regulatory Framework*, and as discussed under impact discussions (a), (b), and (c), including requirements to implement the strategies of the EACCS and the BMPs of the SMP to conserve wildlife movement corridors. The EACCS identifies broad habitat linkage types (e.g., grassland corridors, riparian and streamside corridors, and aquatic upland connections) and includes strategies that emphasize maintaining continuity of such large high-quality habitat blocks and maintaining riparian buffers and avoiding habitat fragmentation. The SMP includes BMPs that protect and enhance native riparian vegetation to maintain continuous habitat structure for wildlife movement, minimizing disturbance during maintenance.

Additionally, the proposed General Plan 2045 goals and policies identified under impact discussions (a), (b), and (c), in addition to the following goal and policies from the Open Space and Conservation (OS) Element, are designed to protect wildlife movement corridors and native wildlife nursery sites by concentrating development in previously disturbed areas and by emphasizing avoidance, minimization, and mitigation of impacts through development guidelines and standards:

- **Goal OS-2:** Protect and enhance biological resources.
  - **Policy OS-2.10: Wildlife Linkage.** Coordinate with Caltrans, the California Department of Fish and Wildlife, and other partners to plan for wildlife linkages to allow for the safe travel of wildlife across Interstate 580.
  - **Policy OS-2.11: Aquatic Habitat Corridor Maintenance.** Require the maintenance of aquatic movement corridors, in accordance with the Stream Maintenance Program, that connect natural open space areas.

Specifically, proposed Policy OS-2.5 would require the City to work with project applicants to cluster new development to preserve space for habitat and wildlife connectivity. Proposed Policy OS-2.10 would require coordination with other agencies to plan for the safe travel of wildlife across Interstate 580 and secure easements that protect wildlife corridors. Proposed Policy OS-2.11 would require the maintenance of aquatic movement corridors.

However, future development could include the development of buildings, reflective glass, and artificial lighting. These structures and lighting could disrupt movement or foraging behavior of native birds, including migratory and special-status species, and potentially increase collision-related mortality. Avian injury and mortality resulting from collisions with buildings, towers, and other human-made structures is a common occurrence in city and suburban settings. Some birds are unable to detect and avoid glass and have difficulty distinguishing between actual objects and their reflected images, particularly when the glass is transparent and views through the structure are possible. Night-time lighting can interfere with movement patterns of some night-migrating birds, causing disorientation or attracting them to the light source. As a result, development could interfere with the functionality of regional wildlife corridors with respect to avian species, and impacts would be *potentially significant*.

Impact BIO-4: Implementation of the proposed Project could substantially interfere 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.

> **Mitigation Measure BIO-4:** Prior to the issuance of entitlements for a project, applicants or sponsors of projects on sites where migratory or nesting birds are present shall implement bird-safe design measures for all development projects where a qualified biologist, approved by the City of Livermore (City), determines that migratory or resident birds could be affected. This requirement shall apply to projects adjacent to or incorporating riparian corridors, wetlands, open-space areas, or other natural habitat features, or as otherwise determined by the qualified biologist.
>
> Bird-safe design considerations and management strategies shall include avoiding the use of highly reflective glass that appears to reproduce natural habitat and may attract birds; limiting reflectivity and using non-attractive surface treatments; applying low-

reflectivity glass or other glazing treatments across the entirety of the building's glass surfaces, not only at lower levels; reducing interior light during evening hours through lighting control systems for commercial buildings; directing exterior lighting downward and screening it to minimize night-time illumination of the building exterior, except as needed for safety and security; avoiding glass skyways, freestanding glass walls, and transparent building corners; eliminating transparent glass at rooflines, including in conjunction with green roofs; and covering roof mechanical equipment with low-profile angled roofing to minimize obstacles to bird flight.

Project applicants shall demonstrate incorporation of bird-safe design measures in project plans and provide documentation of biologist review during entitlement or permitting stages. The City shall verify compliance before issuance of building or grading permits.

Mitigation Measure BIO-4 requires bird-safe design measures by project applicants to reduce potential impacts on migratory and resident birds. These measures would minimize collision-related mortality and maintain functional wildlife movement through riparian, wetland, and open-space habitats. Therefore, with mandatory regulatory compliance and implementation of Mitigation Measure BIO-4, future development projects would not 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, and impacts would be **less than significant**.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than significant. The proposed General Plan 2045 is the primary planning document for Livermore. Because the proposed General Plan 2045 is the overriding planning document for the City, and because the proposed Project involves amending the current General Plan and Development Code, the proposed Project would not have an impact with respect to being inconsistent with policies or regulations protecting biological resources.

Future development would be subject to the LMC requirements pertaining to tree preservation and the BMPs of the SMP. The location and nature of development considered under the proposed Project would continue to be guided by the General Plan and Development Code. Future development would continue to be reviewed through the City's entitlement process and, as applicable, CEQA to ensure consistency with local regulations intended to protect biological resources. Future development would be required to comply with the proposed General Plan 2045 goals and policies related to biological resources. Therefore, impacts would be **less than significant**.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan?

Less than significant. There are currently no adopted local, regional, or State HCPs that cover the EIR Study Area.[1] Proposed Policy OS-2.3 requires the adoption and implementation of the Livermore HCP. Adoption is anticipated in 2028. The Livermore HCP would serve to protect covered species and their habitats while streamlining environmental permitting for covered activities, including the City's Capital Improvement Projects, ongoing operations and maintenance, the SMP, and implementation of conservation strategies. The Livermore HCP would be designed to accommodate anticipated urban growth and infrastructure needs while ensuring compliance with applicable environmental regulations and would incorporate avoidance and minimization measures and comprehensive conservation strategy to mitigate potentially significant impacts. The Livermore HCP would analyze the effects of the covered activities on each covered species and include biological goals and objectives for each of the covered species, designed, at a minimum, to maintain current populations in conservation areas. The Livermore HCP would also establish and manage a conservation program to ensure mitigation sites are protected and managed for the benefit of the covered species to offset the permanent loss of covered species habitat. Additionally, the Livermore HCP would outline BMPs to avoid and minimize impacts, including general construction measures, biological resources conservation measures, species-specific conservation measures, hazardous materials conservation measures, and stream-specific conservation measures.

When the HCP is adopted, covered activities would be required to comply with these measures, adhere to defined mitigation ratios, and account for authorized take of species resulting from covered project activities. It is expected that some of the details of the conservation actions will be modified during HCP implementation through the monitoring and adaptive management program.

The proposed General Plan 2045 goals and policies identified under impact discussions (a) through (d) would serve to protect and enhance essential habitat for special-status species and sensitive natural communities within the EIR Study Area. Therefore, this impact is **less than significant**.

[1] The EACCS is not an HCP because it does not include incidental take permits for threatened or endangered species.

3.4.5 Cumulative Impact Analysis

The discussion below considers how buildout of the EIR Study Area and region have the potential to cumulatively impact biological resources, including sensitive species, natural habitats, and wetlands in the eastern Alameda County region, as biological resources do not adhere to human-made boundaries.

Would the project have a cumulative effect related to biological resources?

Less than significant. The impacts of future development on biological resources tend to be site-specific, and the overall cumulative effects would depend on the degree to which significant vegetation and wildlife resources are avoided, or potential impacts are addressed through various forms of mitigation. This includes potential impacts on well-developed native vegetation (e.g., grassland, woodland, and forest), populations of special-status plant or animal species, and wetland features (e.g., riparian corridors and drainages, alkali wetland, freshwater marsh, and seasonal wetland).

Cumulative development contributes to an incremental reduction in the amount of existing natural wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, public and private open space, and undeveloped properties. New cumulative development could result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area.

Future development, as well as other future projects in the eastern Alameda County region, would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on sensitive biological resources. Environmental review of specific development proposals, as applicable, would serve to ensure that important biological resources are identified, avoided, or adequately mitigated for where potential impacts exist. Accordingly, the proposed Project would not make a cumulatively considerable contribution, and cumulative impacts to biological resources would be **less than significant**.

3.4.6 References

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3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

This section evaluates the potential cultural and tribal cultural resources impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential cultural and tribal cultural resources impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As summarized in Chapter 3, *Environmental Analysis,* concerns related to the protection of historic and tribal cultural resources were provided during the EIR scoping period.

Terminology

The following terminology is used throughout this section:

- **Cultural Resource.** This term is used to describe several different types of properties: pre-contact (prehistoric) and historic archaeological sites, buildings, objects, structures, and districts or any other physical evidence associated with human activity considered important to a culture or a community for scientific, traditional, or religious reasons.
- **Historic Property.** Federal regulations (Title 36 Code of Federal Regulations [CFR] Section 800) define a historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (National Register). This term includes artifacts, records, and remains that are related to and located within such properties. The term also includes properties of traditional religious and cultural importance to Native American tribes or Native Hawaiian organizations and that meet National Register criteria.
- **Historical Resource.** CEQA Guidelines Section 15064.5(a) defines a historical resource as a resource listed in the California Register of Historical Resources (California Register) or determined to be eligible for listing in the California Register by the State Historical Resources Commission (SHRC), a resource included in a local register of historical resources, or identified as significant in a historical resource survey meeting the requirements of Public Resources Code (PRC) Section 5024.1(g), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

- **Unique Archaeological Resource.** CEQA defines this term as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
  - Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information
  - Has a special and particular quality, such as being the oldest of its type or the best available example of its type
  - Is directly associated with a scientifically recognized important prehistoric or historic event or person

Tribal Cultural Resources. CEQA defines tribal cultural resources (TCRs) as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe, which may include nonunique archaeological resources previously subject to limited review under CEQA.

3.5.1 Regulatory Framework

FEDERAL

National Historic Preservation Act

In response to the widespread loss of historic buildings during the urban renewal period of the late 1950s and early 1960s, the National Historic Preservation Act (NHPA) was passed in 1966. The NHPA introduced many new laws and regulations to encourage preservation of historic places and established the National Register. The law also created a State Historic Preservation Officer (SHPO) in each state nationwide, laying the groundwork for the development of State and local preservation programs, incentives, and guidance. The law has been amended several times since it was passed. In 1980, an amendment established the Certified Local Government Program.

National Register of Historic Places

The National Register is a federally administered program maintained by the National Park Service. It is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (Title 36 CFR Section 60.2). While the National Register itself does not provide automatic protection to properties on the list, it will trigger protective State or municipal laws such as CEQA.

Criteria

To be eligible for listing in the National Register, a property (building, site, structure, object, or district) must be at least 50 years of age (unless the property is of "exceptional importance") and possess significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of the following four established criteria (Title 36 CFR Section 60.4):

a) Associated with events that have made a significant contribution to the broad patterns of our history;
b) Associated with the lives of persons significant in our past;
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) Yield, or may be likely to yield, information important in prehistory or history.

Context

To be eligible for listing in the National Register, a property must be significant within a historic context. The National Park Service bulletin, *How to Apply the National Register Criteria for Evaluation* (previously known as "National Register Bulletin 15"), states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are "those patterns, themes, or trends in history by which a specific...property or site is understood and its meaning...is made clear" (Andrus and Shrimpton 1997). A property must represent an important aspect of the area's history or prehistory and possess the requisite integrity to qualify for the National Register.

Integrity

In addition to possessing significance within a historic context, a property must have integrity to be eligible for listing in the National Register. Integrity is defined in *How to Apply the National Register Criteria for Evaluation* as "the ability of a property to convey its significance" (Andrus and Shrimpton 1997). Within the concept of integrity, the National Register recognizes the following seven aspects or qualities that in various combinations define integrity: feeling, association, workmanship, location, design, setting, and materials.

- *Location* is the place where the historic property was constructed or the place where the historic event occurred.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Setting* is the physical environment of a historic property.

- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property (Andrus and Shrimpton 1997).

Integrity is based on significance (i.e., why, where, and when a property is important). Thus, the significance of the property must be fully established before the integrity is analyzed.

Historic Districts

For the National Register, a historic district "derives its importance from being a unified entity, even though it is often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties" (Andrus and Shrimpton 1997).

A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development (Title 36 CFR Section 60.3[d]).

A district's significance and historic integrity should help determine the boundaries. Other factors include the following:

- Visual barriers that mark a change in the historic character of the area or that break the continuity of the district such as new construction, highways, or development of a different character
- Visual changes in the character of the area due to different architectural styles, types, or periods, or to a decline in the concentration of contributing resources
- Boundaries at a specific time in history such as the original city limit or the legally recorded boundaries of a housing subdivision, estate, or ranch
- Clearly differentiated patterns of historical development such as commercial versus residential or industrial (Seifert et al. 1997)

Within historic districts, properties are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant for one of the following reasons:

- It was present during the period of significance, relates to the significance of the district, and retains its physical integrity.
- It independently meets the criterion for listing in the National Register (McLelland et al. 1997).

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (Title 16 United States Code [USC] Sections 470aa–mm) became law on October 31, 1979, and has been amended four times. It regulates the protection of archaeological resources and sites that are on federal and Native American lands.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act (Title 15 USC Section 1996) recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional Native American practices; beliefs; sites, including the right of access; and the use of sacred objects shall be protected and preserved. It does not include provisions for compliance.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (Title 25 USC Sections 3001 et seq.) protects Native American remains, including Native American graves on federal and tribal lands, and recognizes tribal authority over the treatment of unmarked graves. This act prohibits the selling of Native American remains and provides guidelines for the return of Native American human remains and cultural objects from any collection receiving federal funding such as museums, universities, or governments. Noncompliance with this act can result in civil and criminal penalties.

STATE

California Office of Historic Preservation

Following passage of the NHPA in 1966, states were tasked with creating a state agency to implement parts of the law at the state level. The California Office of Historic Preservation (OHP) was established in 1975 and is overseen by a Governor-appointed SHPO. The Governor also appoints members to the SHRC that have responsibilities in the identification, registration, and preservation of California's cultural heritage. The OHP and its staff maintain a statewide Historical Resources Inventory, provide local government assistance, participate in environmental compliance, and administer state-level registration programs, including the California Register.

California Register of Historical Resources

The California Register is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts (PRC Section 5024.1[a]).

The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally determined eligible for the National Register;
- State Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the SHPO and have been recommended to the SHRC for inclusion on the California Register (PRC Section 5024.1[d]).

Criteria and Integrity

For those properties not automatically listed, the properties may be nominated to the SHRC for listing under various criteria. The criteria for eligibility of listing in the California Register are based on National Register criteria but are identified as 1 through 4 instead of A through D. To be eligible for listing in the California Register, a property generally must be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. It is associated with the lives of persons important to local, California, or national history.
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values.
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation (Title 14 California Code of Regulations [CCR] Section 4852[b]).

Properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. It is possible that properties may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. An altered property may still have sufficient integrity for the California Register if it maintains the potential to yield significant scientific or historical information or specific data (Title 14 CCR Section 4852[c]).

A property less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance (Title 14 CCR Section 4852[d][2]).

The California Register also includes properties identified in historical resource surveys provided that the survey meets all of the following criteria:

- The survey has been or will be included in the State Historical Resources Inventory.
- The survey and the survey documentation were prepared in accordance with OHP procedures and requirements.
- The resource is evaluated and determined by the OHP to have a California Historical Resource Status Code significance rating of Category 1 to 5 on a Department of Parks and Recreation Form 523.
- If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource (PRC Section 5024.1).

California Environmental Quality Act

Historic Resources

CEQA (PRC Sections 21000 et seq.) was passed in 1970, establishing a process of reviewing projects for impacts to the environment, including historical resources. For the purposes of CEQA, a historical resource is generally a resource that is listed in or eligible for the California Register, meets the criteria for listing in the California Register, and/or is included on a local register (CEQA Guidelines Section 15064.5[a]).

In 1998, the California Legislature amended CEQA and enacted the California Register to clarify which properties are significant, as well as which project impacts are considered significantly adverse. According to CEQA Section 21084.1, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. CEQA Guidelines Section 15064.5(b)(1) defines “substantial adverse change” in the significance of a historical resource, including significant archaeological resources, as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired. The significance of a built environment historical resource or significant archaeological resources is materially impaired when a project brings about the following:

- Demolishes or materially alters in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register

- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register or historical resources pursuant to PRC Section 5020.1(k) or its identification i an historical resources survey meeting the requirements of PRC Section 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically significant
- Demolishes or materially alters in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for the purposes of CEQA (CEQA Guidelines Section 15064.5[b])

Archaeological Resources

CEQA Section 21083.2 and CEQA Guidelines Section 15126.4 specify lead agency responsibilities in determining whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project will damage a unique archaeological resource, the lead agency may require reasonable efforts for the resources to be preserved in place or left in an undisturbed state. Preservation in place is the preferred approach to mitigation. The PRC also details required mitigation if unique archaeological resources are not preserved in place. CEQA defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and a demonstrable public interest in that information
- Has a special and particular quality such as being the oldest of its type or the best available example of its type
- Is directly associated with a scientifically recognized important prehistoric or historic event or person

CEQA Guidelines Section 15064.5(e) requires that excavation activities stop whenever human remains are uncovered during a project or activity and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native American descendants, if any, as identified by the NAHC. Under certain circumstances, the lead agency (or applicant), is required to develop an agreement with the Native American descendants for the treatment and disposition of the remains. In addition to the mitigating provisions pertaining to accidental discovery of human remains, CEQA Guidelines Section 15064.5(f) also requires that a lead agency make provisions for the accidental discovery of historical or archaeological resources. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a historical resource or unique archaeological

resource, avoidance measures should be implemented, or appropriate mitigation should be available.

Assembly Bill 52

The Native American Historic Resource Protection Act, commonly referred to as its legislative bill number, Assembly Bill (AB) 52, passed in 2014 and amended CEQA to address California Native American tribal concerns regarding how cultural resources of importance to tribes are treated under CEQA and created the new TCR category. CEQA identifies a TCR as a separate and distinct category of resource, separate from a historical resource or archaeological resource. CEQA specifies that a project that may cause a substantial adverse change in the significance of a TCR (as defined in CEQA Section 21074[a]) is a project that may have a significant effect on the environment. To help determine whether a project may have such an effect, the PRC requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of the proposed project. According to AB 52, tribes may have expertise in tribal history and "tribal knowledge about land and TCRs at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

CEQA Section 21074.3(a) defines a TCR as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources, or if the City of Livermore (City), acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. Because these criteria also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

CEQA Section 21080.3.2 provides that the tribal consultation process includes, but is not limited to, discussing the type of environmental review necessary, the significance of TCRs, the significance of the project impacts on TCRs, and alternatives and mitigation measures recommended by the tribe. If the California Native American tribe requests consultation to include project alternatives, mitigation measures, or significant effects, the consultation would be required to cover those topics. PRC Section 21082.3 provides that any mitigation measures agreed upon during this consultation "shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring program" if determined to avoid or lessen a significant impact on TCRs. Consultation is considered concluded when (1) the parties agree to measures to avoid or reduce a significant impact on a TCR, if such a significant impact exists, or (2) when a party concludes that mutual agreement cannot be reached. If no formal agreement on the appropriate mitigation has been established, mitigation measures that avoid or substantially lessen potential significant impacts should be implemented.

Senate Bill 18

Senate Bill (SB) 18, which went into effect January 1, 2005, set forth requirements for local governments (cities and counties) to consult with Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning.[1] The aim of SB 18 is to mitigate impacts to cultural places by offering California Native American tribes the chance to be part of land use decisions at an early stage, both in general plans and specific plans.

The State of California's Tribal Consultation Guidelines emphasize that California Native American tribes "represent distinct and independent governmental entities with specific cultural beliefs and traditions and unique connections to areas of California that are their ancestral homelands" (Governor's Office of Land Use and Climate Innovation 2005). SB 18 recognizes that protection of traditional tribal cultural places is important to all tribes, whether federally recognized or not, and it provides all California Native American tribes with the opportunity to participate in consultation with city and county governments for this purpose.

Cultural places are defined as follows (PRC Sections 5097.9 and 5097.995):

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine
- Native American historic, cultural or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site

Under SB 18, it is the responsibility of city and county governments to initiate consultation with and provide project plans to tribes. According to the State Tribal Consultation Guidelines, the process of notification is as follows:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent

[1] SB 18 amended Government Code Sections 65040.2, 65092, 65351, and 65560, while adding Sections 65352.3, 65352.4, and 65562.5.

regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

- Local governments must send notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Historical Building Code

The California Historical Building Code (Title 24 CCR Part 8) provides regulations for permitting repairs, alterations, and additions for the preservation, rehabilitation, relocation, reconstruction, change of use, or continued use of historical buildings, structures, and properties determined by any level of government as qualifying as a historical resource. A historical resource is defined in Sections 18950 to 18961 of Division 13, Part 2.7 of the Health and Safety Code, and is subject to rules and regulations in the California Historical Building Code.

Public Resources Code

PRC Section 5097.5(a) specifies that a person shall not knowingly and willfully excavate upon or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, or archaeological sites (e.g., fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological or historical feature) situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. In addition, PRC Section 5097.98 sets a procedure for handling and notification pertaining to the discovery of Native American human remains.

Health and Safety Code

Health and Safety Code Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of Native American origin. If the remains are determined to be Native American, the Coroner must contact the NAHC. Health and Safety Code Section 7052 regulates the disturbance of Native American cemeteries as a felony. This provision protects human remains and prohibits the disturbance or removal of human remains from any location other than a dedicated cemetery. The provision further identifies steps to follow in the event of accidental discovery or recognition of any human remains, directs the County Coroner to determine whether the remains are those of a Native American, and, if so, requires the coroner to contact the NAHC.

REGIONAL

Alameda County Historic Preservation Ordinance

In January 2012, the Alameda County Board of Supervisors adopted a Historic Preservation Ordinance for unincorporated Alameda County. The ordinance established how the Alameda County Register of Historic Resources (Alameda County Register) is defined and maintained, how properties can be added or removed from the register, and which alterations to historic resources are subject to review. This ordinance applies to areas outside of the City Limit but within the EIR Study Area (Alameda County Community Development Agency 2025).

Alameda County Landmark

A nominated resource will be added to the Alameda County Register as a landmark if all the following requirements are satisfied:

1. The nominated resource meets one or more of the following criteria:
    a) It is associated with events that have made a significant contribution to the broad patterns of the history of the county, region, state, or the nation;
    b) It is associated with the lives of persons significant in the county's past;
    c) It embodies the distinctive characteristics of a type, period, or method of construction;
    d) It represents the work of an important creative individual or master;
    e) It possesses high artistic values; or
    f) It has yielded, or may be likely to yield, information important in the prehistory or history of the county, region, state, or the nation.
2. The nominated resource has integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity shall be judged with reference to the particular criterion or criteria specified in paragraph 1.
3. The nominated resource has significance historically or architecturally, and its designation as a landmark is reasonable, appropriate, and necessary to promote, protect, and further the goals and purposes of the Alameda County Historic Preservation Ordinance.
4. The nominated resource has been evaluated by a qualified historical resources consultant who meets one or more of the Secretary of the Interior's Professional Qualifications Standards or who are certified by the Register of Professional Archaeologists, and the evaluated resource has submitted documents that provide evidence of the [resource's] historical or architectural significance (Alameda County Zoning Ordinance Section 17.62.060[A]).

Alameda County Historic Preservation District

A geographic area nominated as a historic preservation district will be added to the Alameda County Register if all the following requirements are met:

1. The area is a geographically definable area;
2. The area possesses either:
   a) A significant concentration or continuity of buildings unified by (a) past events; or (b) aesthetically by plan or physical development; or
   b) The area is associated with an event, person, or period significant or important to County history
3. The designation of the geographic area as a historic preservation district is reasonable, appropriate, and necessary to protect, promote, and further the goals and purposes of the Alameda County Historic Preservation Ordinance and is not inconsistent with other goals and policies of the County.
4. A historic preservation district shall have integrity of location, design, setting, materials, workmanship, feeling, and association.
5. The collective historic value of the buildings in a historic preservation district taken together is greater than the historic value of each individual building or structure.
6. The application is accompanied by a form bearing the signatures of at least 51 percent of all property owners within the area of the proposed district.
7. The Board finds that the addition of the district to the Register does not in any manner interfere, eliminate, or otherwise obviate the identification, qualification, designation, and preservation requirements of the creation of Historic Preservation Districts pursuant to Chapter 17.20 (Alameda County Zoning Ordinance Section 17.62.060[B]).

Structures of Merit

A nominated resource will be added to the Alameda County Register as a Structure of Merit if it satisfies one or more of the following criteria:

1. It represents in its location an established and familiar visual feature of the neighborhood, community, or county;
2. It materially benefits the historic, architectural, or aesthetic character of the neighborhood or area;
3. It is an example of a type of building that was once common but is now rare in its neighborhood, community, or area;
4. It is connected with a business or use that was once common but is now rare; or
5. It contributes to an understanding of the contextual significance of a neighborhood, community, or area (Alameda County Zoning Ordinance Section 17.62.060[C]).

Contributing Resources

A nominated resource will be added to the Alameda County Register as a contributing resource if it satisfies one or more of the following criteria:

1. The nominated resource is within a historic district;
2. The nominated resource either embodies the significant features and characteristics of the historic district or adds to the historical associations, historical architectural qualities, or archaeological values identified for the historic district.
3. The nominated resource was present during the period of historical significance of the historic district and relates to the documented historical significance of the historic district;
4. The nominated resource either possesses historic integrity or is capable of yielding important information about the period of historical significance of the historic district;
5. The nominated resource has important historic or architectural worth, and its designation as a contributing resource is reasonable, appropriate, and necessary to protect, promote, and further the goals and purposes of this chapter (Alameda County Zoning Ordinance Section 17.62.060[D]).

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes directives to minimize adverse impacts to cultural resources. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to historic resources are in Title 2, *Administration and Personnel*. Chapter 2.47, *Historic Preservation Commission*, establishes the Historic Preservation Commission, to consist of five Livermore residents of professionals in historic preservation-related disciplines or lay members who have demonstrated special interest, competence, experience, or knowledge in historic preservation. Among the various duties and responsibilities of the Commission, one is to recommend action for the preservation of buildings, structures, sites, natural features, works of art, or similar objects that have a significant historic, cultural, architectural, archaeological, community, or aesthetic value.

Livermore Development Code

The City of Livermore regulates land use and design through the Livermore Development Code (LDC), an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds on community character. The LDC provides development standards similar to typical zoning ordinances such as heights, setbacks, and site regulations for all zones. It also establishes allowable building types with frontage and design standards.

Historic Preservation Ordinance

Chapter 9.02, *Historic Preservation and Certificates of Appropriateness*, also known as the Historic Preservation Ordinance, describes the Certificate of Appropriateness process that is triggered when a historical resource or potential historical resource is proposed to be altered or demolished. This process enables the City to protect structures, improvements, natural features, and objects of known or potential historic significance from adverse effects to promote public peace, health, safety, and welfare through the preservation of historical resources, and carry out the goals and policies of the General Plan.

Chapter 9.02 includes regulations for identifying historical resources, reviewing and approving projects involving historical resources and/or potential historical resources, and the findings necessary for issuing certificates of appropriateness. Section 9.02.050 stipulates that a certificate of appropriateness may only be approved for a proposed project involving a historical resource and/or potential historical resource if the project meets the following criteria:

- Will not materially alter the character-defining features of a historical resource that convey its significance;
- Will not result in a substantial adverse change to the integrity of the historical resource and its site or setting contributing to its significance;
- Is consistent with the general plan, applicable specific plan(s), and the Livermore Development Code; and
- Is consistent with the Secretary of the Interior Standards, the National Park Service bulletins, briefs, and preservation guidance, as applicable, and the requirements of CEQA.

Section 9.02.110 outlines specific exemptions to the requirements of this chapter: (1) a certificate of appropriateness may not be required in instances where alteration or demolition is necessary to abate dangerous conditions that threaten public health and safety such as fire damage, and (2) a certificate of appropriateness may be issued for projects that do not meet all of the requirements of this chapter if enforcement of those requirements would cause a demonstrable economic hardship, as defined in Section 9.02.110(C).

Section 9.02.120 describes the historic preservation incentives available to projects that comply with the standards, including use of the California Historic Building Code and allowable variances such as floor area, setback, and parking. Review authority for approving Certificates of Appropriateness include the Community Development Director, Historic Preservation Commission, and Planning Commission, depending on the circumstances of the project.

Livermore Design Standards and Guidelines

The Livermore Design Standards and Guidelines are applied citywide and provide design guidance in each land use category established in the City's General Plan (City of Livermore 2004). The goals of the Design Standards and Guidelines include encouraging development that is harmonious with the surrounding built and natural environments; preserving a small-town community surrounded by rural open space; maintaining views to around scenic corridors and natural features unique to Livermore; encouraging development that strengthens connectivity across the community by linking open space, parks, schools, and civic buildings; recognizing the historic significance of vineyards and wineries; identifying gateways to the city; high-quality placemaking; and facilitating sustainable design. Chapter 8 of the Design Standards and Guidelines reiterates compliance with the Secretary of the Interior's Standards and includes provisions for ensuring that construction near or adjacent to historical resources is compatible in terms of setback, height, roof form, massing, and details.

Mixed-Use and Multifamily Objective Design Standards

The purpose of the Mixed-Use and Multifamily Objective Design Standards (MODS) is to guide the design of multiunit and mixed-use housing in Livermore and to ensure that new development is designed to be compatible with adjacent uses as well as existing and future development (City of Livermore 2025). MODS provides clear design direction for new projects by identifying which architectural styles, building typologies, and universally applicable design elements need to be incorporated into new mixed-use and multifamily residential projects in Livermore.

Downtown Specific Plan

The Downtown Specific Plan (DSP) regulates approximately 272 acres of land that constitute Downtown Livermore, establishing policies for land use, circulation, infrastructure, and a financial strategy (City of Livermore 2021). It includes design guidelines for mixed-use, commercial, residential, and historic structures, as well as streetscape features. Informed by an extensive public engagement process, it provides a vision for Downtown Livermore as a regional destination and as the heart of the community, allowing for a combination of mixed-use development, unique retail, civic uses, residential development, and public spaces. It builds on the historic fabric that gives Livermore its visual character and provides a revitalization strategy and development standards to shape the look of downtown. The DSP identifies several central parcels as catalyst development sites.

3.5.2 Existing Conditions

HISTORICAL CONTEXT

At the time of European contact, much of the EIR Study Area was inhabited by the Chocheño Costanoan-speaking Pelnen people. The Penlen, along with a small, related group known as the Caburan, were widespread throughout much of the western Amador-Livermore Valley. Surrounding the valley lowlands were other tribal groups who lived in the hilly areas and probably accessed the lowland valley margins for resources. In the arid hills to the east and northeast were the Yulien/Ssaoam, to the north were the Ssouyen, to the west the Senuen, and in the Sunol Valley to the southwest, the Causen. Portions of the EIR Study Area may extend into what was once the edges of Yulien/Ssaoam and/or Ssouyen territories.

All the tribal groups in and around the Amador/Livermore Valley region spoke Chocheño Costanoan/Ohlone. Today, many Native American descendants prefer the term "Ohlone" to describe a related tribal identity based on the Costanoan language. Tied together by "bonds of commerce and economic reciprocity as well as by bonds of intermarriage," the tribal groups traded, allied, disputed, and attended communal ceremonies. Usually composed of about 15 individuals, the family household was the basic social unit, and each village center would have been home to several families. The Ohlone were semi-sedentary gatherers and hunters of fish and game. Of major importance to the diet were acorns, which were pounded by stone mortar and pestle to create flour or mush. Other key food resources included mollusks, fish, waterfowl, land and sea mammals, and plant seeds. Vegetal material was used for making nets, cords, baskets, and shelters; animal remains and shells for tools and ornamentation; pelts and feathers for clothing and bedding; and local rock and mineral resources for tools and trade. Controlled burning of the land was practiced to renew the succession of plant communities (City of Livermore 2022). The Ohlone tribe populations in the present-day Livermore Valley were displaced by colonial Spaniards and the establishment of Mission San Jose in the Livermore Valley vicinity beginning in 1797 through indoctrination, forced migration, disease, and the intentional disruption of food and water sources, which led to the deaths of thousands of Ohlone.

The missions throughout California were secularized when what was then called Alta California shifted to Mexican rule. The Mexican government distributed large swaths of land to private owners who were often prominent individuals (e.g., military officers). Several land grants were in the vicinity of present-day Livermore, including Rancho El Valle de San Jose and Rancho Las Positas. Ultimately, Rancho El Valle de San Jose was owned by the Sunol and Bernal families, while Rancho Las Positas was owned by Jose Noriega and English-born Robert Livermore, for whom the city was later named. The United States' victory over Mexico in the Mexican War led to the occupation and eventual statehood of California in 1849. A few years later, new taxes and documentation requirements resulting from the Land Act of 1851 caused most landowners of

Spanish and Mexican descent to lose claim to their land; it was then divided into smaller portions and sold to homesteaders.

In 1865, a pioneer named William Mendenhall purchased a portion of the former Rancho El Valle and platted a town he called Livermore. He donated land for the construction of a Central Pacific Railroad depot, completed in 1869, that helped the town grow quickly. Livermore was incorporated in 1876. Commercial and industrial development was concentrated along First Street and Livermore Avenue (which was then called Lizzie Avenue), while residential development occurred along the gridded streets south and southeast of First Street. The services and amenities in Livermore served the entire Livermore Valley region, and the town soon became an important regional hub. In addition, the town's pastoral setting and dry climate were ideal for agriculture and viticulture, as well as early treatments for mental health disorders and tuberculosis. A number of vineyards were established in the Livermore vicinity during the late nineteenth century, as was the Livermore Sanitarium, a private psychiatric hospital.

Unlike many communities in Alameda County, rural Livermore was largely unaffected by the 1906 San Francisco earthquake and the Great Depression, which allowed development to continue unimpeded through the first decades of the twentieth century. New buildings designed in elegant styles provided a sense of permanency to Livermore's downtown, including the Masonic Building, Carnegie Library, and Bank of Italy Building. In the early decades of the twentieth century, the completion of the Lincoln Highway through Livermore as well as growing manufacturing and healthcare industries brought continued prosperity.

After World War II, as tension between the United States and the Union of Soviet Socialist Republics mounted, Livermore went through its most dramatic change yet. The Livermore Naval Air Station had been established in 1942 to train air cadets. It was deactivated in 1945. In 1952, the University of California Radiation Lab at Berkeley (now Lawrence Livermore National Laboratory, or LLNL) began using the former Naval Air Station as a research facility to advance United States nuclear weapons technology. In 1955, the Livermore Sandia National Laboratory opened adjacent to the LLNL. The LLNL had been working with Sandia, the national laboratory of the Department of Energy in Albuquerque, New Mexico. The new adjoining Sandia facility in Livermore was intended to create a more effective working relationship between the two labs; the work at LLNL was largely centered around physics, whereas Sandia was an engineering laboratory.

As in many communities across California, the population in Livermore increased after the war as veterans returned home and people began concentrating in more urban areas. The two laboratories attracted hundreds of new workers and their families, adding to the population boom. New residential construction skyrocketed as large residential subdivisions of tract homes were developed and constructed outside the city's central core; in 1954, there were $3 million in new construction permits for the year, but by September 1963, there were $2 million in new construction permits in a single month.

By the 1970s, the accelerated development over the past several decades prompted the enactment of more managed growth policies and community efforts to protect Livermore's rural character and historic buildings. Today, Livermore is a prominent suburb positioned between the Bay Area and the Central Valley. The city of nearly 100,000 residents is both an academic hub for major technological advancements and the oldest wine region in the state (GPA Consulting 2021).

HISTORIC RESOURCES

Significant and potentially significant resources are shown on Figure 3.5-1, *Historic Resources*.

Federal- and State-Recognized Historical Resources

Historical resources in the EIR Study Area that are listed on the National Register and the California Register are listed in Table 3.5-1, *National and State-Listed Historical Resources*. Historical resources in the EIR Study Area that are designated as California Historical Landmarks are listed in Table 3.5-2, *Designated California Historical Landmarks*.

Table 3.5-1 National and State-Listed Historical Resources

Name	Address	Listed Date	Status Code
Bank of Italy Building	2250 First Street	11/16/1978	1S
Carnegie Library	2155 Third Street	12/3/2011	1S
DJ Murphy House	291 McLeod Street	4/6/1978	1S
Hagemann Ranch Historic District	455 Olivina Avenue	1/10/2008	1S
Ravenswood	2647 Arroyo Road	6/26/1979	1S
Wente Brothers Winery	5565 Tesla Road	5/18/1983	1CL
Kalfthoff Vineyards*	1100 Vallecitos Road	10/20/1986	2D3
Gandolfo Ranch*	487 East Airway Boulevard	11/15/2001	2S2
Lawrence Livermore National Laboratory Buildings: 174, 194, 280, 332, 391. 805, 806A, 806B, 807, 817A, 817B, 817F, 825, 826, 827A, 827C, 850, 851A, 865A	7000 East Avenue	4/5/2005	2S2

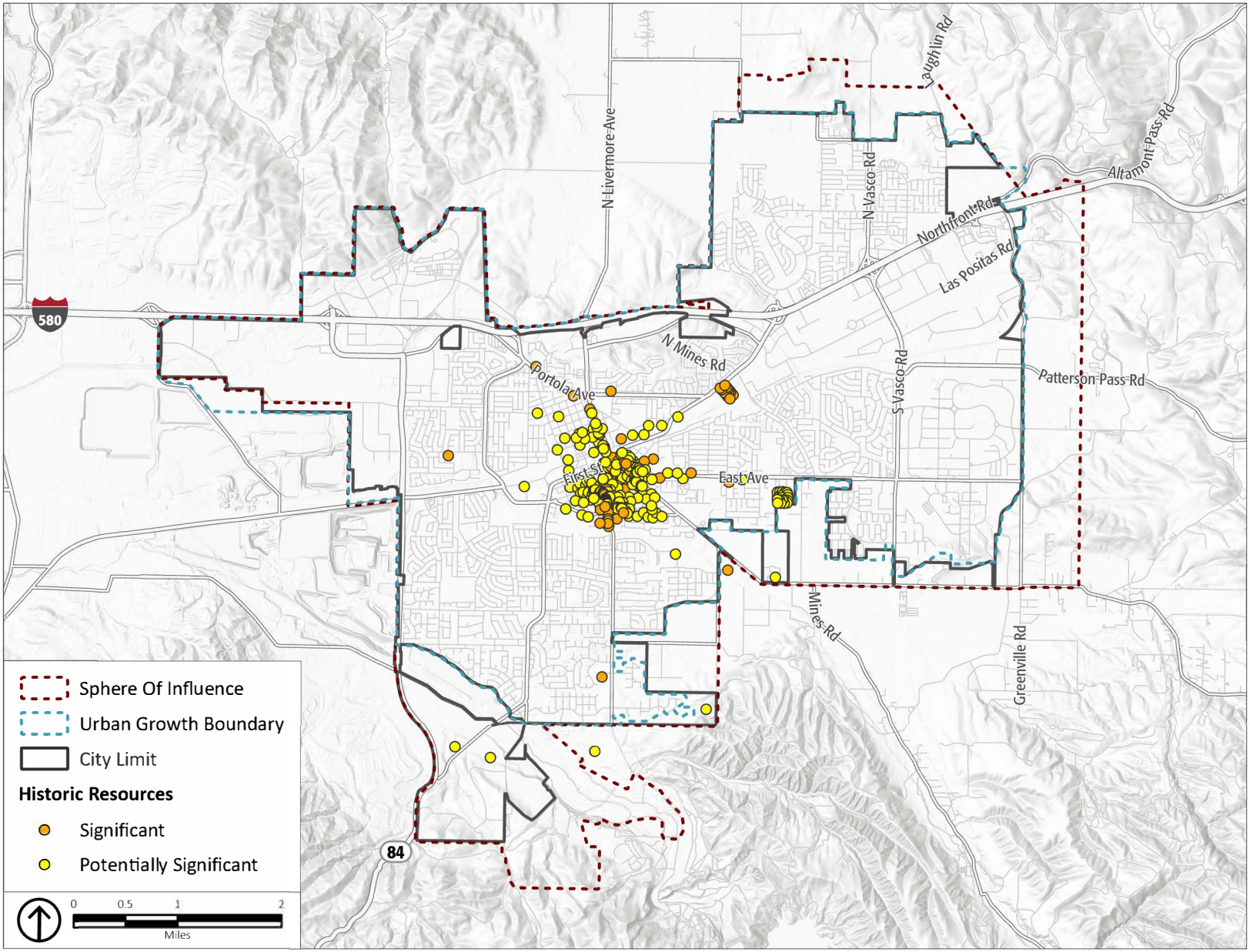
Notes:

1S: Individual property listed in National Register; listed in the California Register.

1CL: Automatically listed in the California Register, includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the State Historical Resources Commission.

2D3: Contributor to a district determined eligible for National Register by Part I Tax Certification; listed in California Register.

2S2: Individual property determined eligible for National Register by a consensus through Section 106 process; listed in California Register.



Source: City of Livermore, 2022.

Figure 3.5-1
Historical Resources

Table 3.5-2 Designated California Historical Landmarks

California Historical Landmark No.	Name	Address	Status Code
641	Concannon Vineyard	4590 Tesla Road	7L
586	Cresta Blanca Winery	5050 Arroyo Road	7L
957	Wente Brothers Winery*	5565 Tesla Road	1CL

Notes:

* Adjacent to but outside of the EIR Study Area.

1CL: Automatically listed in the California Register, includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the State Historic Resources Commission.

7L: State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998; needs to be re-evaluated using current standards.

Historical Resources Identified in Surveys

There have been three historical resources surveys in the EIR Study Area to date in 1988, 2004, and 2021. These efforts are summarized in this section. The 1988 and 2004 surveys were conducted using a set of OHP status codes that were updated in 2003. Generally, the use of pre-2003 status codes 1–5 indicated a property was or appeared to be significant and eligible for listing, whereas pre-2003 status codes 6–7 usually indicated that a property was not or did not appear to be significant or eligible for listing.

1988 Historical Resources Inventory: City of Livermore

In 1988, the City retained consultant Bonnie Bamburg with Urban Programmers to conduct a citywide survey and compile her findings into a historical resources inventory. The inventory included a survey of over 200 properties that were over 50 years of age at the time. Of the approximately 260 properties surveyed in 1988, approximately 169 were assigned a status code between 1 and 5, and 34 were assigned a status code of 6 or 7. Approximately 57 survey forms had no status code recorded, or the status code was not legible. Although the 1988 historical resources inventory was never adopted, it was used to inform more detailed reviews of structures identified in the inventory.

2004 Historic Resources Inventory: Livermore Downtown Specific Plan

In 2004, Carey & Co. Inc. conducted a new survey of the downtown area that was adopted in conjunction with the DSP. As part of the survey, evaluations of properties in the Specific Plan boundaries that had been surveyed in 1988 survey were updated. Approximately 354 total properties were surveyed in 2004 by Carey & Co. Inc. Of those, approximately 104 were assigned a status code between 1 and 5, and 250 were assigned a status code of 6 or 7. Approximately 97 properties were surveyed in 1988 and again in 2004.

2021 City of Livermore Historical Resource Survey Update

In 2021, GPA Consulting (GPA) was retained by the City to conduct a citywide survey update in conjunction with the preparation of a historic context statement. GPA's survey area included all the properties that were previously surveyed in 1988 and/or 2004. GPA identified 53 historical resources (52 individual properties and one historic district) through survey and evaluation under the contexts and themes prepared for the study. These historical resources are listed in Table 3.5-3, *Historical Resources Identified in 2021 Survey*.

The evaluated resources were assigned the following status codes:

- 3S/3CS/5S2: Appears eligible for listing in the National Register at the local level of significance under one or more criteria. Appears to be eligible for listing in the California Register, and meets the definition of a City of Livermore historical resource.
- 3D/3CD/5D2: Individual property that contributes to a historic district that appears to be eligible for listing in the National Register and California Register at the local level of significance under one or more criteria. Meets the definition of a City of Livermore historical resource.
- 5S2: Meets the definition of a City of Livermore historical resource under one or more criteria.

In addition to the 53 historical resources, GPA also identified 195 potential historical resources (194 individual properties and one historic district) during the citywide reconnaissance survey. A full list of potential historical resources is listed in Appendix A to the City of Livermore Historic Resources Survey Update report prepared in March 2021 (GPA Consulting 2021).

GPA also conducted a review of parcels outside the survey area using tract maps, satellite imagery, and assessor data. Tract maps were used to identify postwar single-family housing tracts; however, none of the tracts identified through research or observed during the reconnaissance survey appeared to meet the thresholds for significance and/or integrity outlined in available guidance for evaluating postwar residential developments. Properties that were vacant or had post-1975 assessor dates were not evaluated.

Table 3.5-3 Historical Resources Identified in 2021 Survey

Name	Address	Status Code
N/A	2017 First Street	3S/3CS/5S2
N/A	2148 First Street	5S2
N/A	2190 First Street	5S2
N/A	2196 First Street	5S2
N/A	2200 First Street	5S2
N/A	2220 First Street	5S2

Table 3.5-3 Historical Resources Identified in 2021 Survey

Schenone Building	2235 First Street	3S/3CS/5S2
Masonic Building	2247 First Street	3S/3CS/5S2
N/A	2389 First Street	5S2
N/A	4260 First Street	3S/3CS/5S2
Dania Hall	1783 Second Street	3S/3CS/5S2
Raboli House	2046 Second Street	3S/3CS/5S2
Pacific Telephone and Telegraph Repeater Station	2324 Second Street	5S2
Livermore Post Office	2359 Second Street	3S/3CS/5S2
N/A	2221 Third Street	3S/3CS/5S2
N/A	2456 Third Street	5S2
N/A	2210 Fourth Street	3S/3CS/5S2
Fifth Street School	2253 Fifth Street	3S/3CS/5S2
N/A	1881 Sixth Street	5S2
N/A	2175 Seventh Street	5S2
Livermore Sanitarium Grounds	2097 College Avenue	5S2
The Gables	1994 Creek Road/989 South L Street	5S2
Livermore High School	3044 East Avenue	3S/3CS/5S2
H. Callaghan House	3057 East Avenue	3S/3CS/5S2
N/A	3820 East Avenue	5S2
N/A	4051 East Avenue	3S/3CS/5S2
California Water Service Co. Station 4	2169 Elm Street	5S2
Foresters Hall	157 South J Street	5S2
N/A	813 South J Street	3S/3CS/5S2
N/A	615 South K Street	3S/3CS/5S2
N/A	886 South K Street	3S/3CS/5S2
Veterans Memorial Hall	522 South L Street	3S/3CS/5S2
N/A	543 South L Street	3S/3CS/5S2
N/A	567 South L Street	5S2
N/A	585 South L Street	3S/3CS/5S2
N/A	755 South L Street	5S2
N/A	879 South L Street	3S/3CS/5S2
N/A	947 South L Street	3S/3CS/5S2
N/A	975 South L Street	3S/3CS/5S2
N/A	309 North Livermore Avenue	5S2

Table 3.5-3 Historical Resources Identified in 2021 Survey

N/A	392 South Livermore Avenue	3S/3CS/5S2
N/A	737 South M Street	5S2
N/A	766 South M Street	5S2
St. Michael's Catholic Church	458 Maple Street	3S/3CS/5S2
Old Town Hall and Firehouse	142 Mcleod Street	3S/3CS/5S2
N/A	253 Mcleod Street	3S/3CS/5S2
N/A	448 Mcleod Street	3S/3CS/5S2
N/A	1861 Old Tower Road	3S/3CS/5S2
Duarte Garage	2016 Pine Street	3S/3CS/5S2
N/A	1412 Portola Avenue	5S2
N/A	2542 Portola Avenue	5S2
Livermore Railroad Depot	2500 Railroad Avenue	3S/3CS/5S2
Trevarno Road Historic District	78 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	85 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	118 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	125 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	140 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	153 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	174 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	181 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	220 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	227 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	248 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	262 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	273 Trevarno Road	3D/3CD/5D2
Trevarno Road Historic District	Trevarno Road	3D/3CD/5D2

Notes: N/A = not applicable.

3S/3CS/5S2: Appears eligible for listing in the National Register at the local level of significance under one or more criteria. Appears to be eligible for listing in the California Register and meets the definition of a City of Livermore historic resource.

3D/3CD/5D2: Individual property that contributes to a historic district that appears to be eligible for listing in the National Register and California Register at the local level of significance under one or more criteria. Meets the definition of a City of Livermore historic resource.

5S2: Meets the definition of a City of Livermore historic resource under one or more criteria.

ARCHAEOLOGICAL RESOURCES

Identified Resources

All potentially significant near-surface and subsurface archaeological resources within Livermore were identified in the archives of the California Historical Resources Information System (CHRIS). A search of the CHRIS records on file at the Northwest Information Center identified 18 archaeological resources within the boundary of Livermore (City of Livermore 2022).

Table 3-5.4, *CHRIS Archival Results*, presents all 18 resources identified during the CHRIS archival review and the significance determination for inclusion of each. The spatial boundaries of all resources included in the analysis were manually digitized and added to the project geographic information system (GIS). Note, due to the confidential information of these archaeological resources, detailed maps are not available for public review.

Table 3.5--4 CHRIS Archival Results

Primary Number	Trinomial	Description	Recorded by/Year
01-002108	CA-ALA-430/H	Prehistoric and historic site. Robert Livermore Adobe Site ca. 1839; Prehistoric-era stone tool fragments	O'Neal 1981
01-002122	CA-ALA-516H	Historic site. Remnants of a ranch or homestead. Appears on 1940 aerial imagery. Area is now a parking lot at Lam Research.	Dames & Moore 1990
01-002146	CA-ALA-570H	Historic site. House foundation and trash dating to prior to 1900	Strudwick & King 1998
01-002147	CA-ALA-569	Prehistoric site. Lithic scatter with dark sediments, adjacent to springs	Strudwick & King 1998
01-002195	CA-ALA-584H	Historic site. Identified as the "Jim Anderson House", instead consistent with a barn. ca. 1914- 1945. Structure appears on 1940 and 1958 aerial imagery but not extant today. Well and well house elements reported but not excavated. Location not developed.	Dougherty, Barton, & Bakic 2000
01-002198	N/A	Prehistoric isolated resource. Sandstone mano fragment	Barton & Dougherty 2000
01-002199	N/A	Prehistoric isolated resource. Sandstone metate	Barton & Dougherty 2000
01-002203	N/A	Prehistoric isolated resource. Bifacially modified flake/tool	Fitzgerald & Gmoser 2000
01-010526	N/A	Prehistoric and historic site. Lithic scatter and farmstead remnants now on airport grounds	McKale 2002

Table 3.5--4 CHRIS Archival Results

01-011431	CA-ALA-652H	Historic site. Early to mid-20th century farmstead with well	Beard 2013
01-012085	N/A	Prehistoric burial site. Native American burial	Ambro 2004
C-669 (informal resource)	N/A	Prehistoric site. Fire Cracked Rocks with animal bone frags and charcoal flecking	Holman 1985
C-1283	N/A	Prehistoric site. Likely midden soil with Fire Cracked Rocks along creek	Holman 1985
01-000067*	CA-ALA-47	Prehistoric site. “sandy midden” reported but later investigation eliminated this ID	McGeein & Mueller 1951; Holman 1992
01-002124*	CA-ALA-518H	Historic site. Former dairy complex, has since been removed during construction of a business park in the mid-2000s.	Canzonieri 2006; Gillies, Bowler, Martin 2000; Macdougall, Doyle, Walsh 1990
01-002194*	N/A	Historic isolated resource. Metal lined, wooden trough for animal feed/water	Dougherty, Barton, & Bakic 2000
01-002196*	N/A	Historic isolated resource. Barbed with fence with wooden posts, associated with Ramke Ranch	Dougherty, Barton, & Bakic 2000
01-011507*	N/A	Historic isolated resource. Three historic trash frags recovered from a field	Garcia and Associates 2009

Notes: N/A = not applicable.

All recorded historical resources in California are assigned a primary number, which in Alameda County takes the form of P-01-####; additionally, archaeological sites may be identified by a trinomial (CA-ALA- ###). Archaeological sites that have been assigned trinomials are usually referred to by their trinomial rather than their primary number.

* Lack of potential to yield significant archaeological data.

A great number of archaeological studies have been conducted within the boundaries of Livermore. The record search identified 155 separate archaeological reports dating from 1974 to the present. The investigations range from archival review and reporting of negative findings to archaeological data recovery of a human burial. Key areas of past study include highway construction and widening, long-range utility infrastructure, housing development, greenspace improvements, and the management and expansion of national laboratory facilities (City of Livermore 2022).

In addition to the specific resources identified in the CHRIS archive, historic maps and other historic literature sources were used to identify and further refine locations of potential archaeological significance within and immediately adjacent to Livermore. This included four prehistoric-period and four historic-period resources. The additional prehistoric resources include two artifact isolates and two locations of bedrock mortars (City of Livermore 2022).

Sensitivity Analysis

Prehistoric Period

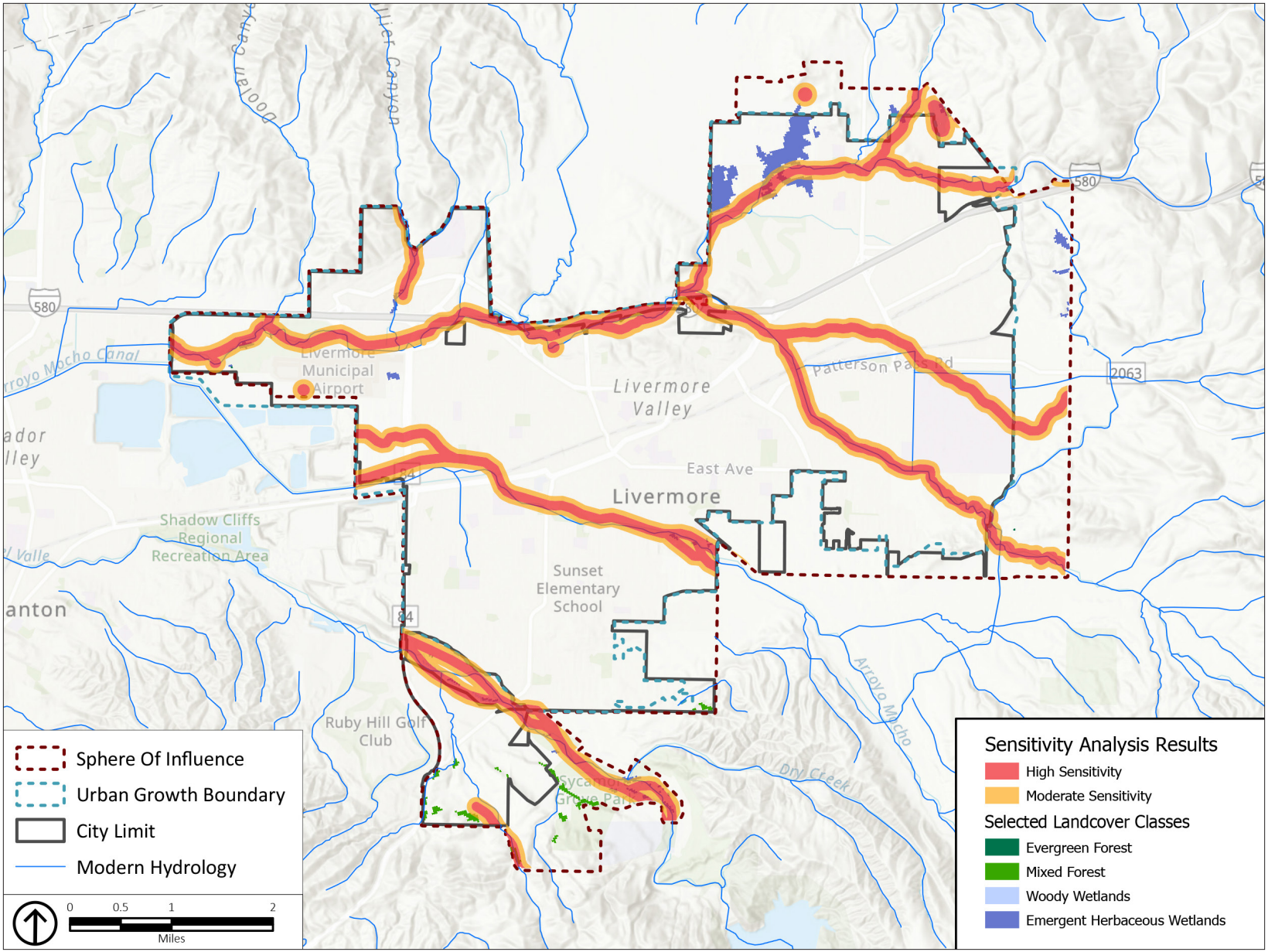
Figure 3.5-2, *Prehistoric Period Archaeological Sensitivity Map*, presents the results of a spatial analysis to identify locations suitable for prehistoric human habitation. Of the almost 34 square miles encompassed by the EIR Study Area, approximately 2.95 square miles were classified as Highly Sensitive, and 2.75 square miles were classified as Moderately Sensitive for buried and near-surface Prehistoric Period cultural resources.

In the Springtown district of northern Livermore, several natural springs and seeps have created a marshy wetland environment that has not been fully destroyed by modern development. At least two Prehistoric Period sites have been found in the area (City of Livermore 2022).

A few resource processing areas (most often associated with bedrock mortars) have been identified in the foothill margins around Livermore Valley. Specifically, the hilly region in and around Sycamore Grove Park is a candidate for elevated sensitivity for Prehistoric Period acorn harvesting and processing sites. In addition, although apparently no longer forested today, the hilly areas around the margins of the valley to the north and northeast are considered potentially sensitive (City of Livermore 2022).

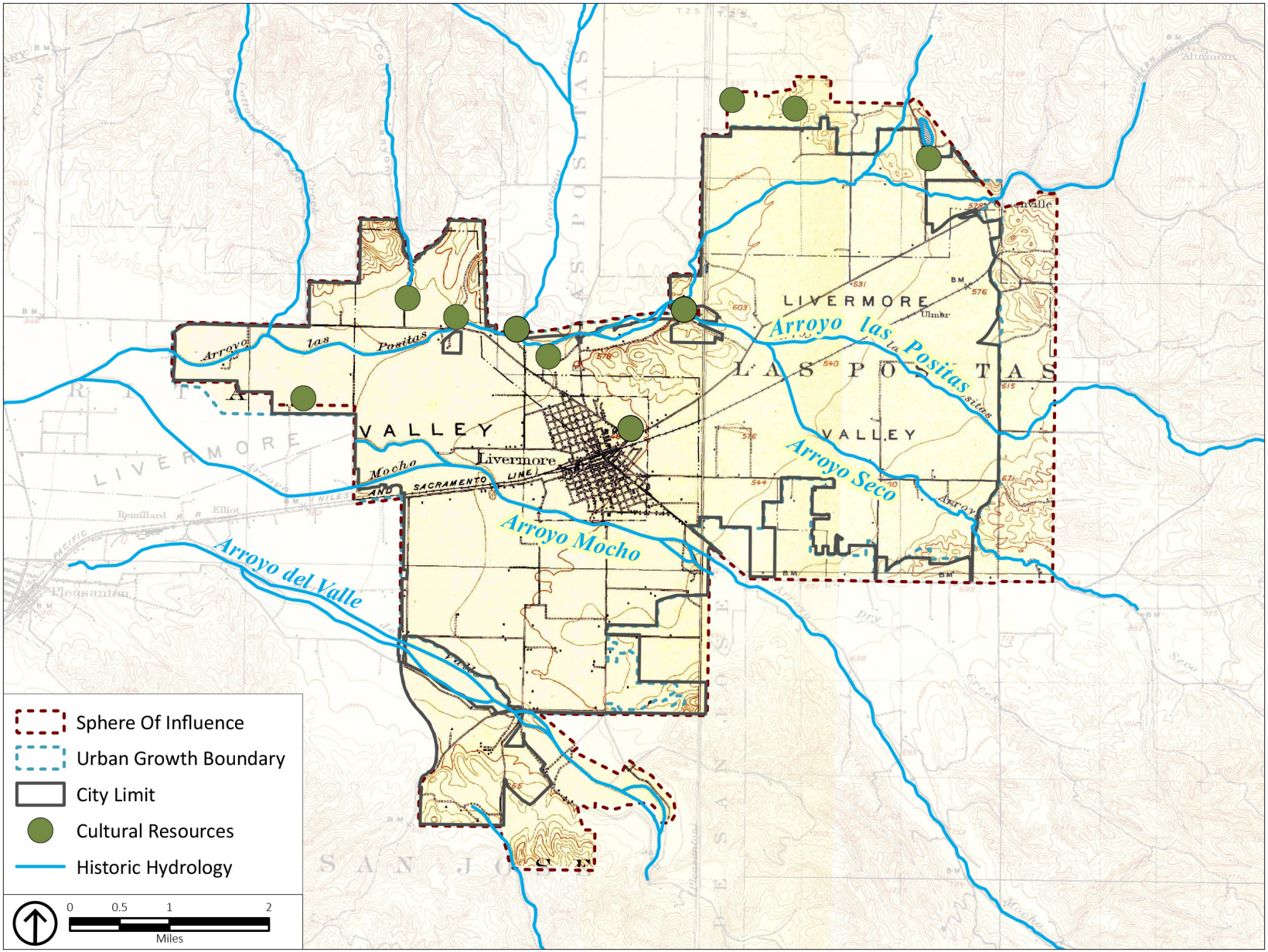
Historic Period

Figure 3.5-3, *Historic Period Archaeological Resources Map*, shows the 10 places of known and potential archaeological sensitivity that may contain subsurface archaeological resources dating to the historic period. These locations are associated with early European and European-American presence in the Livermore Valley. Key among those are the residences of Robert Livermore and his son, Robert Livermore, Jr., as well as the former site of the town of Laddsville. Although the map cannot be considered exhaustive—indeed, some chance of finding unexpected resources is almost always present—the information is intended as a planning tool for future development. There are numerous historic homes, businesses, and public buildings in the EIR Study Area that are of cultural significance, and it is possible that the oldest of these could contain associated archaeological resources.



Source: ESRI, City of Livermore, USGS-NLCD, NWIC;
J. Quist, Archeo-Tec, October 2021.

Figure 3.5-2
Prehistoric Period Archaeological Sensitivity Map



Sources: USGS Pleasanton(1906) and Tesla (1907) Quads, NWIC, City of Livermore; J. Quist, Archeo-Tec, October 2021.

Figure 3.5-3
Historic Period Archaeological Resources Map

TRIBAL CONSULTATION

Pursuant to SB 18, a request was sent to the NAHC for a Tribal Consultation List in February 2022. The NAHC identified 15 local Native American representatives from the following tribes as potentially having local knowledge:

- 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
- Tamien Nation
- The Confederated Villages of Lisjan
- The Ohlone Indian Tribe
- Wilton Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

A search of the Sacred Lands File has failed to indicate the presence of Native American cultural resources within the EIR Study Area.

The City notified the tribal representatives about the proposed Project on March 14, 2022, and asked for information about potential resources within the EIR Study Area. While the City and the representative for the Confederated Villages of Lisjan were in contact, the representative requested additional information on the proposed Project and the results of the Sacred Lands File search, which the City provided. To date, no other responses have been received.

3.5.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

c) Disturb any human remains, including those interred outside of dedicated cemeteries.

Appendix G of the CEQA Guidelines states that the proposed Project would result in a significant impact on TCRs if it would cause a substantial adverse change in the significance of a TCR, defined in CEQA 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:

d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k).

e) 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.

3.5.4 Project Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

Less than significant. The types of cultural resources that meet the definition of historical resources under CEQA Section 21084.1 generally consist of districts, sites, buildings, structures, and objects that are significant for their traditional, cultural, and/or historical associations. Under CEQA, both prehistoric and historic-period archaeological sites may qualify based on historical associations. As such, the two main historical resources that may be impacted by future development are historical archaeological deposits and historical architectural resources. The following analysis therefore focuses on potential impacts to these two types of resources.

As discussed in Section 3.5.2, *Existing Conditions*, there are several historical resources within the EIR Study Area. The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. While the proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to historical resources, new development could have a significant impact on historical resources if it results in the physical demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings such that the ability of the historical resource to convey its significance is materially impaired. Further, effects on such resources are only discoverable once a site-specific project has been proposed because the effects are dependent on project location, type, and conditions as well as the nature of any ground-disturbing activity.

Accordingly, all future development subject to discretionary approval would be required to comply with the City's Design Standards and Guidelines. The Design Standards and Guidelines would apply to all projects that require design review, including most new buildings, subdivisions, infill development, and public improvements. Future mixed-use and multifamily development would be subject to the design standards outlined in the MODS. Furthermore, future development consistent with proposed Project would be subject to the regulations of the LMC and LDC. Pursuant to the City's obligations under CEQA and consistent with the procedures in LDC Section 9.01.070, future discretionary projects would require project-specific environmental review to identify, evaluate, and avoid or mitigate potential impacts on historical resources, to the extent feasible. Future projects that propose the alteration or demolition of a historical resource or potential historic resource would be required to comply with the Historic Preservation Ordinance (LDC Chapter 9.02), which only allows for the issuance of a certificate of appropriateness if the following criteria are met:

- The project will not materially alter the character-defining features of a historical resource that convey its significance.
- The project will not result in a substantial adverse change to the integrity of the historical resource and its site or setting contributing to its significance.
- The project is consistent with the General Plan, applicable specific plan(s), LDC, Secretary of the Interior Standards, National Park Service bulletins, briefs, and preservation guidance, as applicable, and requirements of CEQA.

Additionally, the Land Use (LU) Element and Community Identity (CI) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to address the conservation and protection historic resources:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.1: Livermore's Unique Qualities.** Recognize and reinforce the qualities that contribute to Livermore, which include a historic Downtown, a variety of residential neighborhoods, vineyards, ranches, natural habitats, and open space.
- **Goal CI-6:** Preserve the City's historical resources to commemorate the past, protect the community's architectural character, and foster social and economic vitality.
  - **Policy CI-6.1: Historical Resources Conservation and Re-Use.** Conserve historic resources and buildings to the extent feasible, including City-owned and community-significant resources. Preserve the original use of historical resources when possible or adaptively re-use historical resources when the preservation of the original use is not feasible.
  - **Policy CI-6.2: Historic Preservation Integration into City Planning.** Integrate historical preservation goals, policies, and actions into the City's comprehensive planning efforts throughout various City departments and functions.

- **Policy CI-6.3: Historic Resources Inventory and Context Statement.** Maintain and periodically update the Historic Resources Inventory and Historic Context Statement, as needed, to reflect changes due to the passage of time, loss of existing historical resources, and the availability of new or reinterpreted information.
- **Policy CI-6.4: Historic Preservation Ordinance.** Designate and protect historic resources and potential historic resources in accordance with the Historic Preservation Ordinance.
- **Policy CI-6.5: Historical Preservation through Specific Plans, Area Plans, and Guidelines.** Develop historical preservation goals, policies, and actions into new Specific and Area Plans and Specific and Area Plan updates where feasible and appropriate. Establish design guidelines for historical resources and historic districts based on established federal and State standards and guidelines.
- **Policy CI-6.6: State Historical Building Code.** Use the State Historical Building Code (Chapter 8 of the California Uniform Building Code) to comply with the provisions of the Americans with Disabilities Act and other municipal building code requirements to preserve the architectural integrity of historic buildings and structures.
- **Policy CI-6.7: Historical Preservation Professionals.** Require that historical resource evaluations and impact analysis are performed by a qualified professional meeting the Secretary of the Interior's Professional Qualifications for any projects that could affect a known or potential historical resource as a part of the environmental assessment and/or permitting process.
- **Policy CI-6.8: City Staff Training**. Train City staff and appointed committees and commissioners in the City's historical preservation policies, practices, and procedures, including the Historic Resources Ordinance, application of design guidelines for historical resources, use of the State Historical Building Code, and the historical resource provisions of the California Environmental Quality Act.

- **Goal CI-7:** Foster the public's understanding and appreciation of Livermore's historical resources.
  - **Policy CI-7.1: Public Knowledge and Education of Historical Resources and Preservation.** Educate the community about historic preservation programs and the significance of events, places, and people related to Livermore history and the region. Collaborate with public and private schools to support integrating local history into their curricula and related educational programs.
  - **Policy CI-7.2: Historical and Cultural Organizations Collaboration.** Collaborate with local organizations to support their efforts to promote and protect historical and cultural resources.
  - **Policy CI-7.3: Heritage Tourism.** Promote heritage tourism, including amplifying regional and State marketing efforts.

- **Goal CI-8:** Develop incentives to encourage owners of historical resources to preserve and rehabilitate their properties.
  - **Policy CI-8.1: Information for Historical Resources Owners.** Create educational materials on the planning review processes, design guidelines, and incentive programs available to the owners of historical resources and make the informational materials available in the Planning Department and on the City's website.
  - **Policy CI-8.2: Funding for Historical Preservation and Rehabilitation.** Use federal, State, local, and private grants, loans, and tax credits to preserve and rehabilitate historical resources. Collect, maintain, and make available to the public information on State, federal, and private incentive programs for historical resources.
  - **Policy CI-8.3: Financial Incentives.** Develop local financial incentives for owners of historical resources to use to promote the preservation and adaptive reuse of historical resources.
  - **Policy CI-8.4: Variance Incentives.** Identify potential variances or other incentives to promote historic preservation policies, such as variances in setback requirements, building code requirements, parking requirements, etc. to incentivize the preservation of historical resources.
  - **Policy CI-8.5: Mills Act.** Establish the Mills Act program to provide property owners with property tax deductions for the preservation of historical resources.

Specifically, proposed Policy CI-6.3 and CI-6.4 would require the City to maintain and update the Historic Resources Inventory and designate and protect historic resources and potential historic resources in accordance with the Historic Preservation Ordinance. Proposed Policy CI-6.7 would require historical resource evaluations and impact analysis prepared by a qualified professional for projects that could affect a known or potential historic resource.

Implementation of the proposed General Plan 2045 goals and policies in conjunction with the City's existing design standards and guidelines, regulations, and procedures outlined in the LMC and LDC, and compliance with the relevant State and federal laws described in Section 3.5.1, *Regulatory Framework,* would ensure that approval of future development consistent with proposed Project is contingent on avoiding or minimizing impacts to historical resources. Therefore, this impact is **less than significant**.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Less than significant with mitigation. As discussed in Section 3.5.2, *Existing Conditions*, the EIR Study Area contains areas of high and moderate archaeologically sensitive areas. The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow redevelopment and increased density on certain parcels within the EIR Study Area. While the

proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impact on existing archaeological resources, it is still possible to encounter previously unknown resources, especially on undeveloped sites. Damage to historical and pre-contact archaeological deposits meeting the definition of archaeological resources under CEQA would most likely be limited to ground-disturbing activities associated with future development.

Future development would be subject to PRC Section 5097.5(a), which specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any archaeological sites without the express permission of the public agency having jurisdiction over the lands.

Additionally, the Community Identity (CI) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to protect archaeological resources:

- **Goal CI-5:** Protect cultural resources (archaeological and/or Tribal) and paleontological resources that enrich our understanding of early Livermore and the surrounding region.
  - **Policy CI-5.1: Resource Sensitivity and Evaluation.** Require appropriate investigations, such as site surveys, subsurface testing, and monitoring by qualified professionals as part of the environmental review process when development is proposed in identified areas of cultural and paleontological sensitivity.
  - **Policy CI-5.2: Discovery and Mitigation.** If cultural, tribal cultural, including human remains, or paleontological resources are discovered during construction, require immediate suspension of work in the area and evaluation by a qualified professional. If the resource is significant, prioritize preservation in place; if not feasible, implement appropriate mitigation such as data recovery.
  - **Policy CI-5.3: Preservation and Education.** Preserve and curate significant archaeological resources for research and educational purposes. Where feasible, make these resources accessible to the public through open space, recreation, or educational programs.

Specifically, proposed Policy CI-5.1 would require investigations by a qualified professional where development is proposed in areas of cultural and paleontological sensitivity. Proposed Policy CI-5.2 requires immediate suspension of work in the area if cultural or paleontological resources are discovered during construction and, if the resource is significant, prioritize preservation in place or implement appropriate mitigation.

While future development would be required to comply with federal and State laws and regulations, as well as the proposed General Plan 2045 goals and policies, compliance with such regulations alone cannot be assumed to fully avoid or eliminate impacts to unknown archaeological resources associated with site-specific development. Therefore, impacts to archaeological resources would be *potentially significant*.

Impact CUL-2: Implementation of the proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15064.5.

> **Mitigation Measure CUL-2:** If any buried historical or archaeological resources are discovered during construction, operations shall stop within a 100-foot radius of the find and the qualified archaeologist shall be consulted to determine whether the resource requires further study. If it is determined that the find is significant, then the qualified archaeologist shall make recommendations to the Lead Agency (City of Livermore) on the feasible measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant historical or archaeological resources consist of, but are not limited to, stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites.
>
> Any previously undiscovered resources found during construction within a project site shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of CEQA Guidelines.
>
> If the relevant resources (if any) are determined to be historical resources as defined under Section 15064.5 of the CEQA Guidelines or a unique archaeological resource in Section 21083.2 of the Public Resources Code, feasible mitigation measures and an archaeological treatment plan shall be developed by the qualified archaeologist and recommended to the project applicant or sponsor and the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the find(s) as detailed in the archaeological treatment plan. No further grading or ground disturbance shall occur within 100 feet of the discovery of a significant historical or archaeological resource until the relevant mitigation measures are approved by the Lead Agency and implemented by the project applicant or sponsor to protect these resources. Work may proceed on other parts of the project site while mitigation for unique archaeological resources is being carried out.

Mitigation Measure CUL-2 would ensure that archaeological resources identified during construction would be evaluated and protected or appropriately treated. Therefore, compliance with the proposed General Plan 2045 goals and policies and with the relevant State and federal laws described in Section 3.5.1, *Regulatory Framework,* and implementation of Mitigation Measure CUL-2 would ensure that future development consistent with proposed Project avoids or minimizes impacts to archaeological resources. Therefore, this impact is **less than significant**.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than significant. Previously undiscovered human remains associated with pre-contact archaeological deposits may exist in the EIR Study Area, as ground-disturbing activities sometimes uncover such previously unrecorded remains. As described under impact discussion (b), impacts to such deposits would be limited to these ground-disturbing activities and excavations associated future development projects.

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to where it would be expected to have less disturbance to human remains. However, future development, especially development on development land, could uncover unrecorded remains.

Procedures of conduct following the discovery of human remains have been mandated by CEQA Section 15064.5(e), PRC Section 5097.98, and Health and Safety Code Section 7050.5, as described in Section 3.5.1, *Regulatory Framework*. According to the provisions in CEQA, in the event a human burial or skeletal element is identified during excavation or construction, work in that location shall stop immediately until the find can be properly treated. The Alameda County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. If the NAHC is unable to identify an MLD, the MLD fails to make a recommendation within 48 hours after being notified, or the landowner rejects the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.

Furthermore, the same General Plan 2045 goal and policies from the Community Identity (CI) Element identified under impact discussion (b) would also serve to minimize impacts related to human remains that may also qualify as archaeological resources. Specifically, proposed General Plan Policy CI-16.2 requires the immediate suspension of work in the area where resources are discovered during construction and evaluation of the resource by a qualified professional.

Compliance with the procedures of conduct following the discovery of human remains that are mandated by CEQA Section 15064.5(e), PRC Section 5097.98, and Health and Safety Code Section 7050.5 are standard protocol for qualified professionals and would be adhered to for the proper treatment of discovered human remains. Therefore, compliance with mandatory regulatory procedures and the proposed General Plan 2045 goal and policies would minimize impacts related to the potential discovery or disturbance of any human remains accidentally unearthed during construction activities associated with future development. Therefore, this impact is **less than significant**.

d) Would the project cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in PRC Section 5020.1(k)?

Less than significant with mitigation. CEQA defines a TCR as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, or object with cultural value to a California Native American tribe included or eligible for inclusion in the California Register or included in a local register of historical resources. Through the consultation process described in Section 3.5.2, *Existing Conditions*, no California Native American tribe has identified the presence of TCRs in the EIR Study Area.

The proposed General Plan 2045 would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, which greatly minimizes potential impacts to where it would be expected to have less disturbance to TCRs. However, future development, especially on undeveloped sites, could affect known or previously unidentified TCRs. In addition, the potential for additional undiscovered eligible TCRs to be present within the future sites exists but varies by location.

The proposed General Plan 2045 goals and policies from the Community Identity (CI) Element identified under impact discussions (a), (b), and (c), in addition to the following goal and policy, are designed to protect TCRs:

- **Goal CI-5:** Protect cultural resources (archaeological and/or Tribal) and paleontological resources that enrich our understanding of early Livermore and the surrounding region.
  - **Policy CI-5.4: Tribal Cultural Resources and Consultation.** Respect and protect tribal cultural resources, including sacred sites, landscapes, and culturally significant objects. Maintain collaborative relationships with local Native American tribes and consult with tribal representatives as required by State law, particularly near culturally sensitive areas such as Brushy Peak.

Specifically, proposed Policy CI-5.4 requires the protection of TCRs and consultation with tribal representatives as required by State law. Proposed Policy CI-6.7 would require historical resource evaluations and impact analysis prepared by a qualified professional for projects that could affect a known or potential historic resource and Policy CI-5.1 would require investigations by a qualified professional where development is proposed in areas of cultural and paleontological sensitivity. Proposed Policy CI-5.2 requires immediate suspension of work in the area if cultural or paleontological resources are discovered during construction and, if the resource is significant, prioritize preservation in place or implementation of appropriate mitigation.

While future development would be required to comply with existing federal, State, and local laws and regulations, as well as implementation of the proposed General Plan 2045 goals and policies, compliance with such regulations alone cannot be assumed to fully avoid or eliminate impacts to TCRs associated with site-specific development. Therefore, impacts to TCRs would be *potentially significant*.

Impact CUL-4: Implementation of the proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource (TCR) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k).

> **Mitigation Measure CUL-4:** If any buried tribal cultural resources are discovered during construction, the construction contractor shall stop operations within a 100-foot radius of the find. The contractor shall notify the Lead Agency (City of Livermore) and the City shall consult with the appropriate tribe(s) to determine significance and appropriate treatment measures. The City/tribe(s) may require tribal or other qualified cultural resource monitors during construction to ensure that resources are properly identified and protected. Documentation of consultations, treatment measures, and resource protection actions shall be maintained in the project record. Work may proceed on other parts of the project site while mitigation for TCRs is being carried out.

Mitigation Measure CUL-4 would ensure that TCRs are identified, evaluated, and protected or appropriately treated during construction. Therefore, compliance with the proposed General Plan 2045 goals and policies and with the relevant State and federal laws described in Section 3.5.1, Regulatory Framework, and implementation of Mitigation Measure CUL-4 would ensure that construction of future development avoids or minimizes impacts to tribal cultural resources. Therefore, this impact is **less than significant**.

e) Would the project cause a substantial adverse change in the significance of 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?

Less than significant with mitigation. CEQA also defines a TCR as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, or object with cultural value to a California Native American tribe if the City, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. Through the consultation process described in Section 3.5.2, *Existing Conditions*, no California Native American tribe has identified the presence of TCRs in the EIR Study Area. The City, in its capacity as Lead Agency, has also not identified or determined any known TCRs to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. Although there is the possibility that previously undiscovered TCRs could be encountered by subsurface earthwork activities associated with construction of future development projects.

While future development would be required to comply with existing federal, State, and local laws and regulations, as well as the proposed General Plan 2045 goals and policies, compliance with such regulations alone cannot be assumed to fully avoid or eliminate impacts to unknown TCRs associated with site-specific development. Therefore, impacts to TCRs would be *potentially significant*.

Impact CUL-5: Implementation of the proposed Project could cause a substantial adverse change in the significance of 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 Public Resources Code Section 5024.1.

Mitigation Measure CUL-5: Implement Mitigation Measure CUL-4.

Implementation of Mitigation Measure CUL-4, which outlines the procedures for discovery of previously unknown TCRs, would ensure that impacts to resources significant under PRC Section 5024.1(c) are adequately mitigated. As such, compliance with the proposed General Plan 2045 goals and policies and with the relevant State and federal laws described in Section 3.5.1 and implementation of Mitigation Measure CUL-4 would ensure that construction of future development consistent with proposed Project avoids or minimizes impacts to tribal cultural resources, and impacts are **less than significant**.

3.5.5 Cumulative Impact Analysis

Cumulative impacts on cultural and tribal cultural resources would occur when a series of actions leads to the loss of a substantial type of site, building, cultural, or tribal cultural resource. For example, while the loss of a single historic building may not be significant to the character of a neighborhood or streetscape, continued loss of such resources on a project-by-project basis could constitute a significant cumulative effect. The following discussion considers how buildout of the EIR Study Area and the region has the potential to cumulatively impact cultural and tribal cultural resources in the eastern Alameda County region.

Would the project have a cumulative effect related to cultural and tribal cultural resources?

Less than significant. As discussed under impact discussion (a), potential impacts to historical resources resulting from the proposed Project would be less than significant with implementation of the proposed General Plan 2045 goals and policies, in conjunction with the City's existing design standards and guidelines; regulations and procedures outlined in the LMC and LDC; and compliance with the relevant state and federal laws described in Section 3.5.1, *Regulatory Framework.* Continued compliance with these regulations would avoid or minimize potential impacts to historical resources, ensuring that the cumulative impact would be less than significant.

Future projects would be required to be consistent with the goals and policies of the proposed General Plan 2045 and adopted regulations pertaining to archaeological resources, human remains, and TCRs in Livermore, as described under impact discussions (b) through (e). While development associated with the proposed Project may have the potential to result in adverse change to archaeological resources, human remains, and TCRs, the proposed General Plan 2045 includes extensive goals and policies designed to protect such resources. Additionally, Mitigation Measure CUL-2 would require a cultural resources records search and sensitivity assessment. Mitigation Measures CUL-4 and CUL-5 would require procedures for discovery of previously unknown resources. Furthermore, any potentially significant cumulative impacts are related to site-specific impacts to cultural resources and tribal cultural resources in the eastern Alameda County region and would be mitigated, as necessary, on a project-by project basis. For example, cumulative projects would be required to comply with applicable policies, provisions, and programs in the applicable General Plan and Municipal Code that protect cultural and tribal cultural resources. In addition, cumulative projects would be required to comply with applicable federal, State, and local laws and regulations, including, among others, the provisions of SB 18 and AB 52, Section 15064.5 of the CEQA Guidelines, and Sections 5024.1 and 5097 of the PRC. Accordingly, because cumulative development would be required to comply with long-term planning documents and regulatory agency guidance establishing policies (including, but not limited to, evaluation requirements and inadvertent discovery procedures) and would also be

required to mitigate any site-specific impacts, cumulative impacts to cultural and tribal cultural resources would be **less than significant.**

3.5.6 References

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3.6 ENERGY

This section evaluates the potential energy impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential energy impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to energy impacts of the proposed Project were received during the EIR scoping period.

TERMINOLOGY

The following terminology is used throughout this section::

- **BTU.** British thermal unit. A standard unit of measurement that is used to represent the energy content of heating fuels (e.g., natural gas, propane) and is equal to the amount of heat needed to raise the temperature of one pound of water by one degree Fahrenheit.
- **CALGreen.** California Green Building Code (California Code of Regulations [CCR], Title 24, Part 11). Encompasses only Part 11 of the California Building Standards Code (CBSC), which stipulates water, waste, and design efficiencies as well as electric vehicle (EV) charging standards.
- **CEC.** California Energy Commission. A State agency within the California Natural Resources Agency that sets energy policy and building energy efficiency standards, develops the State's energy growth demand projections, engages in long-term power generation resource planning, and approves power plant siting.
- **CPUC.** California Public Utilities Commission. An independent State regulatory commission that oversees investor-owned utilities (e.g., electric, gas, water, telecommunications) by setting rates and procurement requirements in alignment with CEC energy policy and California Independent System Operator (CAISO) grid operations.
- **CBSC.** California Building Standards Code. Includes all individual parts to CCR, Title 24.
- **Energy Code.** California Building Energy Efficiency Standards (CCR, Title 24, Part 6). encompasses only Part 6 of the CBSC, which stipulates energy-efficiency standards for new projects.
- **kWh.** Kilowatt-hour. A standard unit of measurement that is used to represent the amount of electricity consumed or supplied and is equivalent to approximately 3,412 BTUs.
- **MWh.** Megawatt-hour. One MWh is equal to 1,000 kWh.
- **GWh.** Gigawatt-hour. One GWh is equal to 1,000 MWh or 1,000,000 kWh.
- **VMT.** Vehicle miles traveled.

3.6.1 Regulatory Framework

FEDERAL

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of United States crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars that are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

On March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 through 2026. Overall, the new CAFE standards require a fleet average of 49 miles per gallon (mpg) for passenger vehicles and light trucks for model year 2026, which would be a 10 mpg increase relative to model year 2021 (NHTSA 2022).

Federal Regulatory Rollbacks on Fuel Standards

On June 7, 2024, the National Highway Traffic Safety Administration (NHTSA) announced final CAFE standards for passenger cars and light trucks built in model years 2027 to 2031 and final fuel-efficiency standards for heavy-duty pickup trucks and vans built in model years 2030 to 2035. The final rules establish standards that would require an industry fleetwide average of approximately 50.4 mpg for passenger cars and light trucks in model year 2031, by increasing fuel economy by 2 percent year over year for passenger cars (model years 2027–2031) and for light trucks (model years 2029–2031). For heavy-duty pickup trucks and vans, the final rule would increase fuel efficiency at a rate of 10 percent per year (model years 2030–2032) and 8 percent per year (model years 2033–2035) (NHTSA 2024).

In June 2025, NHTSA published a final rule, “Resetting the Corporate Average Fuel Economy Program.” The rule identifies factors statutorily prohibited from consideration when setting maximum feasible fuel economy standards under the Energy Policy and Conservation Act of 1975, the Energy Independence and Security Act of 2007, and other applicable laws. It also describes NHTSA’s authority to bring the CAFE program into compliance with relevant statutory requirements, in accordance with President Trump’s “Unleashing American Energy” Executive Order and the Secretary’s “Fixing the CAFE Program” Memorandum. The rule also describes NHTSA’s interpretation of its authority for a commercial medium- and heavy-duty on-highway vehicle and work truck fuel-efficiency improvement program, to establish the necessary legal foundation to bring that program into compliance with law. This rule itself does not change existing CAFE or medium- and heavy-duty standards. During the rulemaking process for replacement standards, NHTSA will exercise its enforcement authority regarding all existing

CAFE and medium- and heavy-duty standards in accordance with the interpretation set forth in this rulemaking (NHTSA 2025).

In addition, in May 2025, Congress passed three Congressional Review Act (CRA) resolutions to nullify a set of California's Clean Air Act (CAA) preemption waivers targeting California's vehicle emissions program (Holland & Knight 2025):

- H.J.Res. 87 disapproves the USEPA's waiver for multiple California heavy-duty vehicle programs, including Advanced Clean Trucks (requiring increasing percentages of zero-emission truck sales), Zero Emission Airport Shuttles, and Zero-Emission Power Train Certification.
- H.J.Res. 88 disapproves the USEPA's waiver for Advanced Clean Cars II, which required all new passenger cars, trucks, and SUVs sold in California to be zero-emission by 2035.
- H.J.Res. 89 disapproves the USEPA's waiver for the "Omnibus" Low NO_X regulation, which establishes more stringent emissions standards for heavy-duty vehicles.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy-efficiency standards; building energy-efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.

Energy Policy Act of 2005

The Energy Policy Act includes a comprehensive set of provisions to address energy issues. This act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation (USDOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within USDOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

STATE

Warren-Alquist Act

The Warren-Alquist Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act gives the CEC authority to update energy-related standards on a three-year cycle.

California Energy Commission

The CEC was created as the State's principal energy planning organization to meet the energy challenges facing the state. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs
- License power plants to meet those needs
- Promote energy conservation and efficiency measures
- Develop renewable energy resources and alternative energy technologies
- Promote research, development, and demonstration
- Plan for and direct the State's response to energy emergencies

Long-Term Energy-Efficiency Strategic Plan

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy-Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;[1]
- All new commercial construction in California will be zero net energy by 2030;
- Heating, ventilation, and air conditioning (HVAC) will be transformed to ensure that energy performance is optimal for California's climate; and

[1] Zero net energy buildings are buildings where the total amount of energy used by the building on an annual basis is equal to or less than the amount of renewable energy created on the site.

- All eligible low-income customers will be given the opportunity to participate in the low-income energy-efficiency program by 2020.

With respect to the commercial sector, the plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts for 38 percent of the state's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of natural gas use (CPUC 2011).

The CPUC and CEC have adopted the following goals to achieve zero net energy levels by 2030 in the commercial sector:

- **Goal 1:** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030;
- **Goal 2:** 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation; and
- **Goal 3:** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewable Portfolio: Carbon Neutrality Regulations

Senate Bill 100

Senate Bill (SB) 100 was signed into law to replace the Clean Energy and Pollution Reduction Act (SB 350) requirements. Under SB 100, the Renewable Portfolio Standards (RPS) for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill also establishes an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under SB 100, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Clean Energy, Jobs, and Affordability Act of 2022

The Clean Energy, Jobs, and Affordability Act of 2022, commonly known by its legislative bill number, SB 1020, requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, this act requires all State

agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy-Efficiency Regulations

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (Title 20 CCR Parts 1600–1608). These standards are updated regularly to allow consideration of new energy-efficiency technologies and methods.

California Building Energy Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the CEC (Title 24 CCR Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On September 11, 2024, the CEC adopted the 2025 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2024. The Energy Code standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers. The 2028 Building Energy Efficiency Standards will replace the 2025 Building Energy Efficiency Standards and will become effective on January 1, 2029.

California Green Building Standards Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Title 24 CCR Part 11, known as "CALGreen") was adopted as part of the CBSC. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives from the Governor. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides design options allowing the designer to determine how best to

achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (Title 24 CCR Part 11). The 2028 Green Building Standards will replace the current version of CALGreen and will become effective on January 1, 2029.

Off-Road Equipment and Transportation-Related Regulations

Assembly Bill 1493 (Pavley Law)

California vehicle GHG emission standards were enacted under Assembly Bill (AB) 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards above under the "Federal" subheading). In January 2012, the California Air Resources Board (CARB) approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

California Code of Regulations: Title 13, Chapter 9, Article 4.8, Section 2449

Title 13 of the CCR, Chapter 9, Article 4.8, Section 2449 limits nonessential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled off-road engine, unless a waiver provides sufficient justification that such idling is necessary.

Sustainable Communities and Climate Protection Act

In 2008, the Sustainable Communities and Climate Protection Act, commonly known as its legislative bill number SB 375, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle-miles traveled (VMT) and vehicle trips. Specifically, this act required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning

organizations (MPOs). The City of Livermore is not an MPO and is therefore not subject to the requirements of SB 375 (CARB 2018). The Metropolitan Transportation Commission (MTC) acts as the Regional Transportation Planning Agency for the region.

Executive Order N-79-20

On September 23, 2020, Executive Order (EO) N-79-20 was issued, which sets a time frame for the transition to zero-emissions (ZE) passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new zero-emission vehicles (ZEVs) sold in California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks[2] to be ZE by 2035.
- Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the USEPA, and local air districts.

On August 25, 2022, CARB adopted the Advanced Clean Cars II regulations that codify the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, Advanced Clean Cars II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Advanced Clean Fleets Regulation

In April 2023, CARB released the Advanced Clean Fleets (ACF) regulation to accelerate the transition to zero-emission medium- and heavy-duty vehicles (CARB 2023). In conjunction with the Advanced Clean Trucks regulation, the ACF regulations helps to ensure that medium- and heavy-duty ZEVs are brought to the market, by requiring certain fleets to purchase ZEVs. The ACF ZEV phase-in approach which provides initial focus where the best fleet electrification opportunities exist, sets clear targets for regulated fleets to make a full conversion to ZEVs, and creates a catalyst to accelerate development of a heavy-duty public infrastructure network. The ACF regulations would also establish requirements that transform the medium- and heavy-duty vehicle sector and demonstrate independent utility.

[2] Drayage trucks are in-use class 7 and 8 on-road vehicles that transport containers and bulk goods to and from seaports and intermodal railyards. Land ports of entry, which provide controlled entry to or departure from the United States, are not considered seaports or intermodal railyards.

The ACF regulations cover four main elements:

- **Manufacturer sales mandate.** Manufacturers may sell only zero-emission medium- and heavy-duty vehicles starting in 2036.
- **Drayage fleets.** Trucks must be registered in the CARB Online System to conduct drayage activities in California. Non-zero-emission "legacy" drayage trucks were able to register in the CARB Online System through December 31, 2023. Legacy drayage trucks can continue to operate through their minimum useful life. Beginning January 1, 2024, only zero-emission drayage trucks may register in the CARB Online System. All drayage trucks entering seaports and intermodal railyards would be required to be zero-emission by 2035.
- **High priority and federal fleets.** High priority and federal fleets must comply with the Model Year Schedule or may elect to use the optional ZEV Milestones Option to phase-in ZEVs into their fleets:
  - Model Year Schedule: Fleets must purchase only ZEVs beginning 2024 and, starting January 1, 2025, must remove internal combustion engine vehicles at the end of their useful life as specified in the regulation.
  - ZEV Milestones Option (Optional): Instead of the Model Year Schedule, fleets may elect to meet ZEV targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification.
- **State and local agencies.** State and local government fleets, including city, county, special district, and State agency fleets, would be required to ensure 50 percent of vehicle purchases are zero-emission beginning in 2024 and 100 percent of vehicle purchases are zero-emission by 2027. Small government fleets (those with 10 or fewer vehicles) and those in designated counties would start their ZEV purchases beginning in 2027. Alternately, State and local government fleet owners may elect to meet ZEV targets using the ZEV Milestones Option. State and local government fleets may purchase either ZEVs or near-ZEVs, or a combination of ZEVs and near-ZEVs, until 2035. Starting in 2035, only ZEVs will meet the requirements.

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The state aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The California Independent System Operator (CAISO) is responsible for managing the electricity grid for much of California and has a total energy storage capacity of more than 3,160 megawatts (MW) as of June 2022 and has increased this to over 16,942 megawatts storage capacity as of December2025, with an additional 8,600 megawatts of storage planned to come online by 2027 (CAISO 2022; CEC 2025d; CESA 2025). This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and

thermal storage. As part of SB 100, load-serving entities (LSEs) were required to procure no less than 1.3 gigawatts (GW) of energy storage capacity by 2020, and 3 GW by 2030. Additionally, the CPUC has established a target of 15 GW of energy storage capacity by 2030 (CPUC 2022).

The Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of LSEs, called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders, and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system. When an individual Battery Energy Storage (BES) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by CAISO, which oversees the operation of the State's electricity grid.

The Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BES facility or generation infrastructure is proposed, the developer applies to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid. Once the BES facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time. Overall, the Interconnection Queue is an important mechanism for integrating new BES facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system.

REGIONAL

Plan Bay Area 2050

Association of Bay Area Governments (ABAG) and MTC adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021). Plan Bay Area 2050 provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375. Under the Plan Bay Area 2050 strategies, just under half of all Bay Area households would live within one half mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19-percent reduction in per-capita emissions by 2035 if all strategies are implemented.

To achieve MTC/ABAG's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan for the region concentrates most of the new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per-capita passenger vehicle, VMT, and associated GHG emissions reductions.

Plan Bay Area 2050 is currently undergoing an update, which is called Plan Bay Area 2050+. Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong economy, and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives pertaining to energy consumption. The code is organized by title, chapter, section, and, in some cases, articles. Most

provisions related to energy consumption are included in Title 15, *Building and Construction,* as follows:

- **Chapter 15.26, Section 15.26.070, *GSBC Section 4.106.4 amended – Electric vehicle (EV) charging for new construction*,** requires new residential construction to include EV charging infrastructure consistent with the mandatory measures of the California Green Building Standards Code (CALGreen).
- **Chapter 15.26, Section 15.26.220, *GSBC Section 5.106.5.3 amended – Electric vehicle (EV) charging*,** requires new nonresidential construction to include EV charging infrastructure consistent with the mandatory measures of CALGreen.
- **Chapter 15.26, Section 15.26.280, *GSBC Section 5.106.13.1 added – New construction*,** requires new construction to be designed all-electric but provides exemptions for commercial cooking uses where no electric alternative is available, clothes drying equipment for hotels and motels with 80 or more units, and laboratories.

Livermore Climate Action Plan

The City's 2022 Climate Action Plan (2022 CAP), adopted on November 28, 2022, identifies a series of communitywide strategies to reduce GHG emissions and adapt to extreme weather (City of Livermore 2022). Strategies established in the 2022 CAP include dedicating resources for identified climate protection actions, electrifying buildings and transportation, promoting renewable electricity generation, improving organic waste diversion from landfills, improving carbon sequestration efforts, investing in complete neighborhood to promote active transportation modes, incentivizing investment in green and innovative businesses, and educating and working with the community.

The 2022 CAP established per-capita GHG emission reduction targets aimed to reduce GHG emissions by 40 percent below 1990 levels by 2030 per SB 32 and achieve carbon neutrality by 2045. Various strategies from the 2022 CAP help improve GHG emissions and reduce energy use by promoting building electrification and energy efficiency, expanding renewable and low-carbon energy use, supporting reduction in VMT and EVs, and increasing waste diversion and organics recycling.

The City produces annual progress reports to identify the implementation and funding sources for the strategies identified in the 2022 CAP. The 2024 Progress Report shows that the City has implemented, and is continuing to implement, the majority of its short-term strategies (City of Livermore 2024).

3.6.2 Existing Conditions

Electricity and Natural Gas Consumption

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh), and heating fuels (e.g., natural gas, propane) is measured in Therms or kilo-British thermal units (kBTU). A therm is a measurement of the amount of heat energy in heating fuels, equal to 100 kBTU. A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. According to the CEC's Electricity Consumption Database, total energy usage in California was 276,213 gigawatt-hours of electricity and 11,964 million Therms in 2023, the latest year of available information (CEC 2025c, 2025e). A gigawatt-hour is equal to one million kWh.

Electricity service in the EIR Study Area is provided by the Pacific Gas and Electric Company (PG&E) and Ava Energy (formerly known as East Bay Community Energy), and natural gas service in the EIR Study Area is provided by PG&E. The existing electricity and natural gas consumption attributable to nonresidential and residential land uses in the EIR Study Area is shown in Table 3.6-1, *Estimated Existing Electricity and Natural Gas Demand in the EIR Study Area.*

Table 3.6-1 Estimated Existing Electricity and Natural Gas Demand in the EIR Study Area

Parameter	Electricity Usage (kWh/year)[1]	Natural Gas Usage (Therms)[1]
Residential	188,507,132	13,248,679
Nonresidential	274,709,282	6,078,121
Total	**463,216,414**	**19,326,800**
2023 Service Population[2]	145,150	145,150
Per Service Population Consumption	**3,191**	**133**

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: kWh = kilowatt-hours

1. Based on 5-year average electricity and natural gas usage data provided by PG&E and Ava Energy.

2. Service Population accounts for total population and jobs. See Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study* Area, in Chapter 2, *Project Description*.

Transportation Fuel Consumption

California has traditionally been one of the top producers of petroleum in the nation, with drilling operations throughout the state. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on foreign imports (CEC 2025b). According to the United States Energy Information Administration (USEIA), California's field production of crude oil has steadily declined since the mid-1980s with a total production of

approximately 104 million barrels in 2024 (USEIA 2025). In Alameda County, including all incorporated cities therein, an estimated 468 million gallons of gasoline and 84 million gallons of diesel fuel were sold in 2023 (CEC 2024). Table 3.6-2*, Existing Operation-Related Annual Fuel Consumption in the EIR Study Area,* shows the estimated annual fuel consumption currently generated under existing baseline conditions. Fuel consumption is based on VMT from external/internal trips.

Table 3.6-2 Existing Operation-Related Annual Fuel Consumption in the EIR Study Area

Gas (gal/year)	Diesel (gal/year)	Compressed Natural Gas (gal/year)	Electricity (kWh/year)
27,523,697	7,736,512	294,015	14,275,325

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.
Notes: gal = gallons; kWh = kilowatt-hours.

Energy Providers

Electricity

PG&E is a publicly traded utility company that generates, purchases, and transmits energy and natural gas under contract with CPUC. PG&E's service territory is 70,000 square miles, roughly extending north to Eureka, south to Bakersfield, west to the Pacific Ocean, and east to the Sierra Nevada.

PG&E's electricity distribution system consists of 106,681 circuit-miles of electric distribution lines and 18,466 circuit-miles of interconnected transmission lines (PG&E 2026). PG&E owns and maintains local networks of electric transmission and distribution facilities throughout the EIR Study Area. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, also known as solar farms. The bulk electrical grid (collectively referred to as "the Grid") is a network of high-voltage transmission lines, linked to power plants within the PG&E system. The distribution system, made up of lower-voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer. While PG&E owns and maintains the distribution infrastructure, both PG&E and Ava Energy provide electricity to the EIR Study Area.

In 2023, PG&E delivered a total of 73,059,129 kWh electricity throughout their service area (CEC 2025c). This total includes power generated by Ava Energy. As shown in Tables 3.6-1 and 3.6-2, the land uses within the EIR Study Area consumed approximately 463,216 MWh from building sources and 14,275 MWh from transportation sources in 2023, or a total of 477,492 MWh in 2023, which accounted for approximately 0.6 percent of PG&E's electricity delivered in 2023.

Sources of electricity sold by PG&E in 2023 for their standard power service "Base Plan" were as follows (CEC 2025a):

- 32.8 percent eligible renewable resources:
  - 3.4 percent biomass and biowaste
  - 0.3 percent geothermal
  - 2.5 percent small hydroelectric
  - 20.2 percent solar
  - 6.3 percent wind
- 67.2 percent eligible carbon-free resources:
  - 13.8 percent large hydroelectric
  - 53.4 percent nuclear
- 0 percent non-RPS eligible resources:
  - 0 percent coal
  - 0 percent natural gas
  - 0 percent other
  - 0 percent unspecified power (i.e., not traceable to specific sources)

Sources of electricity sold by Ava Energy in 2023 for their standard power service (Bright Choice) were (CEC 2025a):

- 54.8 percent eligible renewable resources:
  - 13.0 percent biomass and biowaste
  - 2.2 percent geothermal
  - 2.5 percent small hydroelectric
  - 5.6 percent solar
  - 31.6 percent wind
- 34.1 percent eligible carbon-free resources:
  - 34.1 percent large hydroelectric
  - 0 percent nuclear
- 11.1 percent non-RPS eligible resources:
  - 0 percent coal
  - 0 percent natural gas
  - 0 percent other
  - 11.1 percent unspecified power (i.e., not traceable to specific sources)

Natural Gas

PG&E provides natural gas to the EIR Study Area. PG&E's natural gas (methane) pipe delivery system includes over 42,000 miles of distribution pipelines and over 6,000 miles of gas transportation pipelines (PG&E 2026). PG&E purchases gas supplies from producers and marketers in Canada, the Rockies, and the US Southwest (PG&E 2026). PG&E's gas transmission pipeline system serves approximately 4.5 million natural gas customers in northern and central California (PG&E 2026). The system is run under an inspection and monitoring program that operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. Total natural gas consumption in PG&E's service area was 11,967 million Therms in 2023 (CEC 2025e). As shown in Table 3.6-1, the EIR Study Area consumed a total of 19 million Therms in 2023, which accounted for approximately 0.02 percent of PG&E's total natural gas provided in 2023.

3.6.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to energy if it would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Thresholds of significance for energy will be based on consistency with the CEQA Guidelines Appendix F, *Energy Conservation,* energy conservation goals and consistency with the City and State applicable energy efficiency plans, policies, and regulations, including the California Building Energy Efficiency Standards (Title 24, Part 6), CALGreen (24 CCR, Part 11), RPS, and the 2022 CAP, to determine whether the implementation of the proposed Project would result in wasteful, inefficient, or unnecessary consumption of energy resources, during future potential development construction or operation.

APPENDIX F, ENERGY CONSERVATION

Based on Appendix F, *Energy Conservation*, of the CEQA Guidelines, to ensure energy implications are considered in project decisions, environmental documents should include a discussion of the potential environmental effects of projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources. Environmental effects may include a project's energy requirements and its energy use efficiencies by amount and fuel type during demolition, construction, and operation; the effects of a project on local and regional energy supplies; the effects of a project on peak- and base-

period demands for electricity and other forms of energy; the degree to which a project complies with existing energy standards; the effects of a project on energy resources; and the project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if applicable.

To assist in analyzing whether the proposed Project's energy consumption is considered wasteful, inefficient, or unnecessary, the following energy conservation goals from Appendix F of the CEQA Guidelines are used:

- Decrease overall per-capita energy consumption
- Decrease reliance on fossil fuels such as coal, natural gas, and oil
- Increase reliance on renewable energy sources

Though these energy conservation goals are used in this analysis to determine whether long-term operations of the proposed Project could result in wasteful, inefficient, or unnecessary energy consumption, they are not considered bright-line significance thresholds. While a project may result in an increase in per-capita energy consumption, that does not necessarily mean the consumption of that energy would be wasteful, inefficient, or unnecessary, because the consumption of energy alone does not constitute the wasteful, inefficient, or unnecessary use of energy resources. Because different land use types consume different types of energy resources at different rates depending on that occupancy's operational objectives and energy needs, comparing the per-capita energy consumption of the proposed Project against the existing energy consumption data for the EIR Study Area is informative but not determinative of whether that energy consumption would be wasteful, inefficient, or unnecessary. Therefore, this analysis focuses on whether the use of that energy resource is carried out in a wasteful, inefficient, or unnecessary manner in the context of the Appendix F energy conservation goals and explores whether mitigation may be warranted to ensure that the use of energy resources is not considered wasteful, inefficient, or unnecessary.

3.6.4 Project Impact Analysis

The following energy analysis is based on demographic and land use growth forecasts and evaluates the impacts of the proposed Project compared to the existing conditions at the time the Notice of Preparation was issued in March 2023.

METHODOLOGY

The following analysis accounts for energy consumption associated with transportation fuels and building electricity and propane use under the proposed Project. The following describes the methodology to estimate energy consumption for these sources:

- **Building Energy.** Energy consumption associated with electricity and natural gas use for residential and nonresidential land uses in the EIR Study Area was based on the energy information provided by PG&E and Ava Energy. Energy usage for national laboratories (Lawrence Livermore National Laboratory and Sandia National Laboratories) was estimated based on facility square footage and annual energy use factors by land use type from the CalEEMod Users Guide. Forecasts are adjusted for increases in housing units for residential electricity and natural gas use and nonresidential square footage for nonresidential electricity and natural gas use.
- **Transportation.** Transportation energy consumption forecasts were modeled using emissions data with adjusted factors from CARB's EMFAC2021, version 1.0.2 web database.[3] Model runs were based on daily VMT data provided by Kittelson and Associates Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*) adjusted for population and employment in the EIR Study Area in calendar year 2023 (existing) and 2045 (forecasted) emission rates. The VMT is based on the origin-destination method using the Alameda Countywide Transportation Model based on the recommendations of CARB's Regional Targets Advisory Committee under SB 375. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement (CARB n.d.), daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.

a) Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less than significant.

Construction

Construction of development projects facilitated by the proposed Project would create temporary demand for electricity. Natural gas is not generally required to power construction equipment and, therefore, is not anticipated during construction phases. Electricity use would fluctuate according to the phase of construction. Additionally, it is anticipated that most electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities.

[3] EMFAC2021 projections assumed implementation of California's Advanced Clean Trucks Regulation and the Heavy-Duty Low NO_X Omnibus Regulation, which had been authorized by USEPA waivers under the CAA. These regulations were disapproved by congressional resolutions H.J. Resolution 87 and H.J. Resolution 89, respectively, which were signed by the President on June 12, 2025. The CARB adjustment factors released for EMFAC2021 address the effects of the resolutions on the forecasted data in EMFAC2021.

Construction of development projects facilitated by the proposed Project would also temporarily increase demands for energy associated with transportation fuels. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that most off-road construction equipment, such as those used during demolition and grading, would be gasoline or diesel powered. In addition, operation of construction equipment would cease upon completion of construction for individual development projects.

Construction contractors would be required to minimize nonessential idling of construction equipment during construction in accordance with Title 13 of the CCR, Chapter 9, Article 4.8, Section 2449. Such required practices would limit wasteful and unnecessary energy consumption. The proposed Project does not envision any unusual development or project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of California.

Therefore, short-term construction activities that occur as a result of implementation of the proposed Project would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operation

Operation of future development would create additional demand for energy resources compared to existing conditions. This section covers the operational use of electricity and heating fuels (e.g., propane), including heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; lighting; and charging EVs. The proposed Project would also result in additional demand for transportation fuels (e.g., gasoline, diesel, compressed natural gas, and electricity) associated with on-road vehicles.

As discussed under Section 3.6.3, *Standards for Analysis*, the following energy conservation goals are considered to assist in analyzing whether the proposed Project's operational energy consumption could be considered not wasteful, inefficient, or unnecessary:

- Decrease overall per-capita energy consumption
- Decrease reliance on fossil fuels such as coal, natural gas, and oil
- Increase reliance on renewable energy sources

Overall per-Capita Energy Consumption

Building Electricity

Electrical service would be provided by PG&E and Ava Energy and delivered by PG&E through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Table 3.6-3, *Year 2045 Forecast Electricity Consumption*, by horizon year 2045, electricity use in the EIR Study Area is estimated to increase by 142,543,682 kWh/year, or approximately 31 percent, from existing conditions; however, the EIR Study Area's service population would increase by 49,930 people, or approximately 34 percent. As a result, the average per-service population electricity consumption is estimated to decrease from 3,191 kWh per person per year in existing baseline to 3,105 kWh per person per year in 2045, or a decrease of approximately 86 kWh per person annually.

Table 3.6-3 Year 2045 Forecast Electricity Consumption

Area	Electricity Usage, kWh per Year (Subtotal)[1]		
	Existing Baseline[2]	Year 2045 Forecast[3]	Net Change
Nonresidential	274,709,282	322,457,219	47,747,937
Residential	188,507,132	283,302,877	94,795,745
Total	**463,216,414**	**605,760,096**	**142,543,682**
Service Population [4]	145,150	195,080	49,930
Per Service Population Annual Consumption	3,191	3,105	-86

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Notes: kWh = kilowatt-hours

1. Totals may not add due to rounding.
2. Electricity usage is provided by PG&E and Ava Energy.
3. Residential and nonresidential energy forecasts are adjusted for increases in housing and nonresidential square footage in the EIR Study Area and does not account for future building fuel switching (i.e., switching from natural gas to all-electric building design).
4. Service Population consists of the aggregate of total employees and population within the EIR Study Area.

Future development would be required to demonstrate compliance with the current Energy Code and CALGreen standards in effect at the time the individual development applications are submitted and, because it is anticipated that each new code cycle for the CBSC will require higher performance for energy efficiency and incorporate additional requirements for on-site renewable energy and EV charging infrastructure, future development can be expected to be more energy-efficient than current uses, resulting in reductions in electricity consumption on a per-dwelling-unit and per-square-foot basis when compared to existing development. It is unknown how much more energy-efficient future iterations of the Energy Code and CALGreen

standards would be in 2045 compared to existing conditions as those code updates are released on a three-year cycle.

Building Heating Fuels

As shown in Table 3.6-4, *2045 Forecast Natural Gas Consumption in the EIR Study Area*, natural gas use in the EIR Study Area would total 27,045,699 Therms annually under buildout conditions. By 2045, natural gas use in the EIR Study Area is estimated to increase by 7,718,899 Therms annually, or an approximately 40-percent increase.

To provide a conservative, "worst-case" analysis, the proportion of households using natural gas, and the amount of natural gas consumed annually by dwelling unit and nonresidential square foot, are conservatively assumed to remain the same between existing conditions and buildout conditions. The Year 2045 forecast in Table 3.6-4 does not account for potential reductions resulting from compliance with the Energy Code and CALGreen, nor future improvements in building and heating appliance design. As a result, the per-service population natural gas consumption is estimated to increase by approximately 5 Therms per person per year in 2045 due to the increase in development and population growth in the EIR Study Area.

Table 3.6-4 2045 Forecast Natural Gas Consumption in the EIR Study Area

Area	Natural Gas Usage, Therms per Year[1]		
	Existing Baseline	Proposed Project (2045)	Net Change
Nonresidential	6,078,121	7,134,575	1,056,454
Residential	13,248,679	19,911,124	6,662,445
Total	**19,326,800**	**27,045,699**	**7,718,899**
2045 Service Population[2]	145,150	195,080	49,930
Per Service Population Annual Consumption	133	139	5

Notes:

1. Residential and nonresidential energy forecasts are adjusted for increases in housing and employment, respectively, in the EIR Study Area and do not account for reductions in consumption due to compliance with energy efficiency from compliance with future Energy Code and CALGreen standards. Totals may not add due to rounding.

2. Service Population consists of the aggregate of total employees and population within the EIR Study Area.

Similar to electricity consumption, future development would be required to demonstrate compliance with the current Energy Code and CALGreen standards in effect at the time of construction and would result in improved efficiency in heating fuel (i.e., propane) consumption on a per-dwelling-unit and per-square-foot basis when compared to existing development. This would reduce energy consumption in new development facilitated under the proposed Project relative to existing conditions for comparable development types. However, to provide a

conservative analysis, per-service-population natural gas consumption is estimated to increase slightly in 2045 compared to existing baseline conditions.

Transportation Energy

Table 3.6-5, *Operation-Related Annual Fuel Usage: Net Change from Existing,* shows the net change in VMT, fuel usage, and fuel efficiency under buildout conditions (2045) compared with existing baseline (2023) year conditions.

Table 3.6-5 Operation-Related Annual Fuel Usage: Net Change from Existing

Fuel Type	Existing Baseline Year (2023)	Proposed Project (2045)	Net Change from Existing Baseline
Gasoline			
VMT [1]	678,437,121	836,871,853	158,434,733
Gallons	27,523,697	26,518,461	-1,005,236
Miles Per Gallon	24.65	31.56	7
Diesel			
VMT [1]	57,474,773	73,378,798	15,904,026
Gallons	7,736,512	8,230,201	493,689
Miles Per Gallon	7.43	8.92	1
Compressed Natural Gas			
VMT [1]	1,614,057	1,543,474	-70,583
Gallons	294,015	256,469	-37,545
Miles Per Gallon	5.49	6.02	1
Electricity			
VMT [1]	38,302,219	84,855,732	46,553,513
kWh	14,275,325	30,357,216	16,081,891
Miles Per kWh	2.68	2.80	0
Total VMT	**775,828,169**	**996,649,857**	**220,821,688**
Service Population (SP) [2]	145,150	195,080	49,930
VMT/SP	**5,345**	**5,109**	**-236**

Source: EMFAC 2021 (v.1.0.2); see Appendix B, *Air Quality and Greenhouse Gas Emissions Data.*

Notes:

1. Based on daily VMT provided by Kittelson and Associates Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data)*. VMT per year is based on a conversion of VMT x 347 days per year to account for less travel on weekends, consistent with CARB statewide GHG emissions inventory methodology (CARB 2008).

2. Service Population consists of the aggregate of total employees and population within the EIR Study Area.

As shown in Table 3.6-5, total VMT under the proposed Project would increase relative to existing baseline year conditions for all fuel types due to population and employment growth; however, the greatest proportional increase is from EVs. This reflects EMFAC assumptions that a

greater mix of light-duty automobiles would be electric-powered in future years based on current California regulations (e.g., Advanced Clean Cars) and consumer trends. Despite the increase in total VMT, the VMT per service population would decrease by 236 VMT from baseline conditions, indicating that average driving per person would decline.

Although total VMT would increase, the proposed Project includes goals and policies to minimize VMT and therefore reduce the increase in emissions from automobiles, as detailed in Section 3.16, *Transportation*. For example, the proposed Project would encourage infill development to place residences and places of employment closer to one another to support the use of alternative modes of transportation, such as public transit, walking, biking, or other forms of active transportation. Additionally, fuel efficiency of vehicles under year buildout (2045) conditions would improve compared to existing baseline (2023) year conditions because new cars will be more fuel efficient, while older, less fuel-efficient vehicles will age out of public and private fleets. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. However, compliance with the CAFE standards by car manufacturers would improve the fuel efficiency of future vehicles and would generally result in reduced fuel consumption per vehicle.

Electricity demand would also increase as EV use expands; however, State regulations, such as the RPS, SB 350, and SB 100 require a growing share of electricity to come from renewable sources. As a result, the electricity used to power EVs is expected to become cleaner over time. In combination with improvements in fuel economy standards and energy-efficient building design standards (Energy Code and CALGreen) through 2045, the proposed Project would result in improved efficiencies in transportation energy consumption overall.

Energy Consumption Summary

LMC Chapter 15.26 and the 2022 CAP would further support the incorporation of electric and energy-efficiency systems in new development. Furthermore, the Land Use (LU) Element, Mobility (MO) Element, and Open Space and Conservation (OS) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to encourage greater efficiency in energy consumption from buildings and transportation by co-locating housing, jobs, and transit:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.6: Climate-Responsive and Green Building Practices.** Promote environmentally responsive site and building design that reduces construction impacts and supports long-term climate resilience. Encourage the use of green building practices in both public and private development, consistent with CalGreen and Title 24 standards.

- **Policy LU-1.9: Infill and Reinvestment.** Prioritize development for locations in or in close proximity to transit, nodes for active transportation, or major commercial sites or other activity centers. Update the Development Code and Specific and Neighborhood Plans accordingly.

- **Goal LU-4:** Establish mixed-use districts that integrate housing, commercial, and employment uses to increase housing supply, support economic vitality, and create walkable neighborhoods with a strong sense of place.
  - **Policy LU-4.1: Mixed-Use District Planning.** Plan and implement high-density mixed-use districts in strategic locations, such as near transit, commercial hubs, and employment centers, to integrate housing, commercial, and employment uses. These districts should be designed to be walkable, inclusive, and compatible with surrounding neighborhoods, supporting the needs of residents, employers, and the workforce.
  - **Policy LU-4.2: Housing Integration and Livability.** Facilitate the inclusion of diverse and affordable housing types within mixed-use developments to promote proximity between jobs and housing, support inclusive communities, and reduce vehicle miles traveled (VMT). Ensure residential components are designed to minimize exposure to noise and traffic impacts, particularly along arterial corridors.
  - **Policy LU-4.5: Multimodal Access and Connectivity.** Design mixed-use districts to support walking, biking, and transit access, reducing reliance on single-occupancy vehicles and enhancing connectivity between homes, jobs, and services.
- **Goal MO-1:** Design and maintain streets that are safe, comfortable, convenient, and accommodate all users.
  - **Policy MO-1.1: Complete Streets Approach.** Plan for Complete Streets that support all transportation systems throughout the city and consider and balance the needs of all users, including vulnerable users and underserved communities.
- **Goal MO-2:** Reduce the number and length of single-occupancy vehicle trips.
  - **Policy MO-2.1: Transportation Mode Choice.** Support and provide viable transportation alternatives to reduce vehicle miles traveled.
  - **Policy MO-2.2: Transportation Priorities.** Make transit and active transportation safe and feasible choices for residents by prioritizing transportation modes as follows: (1) public transit and active transportation, (2) zero-emission vehicles, and (3) fossil fuel vehicles. Support this prioritization through funding, development standards, education, and other allocation of resources.
  - **Policy MO-2.4: Transportation Demand Management (TDM) Implementation.** Promote and implement Transportation Demand Management strategies to reduce vehicle miles traveled and reliance on single-occupancy vehicles across all development types.
    A. New Development: Require Transportation Demand Management measures through development agreements, partnerships with Transportation Management Associations (TMAs), and collaboration with regional stakeholders.

B. Existing Development: Encourage adoption of Transportation Demand Management measures by offering incentives such as grants, tax benefits, or reduced fees.

C. Organizational Support: Provide technical assistance for the formation and operation of Transportation Management Associations and other entities that facilitate Transportation Demand Management programs.

- **Goal MO-3:** Provide comfortable access to jobs, schools, recreation, shopping, and transit on foot or by bicycle as part of daily life in a healthy and active community.
  - **Policy MO-3.1: Active Transportation Plan.** Regularly update and implement the City's Active Transportation Plan as a guide for developing pedestrian, bicycle, and trail networks.
  - **Policy MO-3.2: Bicycle/Pedestrian Connectivity.** Improve connectivity for cyclists and pedestrians between and through neighborhoods and to and from activity centers in collaboration with the community and stakeholders.
- **Goal MO-4:** Make transit a viable option by supporting frequent, reliable, cost-efficient, and connected service.
  - **Policy MO-4.1: Local Transit Ridership.** Increase local transit ridership and service as an alternative to driving by supporting Livermore Amador Valley Transit Authority and Altamont Corridor Express services.
- **Goal OS-6:** Protect and improve Livermore's air quality.
  - **Policy OS-6.10: Vehicle Emissions Reduction.** Work with regional municipalities and State agencies to reduce automobile-related vehicle emissions.
  - **Policy OS-6.11: Vehicle Trip Reduction Incentives.** Develop incentives to reduce vehicle trips and increase ridesharing to reduce pollutants generated by vehicular combustion engines.
  - **Policy OS-6.12: Anti-Idling Requirements.** Reduce and limit idling of municipal, community, and/or commercial vehicles.
  - **Policy OS-6.16: Privately Owned Zero-Emission Equipment.** Work with local and regional partners to publicize the advantage of zero-emission equipment and any available financial incentives.
  - **Policy OS-6.17: Low-Emission City Vehicles.** Purchase City vehicles that have alternative fuel systems with reduced emissions as suitable models are available.
- **Goal OS-7:** Make Livermore strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.
  - **Policy OS-7.1: Climate Action Plan Updates.** Update the Livermore Climate Action Plan (CAP) at least every five years, maintaining the CAP as a Qualified Greenhouse Gass (GHG) Reduction Strategy under the Guidelines for the California Environmental Quality Act as laid out by the State and Bay Area Air Quality Management District. The CAP shall include an inventory of the level of GHG emissions within the city for a recent year, in

comparison to a 2005 baseline, and shall set out specific policies and actions to be undertaken by the City to reduce GHG emissions to a level that meets or exceeds State GHG reduction targets. The policies and actions will include incentives, actions, and requirements to reduce the city's GHG emissions, the GHG emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce GHG emissions. Updates to the CAP will include a public and stakeholder engagement process.

- **Policy OS-7.2: Climate Action Plan Implementation.** Continue to implement the Climate Action Plan (CAP). Identify key City staff and partner agencies responsible for implementing CAP strategies and actions. Integrate CAP strategies and actions into annual department workplans and budget. Continue to identify and pursue funding mechanisms for CAP implementation.

- **Goal OS-8:** Promote a clean, reliable, and equitable energy system by increasing energy efficiency, expanding the use of renewable and carbon-free energy sources, and reducing greenhouse gas emissions from buildings, transportation, and infrastructure.
  - **Policy OS-8.1: Climate Action Plan Implementation.** Implement Climate Action Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions.
  - **Policy OS-8.2: Per-Capita Energy Use.** Reduce per-capita energy use.
  - **Policy OS-8.3: Clean and Resilient Energy for Public Facilities.** Ensure City facilities and operations use clean, reliable, and resilient energy sources that reduce emissions and support long-term sustainability. Prioritize energy systems that improve efficiency and maintain essential services during power disruptions.
  - **Policy OS-8.4: Sustainable Energy through Electrification.** Develop strategies and standards to advance sustainable energy by requiring efficient, all-electric appliances in new buildings, where feasible. Encourage property owners to transition existing buildings to electric appliances over time through partnerships, incentives, and public education that promotes clean energy.
  - **Policy OS-8.5: Energy-Efficient Development Decisions.** Consider the energy efficiency of proposed development when making land use and development review decisions.
  - **Policy OS-8.6: Solar Access.** Consider solar access, siting structures to maximize natural heating and cooling, and landscaping during the design review process to aid passive cooling protection from prevailing winds and maximize year-round solar access.

Specifically, proposed Policy OS-8.1 would require implementation of the CAP strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions. Proposed Policy OS-8.5 would require the City to consider the energy efficiency of proposed development when making land use and development review decisions.

As illustrated, the proposed Project would satisfy this criterion of achieving an overall decrease in per-capita energy consumption and increase efficient consumption of energy resources through 2045.

Reliance on Fossil Fuels

The proposed Project would be considered to conflict with this criterion if it did not take steps to decrease the reliance on fossil fuels. As discussed in Section 3.8, *Greenhouse Gas Emissions*, individual development projects anticipated to occur under the proposed Project would be required to comply with the Energy Code and CALGreen standards in effect at the time of their building application submittal. Because it is anticipated that each new code cycle for the CBSC, which includes the Energy Code (Part 6) and CALGreen (Part 11), will require higher performance for energy efficiency and incorporate additional requirements for on-site renewable energy and EV charging infrastructure, individual development projects would be more energy efficient than existing structures in the EIR Study Area. For example, the 2025 CBSC currently includes provisions for development projects to include rooftop photovoltaic systems and BES infrastructure or demonstrate energy-efficiency performance equivalent to including photovoltaic and BES features. The 2028 CBSC is the next version of the code update and will go into effect on January 1, 2029, resulting in greater efficiency and energy consumption reduction in new development.

In addition to improvements in energy efficiency and on-site renewable energy generation and energy storage requirements, SB 100 requires that LSEs incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources. By January 1, 2046, all LSEs in California (e.g., PG&E) are required to source 100 percent of their in-state electricity sales from renewable and carbon-free sources. As a result, future development would have improved energy efficiency through compliance with the CBSC current at the time of their building application submittal and LSEs would supply electricity that is increasingly from carbon-free sources.

Moreover, consistent with EO N-79-20 and CARB's Advanced Clean Cars II Regulation, which aims for 100 percent of new passenger vehicles sold in-state being ZE (i.e., battery electric, hybrid plug-in electric, and fuel cell EVs) by 2035, more vehicles utilized by future residents and employees accommodated by the proposed Project would be EVs. Because these are not currently enforceable statewide policies, they are not accounted for in the 2045 estimates included in Table 3.6-5. In addition, the proposed General Plan 2045 includes policies that are intended to increase trips made by alternative transportation and improve infrastructure available for EVs. As a result, the proposed Project would incrementally decrease reliance on fossil fuel energy resources through 2045.

Reliance on Renewable Energy

As previously discussed, the 2025 CBSC currently requires a variety of development projects that do not meet specific exceptions or exemptions to include rooftop photovoltaic systems and BES infrastructure or otherwise match or exceed the energy-efficiency performance experienced by including photovoltaic and BES systems, as applicable. In addition, it is anticipated that each new code cycle for the CBSC will require higher performance for energy efficiency and incorporate additional requirements for on-site renewable energy and EV charging infrastructure. Future development would therefore result in a net increase from existing conditions in on-site photovoltaic electricity generation and EV charging stations and associated infrastructure, further supporting and accelerating the adoption of EVs and the use of renewable energy in future years.

Similarly, LSEs that serve future development, such as PG&E and Ava Energy, would be required to incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources through 2045 under SB 100, as previously discussed. As a result, electricity consumed by future development, as well as existing structures, would rely more on renewable and carbon-free sources for electricity in future years than is experienced under existing conditions.

Moreover, the same proposed General Plan 2045 goals and policies from the Land Use (LU) Element, Mobility (MO) Element, and Open Space and Conservation (OS) Element identified under the "Energy Consumption Summary" subheading would also serve to support the use of renewable energy beyond compliance with the CBSC, including creating a walkable urban environment to encourage future residents and employees to use active modes of transportation instead of motorized vehicles.

Summary

With implementation of the proposed General Plan 2045 goals and policies, in conjunction with and complementary to regulatory requirements, energy demand associated with growth under the proposed Project is expected to result in an overall decrease in per-capita energy consumption, decreased reliance on fossil fuels, and increased reliance on renewable energy, consistent with the CEQA Guidelines Appendix F, *Energy Conservation*, energy conservation goals. As such, energy consumption under the proposed Project would not be considered inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with construction and operation of future development would be **less than significant**.

b) Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Less than significant. The state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. In general, California has RPS requirements of 52 percent of electricity delivered in the state to be generated from eligible renewable sources by 2027, 60 percent by 2030, and 100 percent by 2045.

The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as PG&E, whose compliance with RPS requirements would contribute to the State's objective of transitioning to renewable energy. By 2030, PG&E and Ava Energy are set to meet or exceed the State's new 60 percent renewable energy mandate set forth in SB 100.

Future projects would be required to comply with the current and future iterations of the CBSC, as applicable. Furthermore, same proposed General Plan 2045 goals and policies from the Land Use (LU) Element, Mobility (MO) Element, and Open Space and Conservation (OS) Element identified under impact discussion (a) would support the statewide goal of transitioning the electricity grid to renewable sources. Specifically, proposed Policy OS-8.6 would require the City to consider solar access during the design review process. As discussed in Section 3.17, *Utilities and Service Systems*, the net increase in energy demand associated with implementation of the proposed Project would be within the service capabilities of PG&E and Ava Energy and would not impede their ability to implement California's renewable energy goals.

In addition, as discussed in Section 3.8, *Greenhouse Gas Emissions,* and illustrated in Table 3.8-7, *City's CAP Consistency Analysis*, in Section 3.8, the proposed Project would be consistent with the mitigation strategies of the 2022 CAP, which aim to improve alternative modes of transportation, renewable energy resource integration in new development, and energy efficiency in new development design. Therefore, implementation of the proposed Project would not conflict with or obstruct implementation of a State of local plan for renewable energy or energy efficiency, such as California's RPS program or the mitigation strategies of the 2022 CAP, and the impact would be **less than significant**.

3.6.5 Cumulative Impact Analysis

The following discussion considers the proposed Project's potential cumulative contribution to wasteful, inefficient, or unnecessary consumption of energy resources or to conflict with or obstruct a State or local plan for renewable energy and energy efficiency. Analysis of whether the proposed Project's energy demand would be within PG&E's service capacity and require new or expanded facilities is provided in Section 3.17, *Utilities and Service Systems*.

Would the project have a cumulative effect related to energy?

Less than significant. Cumulative impacts would occur if a series of actions lead to a wasteful, inefficient, or unnecessary consumption of energy resources or a conflict with or obstruction of a State or local plan for renewable energy and energy efficiency.

All the development projects within the vicinity of the EIR Study Area are within the service area of PG&E and Ava Energy. These projects would result in a long-term increase in operational energy demand for electricity and natural gas use associated with population growth. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the PG&E and Ava Energy service area would implement the requirements of the CBSC and CALGreen and other federal, State, and local regulations, as applicable. Furthermore, new buildings would use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations.

Future cumulative development could also increase annual VMT, and thus fuel consumption. However, vehicles would be subject to the USEPA CAFE standards for vehicular fuel efficiency, and average corporate fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets. In addition, implementation of the proposed General Plan 2045 goals and policies would serve to reduce energy use as well as aligning with the state's goals for carbon neutrality and help ensure there would be no conflict with or obstruction of a State or local plan for renewable energy and energy efficiency. Cumulative impacts would therefore be **less than significant.**

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3.7 GEOLOGY AND SOILS

This section evaluates the potential geology and soils impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential geology and soil impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As summarized in Chapter 3, *Environmental Analysis,* concerns related to the potential of fault rupture, ground shaking, liquefaction, and landslides to cause harm to the residents of Livermore were provided during the EIR scoping period.

3.7.1 Regulatory Framework

FEDERAL

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency. Additionally, it specifies these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. This act incorporates key findings of a report, *Fossils on Federal Land and Indian Lands*, issued by the United States Department of the Interior (USDOI) in 2000, that establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources (USDOI 2000).

STATE

Public Resources Code Section 5097.5 and Section 30244

State requirements for management of paleontological resources are included in by Public Resources Code (PRC) Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts on paleontological resources from developments on public (e.g., State, county, city, or district) lands.

Paleontological Assessment Standards

CEQA also directs agencies to assess whether a project would have an adverse effect on unique paleontological resources. The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources (SVP 2010). Most practicing paleontologists in the United States adhere closely to the SVP's assessment, mitigation, and monitoring requirements as outlined in these guidelines, which were approved through a consensus of professional paleontologists. The SVP has helped define the value of paleontological resources and, in particular, indicates that geologic units of high paleontological potential are those from which vertebrate or significant invertebrate or plant fossils have been recovered in the past (i.e., are represented in institutional collections). Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant. Geologic units of low paleontological potential are those that are not known to have produced a substantial body of significant paleontological material. As such, the sensitivity of an area with respect to paleontological resources hinges on its geologic setting and whether significant fossils have been discovered in the area or in similar geologic units.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface fault rupture to structures used for human occupancy. The main purpose of the act is to prevent the construction of buildings used for human occupancy on top of active faults. This act only addresses the hazard of surface fault rupture—not other earthquake hazards such as earthquake-induced liquefaction or landslides. The act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around surface traces of active faults and to issue appropriate maps. The maps, which are developed using existing United States Geological Survey's (USGS) 7.5-minute quadrangle map bases, are then distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Generally, construction within 50 feet of an active fault zone is prohibited.

Seismic Hazard Mapping Act of 1990

The Seismic Hazard Mapping Act was adopted by the State in 1990 to address the potential hazards posed by secondary effects of seismic activity, including strong ground shaking, soil liquefaction, and associated ground failure and seismically induced landslides. The California Geological Survey (CGS) prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The seismic hazard zones are referred to as "zones of required investigation" because site-specific geological investigations are required for construction projects within these areas. Before a project can be permitted, a geologic investigation, evaluation, and written report must be prepared by a licensed geologist to demonstrate that the potential hazards can be successfully mitigated.

California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. These codes also regulate grading activities, including erosion control.

California General Plan Law

State law (Government Code Section 65302) requires cities and counties to adopt a comprehensive long-term general plan that includes a safety element. The safety element is intended to provide guidance for protecting the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; other seismic hazards identified PRC Sections 2691 et. seq.; and other geologic hazards known to the legislative body. The safety element must also include mapping of known seismic and geologic hazards from the California Geological Survey and a series of responsive goals, policies, and implementation programs to improve public safety.

REGIONAL

Tri-Valley Local Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The Tri-Valley Local Hazard Mitigation Plan (LHMP) was adopted in March 2024 for the purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events (City of Livermore 2024). The LHMP includes an assessment of hazards and vulnerabilities and a set of mitigation actions for the Tri-Valley area, including the EIR Study Area. In the context of an LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including geologic hazards. The mitigation strategies in this plan related to geologic hazards include creating a comprehensive outreach program to inform the public of seismic hazards and increase resilience; conduct citywide creek embankment studies to determine seismic and flood vulnerabilities; update the Livermore Development Code (LDC) and/or Zoning Map to require that new development consider and reduce impacts of natural hazards, incentivize seismic upgrades, and streamline reconstruction after declared disasters; incorporate all hazard maps into GIS; support retrofitting or relocation of structures in high hazard areas.

Alameda County Onsite Wastewater Treatment Systems Ordinance

The Onsite Wastewater Treatment Systems (OWTS) Ordinance, as codified in Alameda County General Ordinance Code Chapter 15.18, provides for the safe and sanitary treatment and disposal of wastewater from structures and buildings not served by public sewer systems as allowed by the California State Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (State OWTS Policy). The purpose is also to establish standards for the approval, installation, and operation of OWTS and Onsite Wastewater Containment Units in Alameda County, consistent with the State OWTS Policy and consistent with the appropriate Regional Water Quality Control Board (RWQCB) standards and basin plans. The standards are adopted to prevent the creation of health hazards and nuisance conditions and to protect surface and groundwater quality. The Alameda County Department of Environmental Health (ACDEH) prepared an OWTS Manual, which provides the procedural and technical details for implementation of the provisions of the OWTS Ordinance and is responsible for enforcement (ACDEH 2018).

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts with respect to geology and soils. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to geology and soils are in Title 13, *Public Services*; Title 15, *Buildings and Construction*; and Title 16, *Environment*, as follows:

- **Section 13.32.040, *Private disposal of sewage*,** states that It is unlawful to construct any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage except when special permit is granted by the City Council.
- **Chapter 15.02, *Building Code***, adopts the International Building Code, 2021 Edition, as amended and set forth in the California Building Standards Code, CCR Title 24.
- **Section 15.14.160, *CRC Section R403.1.3 amended – Seismic reinforcing*,** amends provisions related to seismic reinforcing in the City-adopted International Residential Code, 2021 Edition, as amended and set forth in the California Building Standards Code, Title 24 of the CCR.
- **Chapter 15.24, *Unreinforced Masonry Building Hazard Reduction Program***, promotes public safety by establishing a set of structural repair standards to be used to strengthen unreinforced masonry buildings and require owners to make their buildings conform to those standards within a reasonable period of time. The provisions of this chapter are minimum standards for structural seismic resistance established primarily to reduce the risk of life loss or injury but will not necessarily prevent loss of life or injury or prevent earthquake damage to an existing building which complies with these standards.

- **Chapter 16.12, *Flood Control Regulations***, outlines regulations to minimize public and private losses due to flood conditions in specific areas, including those to control filling, grading, dredging and other development which may increase erosion.

Livermore Development Code

The City of Livermore regulates land use and design through the LDC, an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds on community character. Section 10.20.030, *Tentative Map and Vesting Tentative Map Filing and Processing*, sets the requirements for preliminary soil and engineering geology reports to be included as part of the submittal of tentative and vesting tentative maps. The reports shall include any information appropriate for the site, including any information required by the City Engineer. If the preliminary soil report or the preliminary engineering geology report indicates, or the City Engineer has knowledge of, the presence of soil or geologic conditions, which, if corrective measures are not taken, could lead to structural defects, then a soil or engineering geology investigation of each proposed parcel shall be submitted with the final map.

3.7.2 Existing Conditions

GEOLOGIC SETTING

The EIR Study Area is in the Livermore Valley within the Coast Ranges Geomorphic Province. The Coast Ranges Geomorphic Province is a long region of moderate relief containing many elongate ridges and narrow valleys that are approximately parallel to the coast. In the San Francisco Bay Area, the Coast Ranges Geomorphic Province is characterized by a series of northwest-to-southeast-trending ridges and valleys associated with faulting and folding. Livermore Valley is an east to west-trending valley, unique to the East Bay, and is a deep alluvial depression containing sediments deposited as part of the Livermore Gravel Formation. The Greenville Fault forms the eastern border of the valley, separating it from the Altamont Hills. The valley ranges in elevation from 400 to 500 feet above mean sea level. The Livermore Valley is structurally controlled by faulting from the Greenville and Las Positas Faults. Both faults are in the EIR Study Area, and both have been designated as Alquist-Priolo Earthquake Fault Zones.

The predominant geologic units in the EIR Study Area are Qa, Qg, Qoa, and QTlg, which are discussed in more detail below.

- **Qa (Holocene Alluvium):** This unit consists of sediments that have been transported and deposited by streams. Alluvium can be vulnerable to seismically induced instability.
- **Qg (Holocene Stream Gravel):** This unit consists of coarser grained sediments that have been transported and deposited by streams. Stream gravel deposits may be vulnerable to erosion on slopes.

- **Qls (Holocene Landslide Deposits):** The landslide unit contains deposits of unconsolidated solid material and weathered rock fragments that have been transported downslope as a landslide. These deposits may be susceptible to continued flow failures.
- **Qoa (Pleistocene Alluvium):** This unit consists of older sediments that have been transported and deposited by streams. This unit is partially consolidated and is less vulnerable to seismically induced instability but may contain paleontological resources.
- **QTlg (Pliocene to Pleistocene Livermore Gravel):** This unit is made up of light reddish-gray cobble-pebble gravel containing debris from Franciscan rocks and minor to major amounts of gray claystone. This unit is weakly cemented and is vulnerable to seismically induced landslides and may contain paleontological resources.
- **Tps (Pliocene nonmarine sedimentary rocks):** This unit consists of weakly indurated pebble conglomerate, sandstone, and greenish gray claystone. Within the EIR Study Area, this unit is limited to the hills south of Interstate 580 and east of Greenville Road. This unit is not vulnerable to seismically induced instability but may contain paleontological resources.
- **Tbr (Miocene Cierbo Sandstone):** This unit consists of tan arkosic marine sandstone that is pebbly and locally fossiliferous. Within the EIR Study Area, this unit is limited to hills near the Greenville Fault. This unit is not vulnerable to seismically induced instability but is likely to contain paleontological resources.
- **Kp/Kps (Upper Cretaceous Panoche Formation)**: The Kp unit contains micaceous clay shale with a few thin sandstone beds. The Kps unit contains tan arkosic sandstone with large concretions and some micaceous shale. Within the EIR Study Area, these units are limited to the hills east of the Greenville Fault. These units are not vulnerable to seismically induced instability but may contain paleontological resources.

SEISMICITY

The Earth's crust includes tectonic plates that locally collide with or slide past one another along plate boundaries. California is particularly susceptible to such plate movements, notably the largely horizontal or "strike-slip" movements of the Pacific Plate, as it impinges on the North American Plate. In general, earthquakes occur when the accumulated stress along a plate boundary or fault is suddenly released, resulting in seismic slippage. This slippage can vary widely in magnitude, ranging in scale from a few millimeters or centimeters, to tens of feet. The performance of human-made structures during a major seismic event varies widely due to several factors, including:

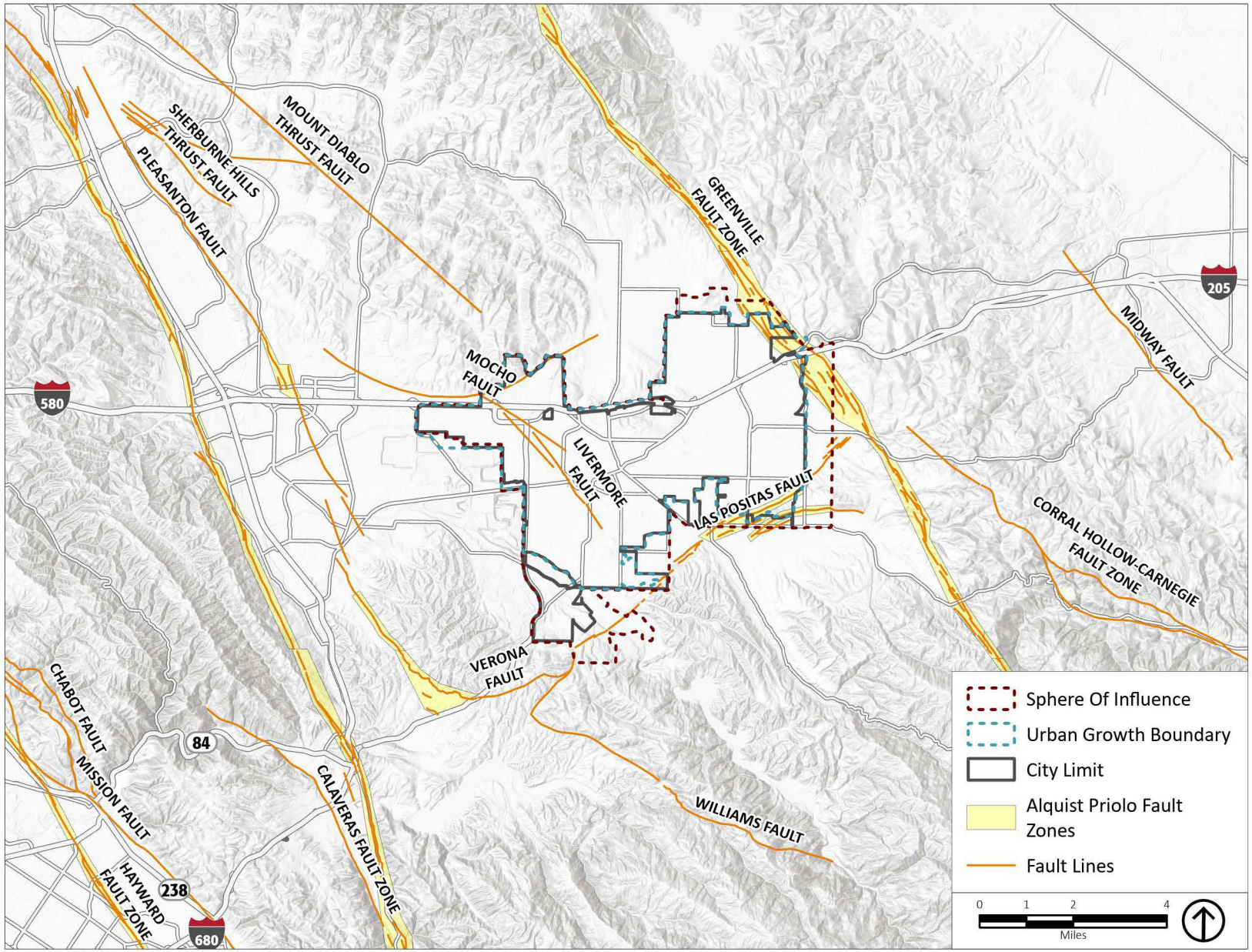
- Location, with respect to active fault traces or areas prone to liquefaction or seismically induced landslides;
- Type of building construction (i.e., wood frame, unreinforced masonry, non-ductile concrete frame);
- Proximity, magnitude, depth, and intensity of the seismic event itself as well as many other factors.

In general, evidence from past earthquakes shows that wood frame structures tend to perform well during a seismic event, especially when their foundations are properly designed and anchored. Conversely, older, unreinforced masonry structures and non-ductile reinforced concrete buildings (especially those built in the 1960s and early 1970s), do not perform as well, especially if they have not undergone appropriate seismic retrofitting. Applicable building code requirements, such as those found in the CBC, include seismic requirements that are designed to ensure the satisfactory performance of building materials under prescribed seismic conditions.

Seismic activity in the Coast Ranges is generally associated with active faults of the San Andreas system, which includes major active faults within and surrounding the EIR Study Area. Over the width of the San Francisco Bay region, approximately 1.5 inches per year of relative horizontal movement occurs between the North American and Pacific Plates. This movement is partially accommodated by earthquakes and creep along several active faults.

As shown on Figure 3.7-1, *Regional Fault Zones*, there are five major fault zones in the EIR Study Area: Greenville, Las Positas, Pleasanton, Calaveras, and Hayward Faults. The Greenville Fault zone runs in a northwest to southeast orientation through the northeastern portion of the EIR Study Area and can generate an earthquake of up to maximum magnitude (M) 6.9. The Las Positas Fault zone runs in a northeast to southwest orientation through the southeastern portion of the EIR Study Area. The Livermore Earthquake sequence of 1980, of which the two notable earthquakes were M 5.6 and M 5.4, have been attributed to the Greenville and Las Positas Faults. Only the Greenville Fault exhibited fault rupture in the 1980 earthquakes. The Pleasanton Fault zone, a minor off-shoot of the Calaveras Fault zone, runs in an approximately north to south orientation on the western part of the Livermore Valley, about six miles west of the EIR Study Area, and has been inferred through aerial photography and the presence of a groundwater barrier. The Calaveras Fault zone marks the eastern margin of the East Bay Hills on a north to south axis and has the capacity to generate an earthquake of up to approximately M 7. Lastly, the Hayward Fault zone is a northwest to southeast-trending fault approximately 17 miles southwest of the EIR Study Area and is capable of a maximum earthquake of M 7.4. The Mocho Fault and Livermore Fault also cross through the western portion of the EIR Study Area.

When earthquake faults within the San Francisco Bay Area's nine-county area were considered, the USGS estimated that the probability of an M 6.7 or greater earthquake prior to year 2032 is 62 percent, or roughly a two-thirds probability. The forecast probability for each individual fault to produce an M 6.7 or greater seismic event by the year 2032 is 27 percent for the Hayward Fault, 21 percent for the San Andreas Fault, and 11 percent for the Calaveras Fault. Earthquakes of this magnitude can create ground accelerations severe enough to cause major damage to structures and foundations not designed to resist earthquakes.



Source: California Geological Survey 2019; United States Geological Survey 2020; City of Livermore, 2022.

Figure 3.7-1
Regional Fault Zones

Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion. In the event of an M 7.8 earthquake on the San Andreas Fault, the seismic forecasts from the Metropolitan Transportation Commission/Association of Bay Area Governments (MTC/ABAG) suggest that the EIR Study Area is expected to experience "severe" shaking (MTC/ABAG 2020). Due to the active fault lines within and surrounding it, the EIR Study Area is historically susceptible to all earthquake-related hazards, which include ground rupture, ground shaking, and liquefaction (City of Livermore 2022).

Ground Shaking and Rupture

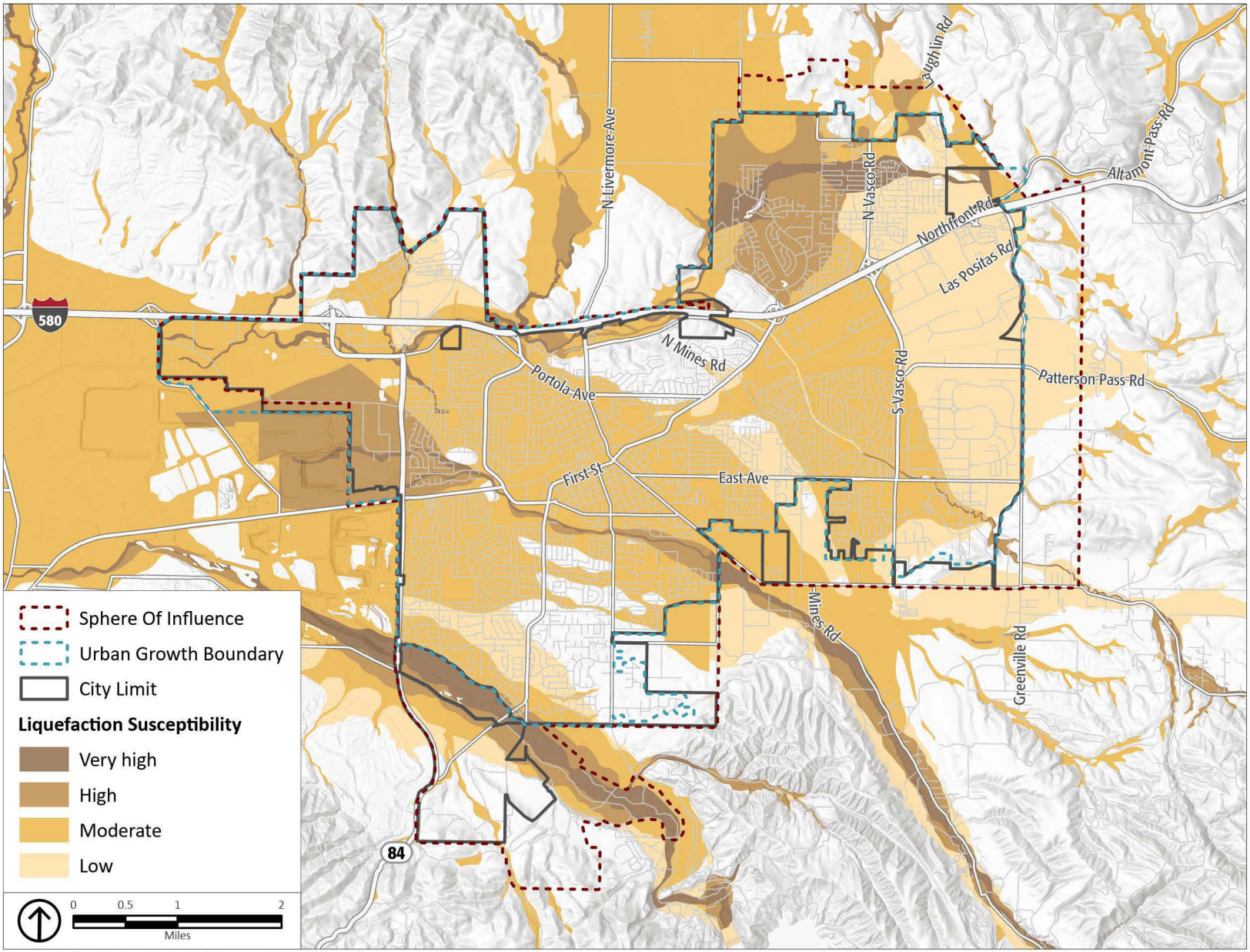
The most common hazard from a seismic event is ground shaking. While ground shaking due to an earthquake may be experienced many miles from the source of an earthquake, ground rupture is localized in the immediate vicinity of any fault line that experiences a significant seismic event. Because the Greenville and Las Positas Faults lie beneath the EIR Study Area, these areas have the potential to experience ground rupture in the event of a strong seismic event (City of Livermore 2022).

Liquefaction

Liquefaction is a hazard that occurs during prolonged periods of ground shaking in areas with alluvial or granular soils, which are less cohesive than soil types such as clay. Liquefaction is a result of prolonged ground shaking from a seismic event, which causes a sudden rise of an underground water table. When a water table rises in areas with alluvial and granular soils, the water infiltrates the soil bed and compromises the strength and stability of the soil, which can therefore compromise structures in such areas. Although liquefaction is most often triggered by seismic shaking, it can also be caused by improper grading, landslides, or other factors. In dry soils, seismic shaking may cause soil to consolidate rather than flow, a process known as densification. The EIR Study Area is largely located atop alluvial soils. These alluvial soils, in addition to a perched water table, mean that there is a high risk of liquefaction in the low-lying parts of the EIR Study Area (City of Livermore 2022). Liquefaction susceptibility is shown on Figure 3.7-2, *Liquefaction Susceptibility*.

Landslides

Landslides are gravity-driven movements of earth materials that can include rock, soil, unconsolidated sediment, or combinations of such materials. The rate of landslide movement can vary considerably; some move rapidly, as in a soil or rock avalanche, and others "creep," or move slowly for long periods of time. The susceptibility of a given area to landslides depends on many variables, although the general characteristics that influence landslide hazards are widely acknowledged.



Source: United States Geological Survey, 2022; City of Livermore, 2022.

Figure 3.7-2
Liquefaction Susceptibility

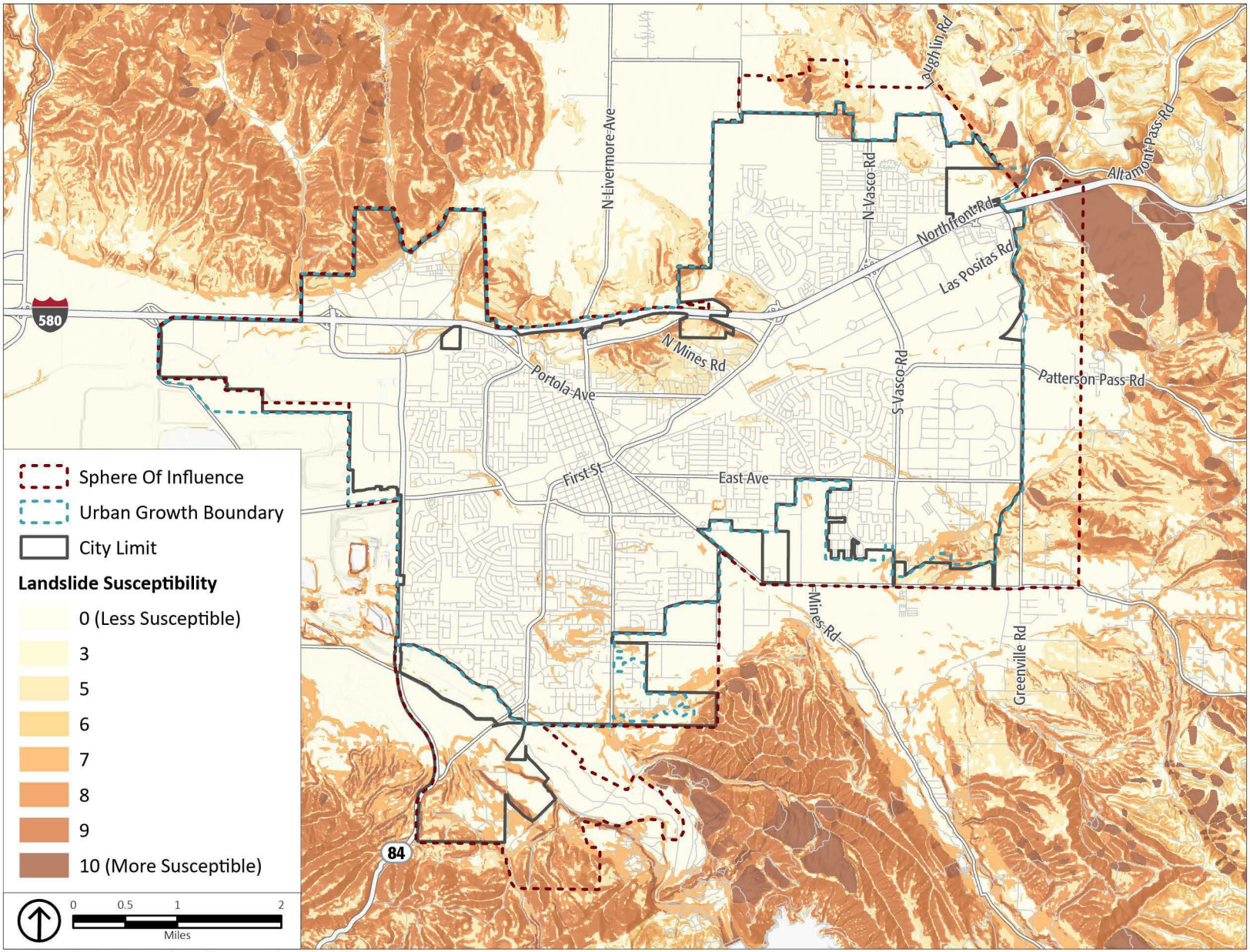
Some of the more important contributing factors for landslides are:

- **Slope Material.** Loose, unconsolidated soils and soft, weak rocks are more hazardous than firm, consolidated soils or hard bedrock.
- **Slope Steepness.** Most landslides occur on moderate to steep slopes.
- **Structure and Physical Properties of Materials.** This includes the orientation of layering and zones of weakness relative to slope direction.
- **Water Content.** Increased water content increases landslide hazard by decreasing friction and adding weight to the materials on a slope.
- **Vegetation Coverage.** Abundant vegetation with deep roots promotes slope stability.
- **Proximity to Areas of Erosion or Human-Made Cuts.** Undercutting slopes can greatly increase landslide potential.
- **Earthquake Ground Motions.** Strong seismic ground motion can trigger landslides in marginally stable slopes or loosen slope materials, which increases the risk of future landslides.

Due to the flat terrain over most of the EIR Study Area, landslides are only an environmental concern in localized portions of the EIR Study Area, as shown on Figure 3.7-3, *Landslide Susceptibility*. The EIR Study Area does not have massive gravel extraction operations, such as that to the south and west, that would be particularly vulnerable to earthquake-induced landslides. In the event of a severe earthquake, landslides could possibly be triggered in the hills at the periphery of the northern, southern, and eastern areas of the EIR Study Area (City of Livermore 2022). Due to the differences in the physical characteristics of slope materials, which markedly influence landslide potential, some superficially similar areas may differ widely in terms of landslide hazards.

SOILS

The Livermore Valley floodplain supports very gravelly soils assigned with the Yolo-Pleasanton association, interspersed with loams and clays of the Rincon-San Ysidro association. Soils in the EIR Study Area primarily consist of alluvial soils. Alluvial soils are characterized by complex layering of gravel, silty sands, sand, and clayey soils. These soils in the EIR Study Area have been deposited into the Livermore Valley over thousands of years by Arroyo del Valle, Arroyo Las Positas, and Arroyo Mocho waterways. Northeast of the EIR Study Area is the Springtown Alkali Sink, a large expanse of alkali soils that support unique wetland and grassland habitat (City of Livermore 2022).



Source: United States Geological Survey, 2020; City of Livermore, 2022.

Figure 3.7-3
Landslide Susceptibility

Erosion

Erosion occurs when the upper layers of soil are displaced by erosive agents such as water, ice, snow, air, plants, animals, or human causes. Sandy soils on moderate slopes, or clayey soils on steep slopes are susceptible to erosion when exposed to these forces. Erosion can become more frequent when established vegetation is disturbed or removed due to grading, wildfires, or other factors. The EIR Study Area is largely flat, and significant erosion is not a common occurrence. Erosion can occur around agricultural lands. However, soils associated with Prime Farmland are classified as having only a slight or moderate erosion potential. The areas most subject to erosion within the EIR Study Area are hillsides and exposed areas adjacent to waterways (City of Livermore 2022).

Expansive Soils

Soils classified as expansive are those that change dramatically in volume depending on moisture content. When wet, these soils expand; conversely, when dry, these soils contract. Sources of moisture that trigger an expansion include rainfall, landscape irrigation, utility leakage, and perched groundwater. Expansive soils are typically very fine-grained with a high to very high percentage of clay. Soil tests are often used to identify expansive soils to test changes in response to reduced moisture content. A change of 3 percent or greater indicates a moderate to high shrink-swell potential. Such soils are known to cause damage to concrete slabs, structure foundations, and pavement. Areas with expansive soil must often implement special building and structure design that can withstand such a fluctuation in soil. There are clay deposits dispersed in alluvial materials throughout the EIR Study Area, which are known to swell and contract during moisture events (City of Livermore 2022).

Land Subsidence

Land subsidence is a human-induced hazard in which the over-extraction of groundwater or oil causes the depression and caving in of soil deposits. The over-extraction of groundwater or oil causes these soils to shrink, which results in sinkholes that may compromise building foundations, pavement, and infrastructure.

Land subsidence has not been well documented within Alameda County, although valley deposits within the county are at risk of subsidence if groundwater over-extraction occurs. However, no cases of groundwater over-extraction have been documented in the EIR Study Area or the greater Alameda County. In addition, the Livermore Valley groundwater basin is currently monitored by Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency) for subsidence and no significant subsidence has been documented (Zone 7 Water Agency 2025).

There are two documented oil extraction sites in the EIR Study Area. The Livermore Oil Field is in the eastern portion of the EIR Study Area and oil production historically has not been excessive. The abandoned Hospital Nose Gas Field is in the southern portion of the EIR Study Area and does not have any producing wells. Based on historical evidence, significant subsidence-related effects from these oil extraction activities have a low likelihood of occurring (City of Livermore 2022).

PALEONTOLOGICAL RESOURCES

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They are valued for the information they yield about the history of the earth and its past ecological settings. Paleontological resources include vertebrates (i.e., animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), microscopic plants and animals (microfossils), and trace fossils (e.g., footprints, burrows). These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontological sites are areas that show evidence of prehuman activity. Often, they are simply small outcrops visible on the surface or sites encountered during grading. While the sites are important indications, it is the geologic formations that are the most important since they may contain important fossils. The Society of Vertebrate Paleontology defines a significant fossil resource as, "identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."

The Livermore Valley is underlain with a thick layer of alluvial sediments that are drained from other locations in the surrounding region and deposited into low-lying lands. The alluvial deposits in the Livermore Valley have been recorded to contain several megafauna vertebrate fossils, extracted from Pleistocene-age alluvium. Discoveries specifically from the Pleistocene alluvium include the remains of camels (*Camelops hesternus*), mammoths (*Mammuthus columbi*), ancient bison (*Bison antiquus*), horses (*Equus occidentalis*), and ground sloths (*Glossotherium harlani*), along with various invertebrate fossils, such as teeth and large vertebrate bones. In addition, there are other formations in the Livermore Valley in which fossils have been discovered, including the Pliocene to Pleistocene-age Livermore Gravel, the late Miocene to Pliocene Lower Livermore Formation, the late Miocene to Pliocene Sycamore Formation, the late Miocene Neroly Formation and Briones Formation, the Great Valley Complex, and the Franciscan Complex. It is anticipated that due to the rich geologic past within the Livermore Valley, there may be significant paleontological resources that have not been unearthed (City of Livermore 2022).

3.7.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to geology and soils if it would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)
   ii. Strong seismic ground shaking.
   iii. Seismic-related ground failure, including liquefaction.
   iv. Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

c) 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.

d) 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.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

f) Directly or indirectly destroy a unique paleontological resource, site, or unique geologic feature.

3.7.4 Project Impact Analysis

a) Would the project subject residents or occupants, visitors, etc. to potential seismic-related hazards, including the risk of loss, injury, or death involving: (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) Strong seismic ground shaking; (iii) Seismic-related ground failure, including liquefaction; or (iv) Landslides.

Less than significant.

Earthquake Faults

As stated in Section 3.7.2, *Existing Conditions,* active faults, including the Greenville and Las Positas Faults, are located within and near the EIR Study Area. Because portions of these faults are designated within Alquist-Priolo Earthquake Fault Zones, there is a potential for surface fault rupture along their active traces. Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act, construction within 50 feet of an active fault zone is generally prohibited, especially for structures intended for human occupancy. Future development would be required to comply with the provisions of the CBC, which the City has adopted in LMC Chapter 15.02. Potential structural damage and exposure of people to risk of injury or death from structural failure associated with surface fault rupture would be reduced by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking and surface fault rupture. Pursuant to LDC Section 10.20.030, future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, to identify soil or geologic conditions that could require corrective action. In addition, the Safety (S) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to minimize potential adverse impacts related to fault rupture:

- **Goal S-6:** Reduce impacts from geologic and seismic hazards.
  - **Policy S-6.1: Geologic Hazard Mapping.** Use the most current and comprehensive geologic hazard mapping available to evaluate potential seismic hazards where new development is proposed.
  - **Policy S-6.2: Geotechnical Investigations for Development Projects.** Require a site-specific geotechnical investigation for new urban development approval in Alquist-Priolo Earthquake Fault Zones, areas of high landslides susceptibility, and other areas subject to high or moderate geologic hazard, as shown on Figures S-5 and S-7 (of the General Plan), so that projects are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from seismic hazards.

- **Policy S-6.3: New Construction on Faults.** Prohibit new structures proposed for human occupancy across the trace of any active or potentially active fault. The Greenville Fault and Las Positas Fault shall be assumed active, and the Livermore Fault shall be assumed potentially active, unless and until demonstrably shown otherwise by the U.S. Geological Survey (USGS) or the California Geological Survey (CGS) or similar credible authority.
- **Policy S-6.4: Unreinforced Masonry Buildings.** Continue to enforce and implement programs that identify unreinforced masonry buildings and other buildings that would be at risk during seismic events and strengthen these buildings.
- **Policy S-6.5: Geotechnical Investigations for Critical Facilities.** Require a site-specific geotechnical investigation for all municipal and critical facilities in the city (schools, hospitals, fire stations, and police stations) so that these facilities are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk to the public from seismic hazards.
- **Policy S-6.6: Utility Lines Across Faults.** Require that major utility lines be accessible for rapid repair, include safety features such as automatic shutoff valves, switches and expansion joints, and cross faults at right angles or as close to a right angle as physically feasible. Require utility line operators to provide additional equipment to ensure minimal adverse impact on adjacent and surrounding areas and to facilitate restoration of service in the event of fault displacement.

Specifically, proposed Policy S-6.2 would require a site-specific geotechnical investigation for new urban development approval in Alquist-Priolo Earthquake Fault Zones. Proposed Policy S-6.3 would prohibit new structures proposed for human occupancy across the trace of any active or potentially active fault. Proposed Policy S-6.5 would require a site-specific geotechnical investigation for all critical facilities that would mitigate site-specific challenges, including fault rupture. Compliance with these requirements would minimize structural damage and the exposure of people to risk of injury or death from structural failure in the event of surface fault rupture during an earthquake. Proposed Action S-A-6.1 would further support these policies by requiring detailed fault shear zone studies to define building setback requirements.

Strong Seismic Ground Shaking

Greenville and Las Positas Faults are the most likely faults potentially capable of producing the most intense ground accelerations within the EIR Study Area. In northern California, there is no method to completely avoid earthquake hazards. However, appropriate measures to minimize the effects of earthquakes are included in the CBC, with specific provisions for seismic design. Potential structural damage and exposure of people to risk of injury or death from structural failure associated with strong seismic ground shaking would be reduced by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking. Future development would be required to comply with the provisions of the CBC, which the City has adopted in LMC Chapter 15.02. Future development requiring a tentative map would be

required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action.

In addition, the same proposed General Plan 2045 goal and policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of ground shaking. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas subject to high or moderate geologic hazard, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from seismic hazards, including ground shaking. Proposed Policy S-6.4 would require the City to continue to enforce and identify unreinforced masonry buildings and other buildings that would be at risk during seismic events and strengthen these buildings.

Compliance with mandatory CBC requirements and implementation of proposed General Plan 2045 policies and programs would ensure that future development projects are appropriately investigated in terms of potential seismic hazards and that any new buildings and structures are constructed to withstand strong seismic ground shaking.

Seismic-Related Ground Failure

As shown on Figure 3.7-2, much of the EIR Study Area is within an area of high liquefaction susceptibility. Future development would be required to be designed in accordance with current seismic design standards as found in the CBC, which the City has adopted in LMC Chapter 15.02. Design measures would be implemented according to the most recent CBC, which would reduce the impact of secondary effects of earthquake shaking, such as liquefaction and seismic settlement. CBC requires that foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking, such as liquefaction. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action. In addition, the same proposed General Plan 2045 goal and policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of seismic-related ground failure, including liquefaction. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas subject to high or moderate geologic hazard, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from seismic hazards.

Landslides

Landslides are an environmental concern in the portions of the EIR Study Area shown on Figure 3.7-3. The proposed Project would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow

for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, where the topography is generally flat. The areas of high landslide susceptibility are not in the highly urbanized portions of the EIR Study Area where future development is generally anticipated to occur.

New development or redevelopment in any of the portions of the EIR Study Area within landslide-susceptible areas would be required to comply with grading, erosion, and sediment-control regulations in the CBC, adopted by the City in LMC Chapter 15.02. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action. In addition, the same proposed General Plan 2045 goal and policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of seismic-related ground failure, including liquefaction. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas of high landslides susceptibility, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from seismic hazards.

Summary

Compliance with State, regional, and local regulations, as well as implementation of the proposed General Plan 2045 goals and policies, pertaining to structural safety regarding fault rupture, ground shaking, liquefaction, and landslides would ensure that future development would not directly or indirectly cause or worsen the likelihood of or substantial adverse effects from seismic hazards related to earthquakes, including the risk of loss, injury, or death. Therefore, impacts would be **less than significant**.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than significant. The CBC, adopted by the City in LMC Chapter 15.02, provides regulations for construction to provide proper grading, drainage, and erosion and sediment control. As described in further detail in Section 3.10, *Hydrology and Water Quality*, to minimize potential impacts related to erosion, future development would require compliance with the Construction General Permit (CGP) Water Quality Order WQ 2022-0057-DWQ, which includes the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP requires an erosion-control plan with the incorporation of best management practices to control erosion during construction. Typical construction best management practices include silt fences, fiber rolls, catch basin inlet protection, water trucks, street sweeping, and stabilization of truck entrance/exits. While this regulation is primarily aimed at water quality, it is a mechanism that would help minimize the risk of erosion.

In addition, the Safety (S) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to minimize potential adverse impacts related to erosion and loss of topsoil:

- **Goal S-6:** Reduce impacts from geological and seismic hazards.
  - **Policy S-6.7: Erosion and Slope Failure.** Prohibit construction in areas with severe erosion (slopes over 10 percent), as mapped by the US Department of Agriculture's Natural Resources Conservation Service, and in areas susceptible to slope failure, unless it can be clearly demonstrated through geotechnical engineering analysis that the project will not contribute to increased erosion, sedimentation, or runoff.
  - **Policy S-6.8: Erosion Prevention.** Require developers to implement control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible.

Specifically, proposed Policy S-6.8 would require applicants to implement control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible. Proposed Policy S-6.7 would prohibit construction in areas with severe erosion unless a geotechnical engineering analysis can demonstrate that the project will not contribute to increased erosion.

Implementation of the proposed General Plan 2045 goals and policies, as well as adherence to existing regulatory requirements that include, but are not limited to, the CBC and LMC grading and drainage requirements for new developments, would reduce potential soil erosion and loss of topsoil from soil disturbance, and impacts would be **less than significant**.

c) Would the project be on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than significant.

Landslides

As stated under impact discussion (a), while much of the EIR Study Area is flat, it also includes landslide-prone areas. The proposed Project would not directly result in new development; however, it is a regulatory document that includes proposed changes in land use designation that would allow for redevelopment and increased density on certain parcels within the EIR Study Area. The proposed Project promotes infill development and encourages higher density in already-developed areas, where the topography is generally flat. The areas of high landslide susceptibility are not in the highly urbanized portions of the EIR Study Area where future development is generally anticipated to occur.

As described in impact discussion (a), new development or redevelopment in any of the portions of the EIR Study Area deemed to be within landslide-susceptible areas would be required to comply with grading, erosion, and sediment-control regulations in the CBC, adopted by the City in LMC Chapter 15.02. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action. In addition to protections afforded by State and local regulations, the Safety (S) Element and the Implementation Plan of the proposed General Plan 2045 contain goals, policies, and actions that require local planning and development decisions to consider impacts to geology and soils. The same proposed General Plan 2045 goal and policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of unstable soils, resulting in landslides. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas of high landslides susceptibility, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from unstable soils.

Subsidence

Subsidence has not been observed in the EIR Study Area and groundwater levels have not declined significantly. The probability of subsidence impacts is generally low in the EIR Study Area, due to the lack of significant groundwater overdraft conditions in the EIR Study Area. As described in further detail in Section 3.10, *Hydrology and Water Quality*, under the Sustainable Groundwater Management Act (SGMA), in groundwater basins that are designated as medium and high priority, local public agencies and groundwater sustainability agencies must assess conditions in their local groundwater basins and then prepare groundwater sustainability plans. The SGMA encourages sustainable groundwater management practices to reduce the potential for future land subsidence, and ongoing surveying of the ground surface by the California Department of Water Resources (DWR) and the USGS provides a way to verify that efforts in preventing subsidence are effective. The groundwater management plans continue to prevent long-term groundwater overdraft conditions and reduce the impact of subsidence. DWR has determined that the Livermore Valley groundwater basin continues to be managed sustainably.

Liquefaction and Lateral Spreading

As stated in impact discussion (a), much of the EIR Study Area is in an area susceptible to liquefaction. All structures constructed in the EIR Study Area would be designed in accordance with current seismic design standards as found in the CBC. Design measures would be implemented according to the most recent CBC, as adopted in LMC Chapter 15.02, which would reduce the impact of liquefaction and seismic settlement. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action. In addition, the same proposed General Plan 2045 goal and

policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of unstable soils, including liquefaction and lateral spreading. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas subject to high or moderate geologic hazard, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from unstable soils.

Settlement and Collapse

Settlement and collapse are likely to exist in areas with alluvial soil. The CBC, adopted by the City in LMC Chapter 15.02, requires that structures be designed to mitigate compressible soils. Methods that could be used to reduce the impact of compressible soils include in-situ densification, transferring the load to underlying non-compressible layers with piles, and over excavation of compressible soil and re-compaction with engineered fill. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action. In addition, same proposed General Plan 2045 goal and policies from the Safety (S) Element identified previously in this impact discussion under the "Earthquake Faults" subheading would also serve to minimize the effects of unstable soils, including settlement and collapse. Specifically, proposed Policies S-6.2 and S-6.5 would require a site-specific geotechnical investigation for new urban development approval in areas subject to high or moderate geologic hazard, as well as critical facilities, so that structures are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from unstable soils.

Summary

Future development would be required to comply with State, regional, and local regulations, including the provisions of the CBC, LMC, and LDC, and the proposed General Plan 2045 goals and policies, to ensure that future development would not cause substantial hazards associated with development on unstable geologic units or unstable soils, such as landslides, subsidence, liquefaction, lateral spreading, settlement, or collapse. Therefore, impacts would be **less than significant**.

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?

Less than significant. Based on the presence of alluvial materials, there is some potential for expansive/shrink-swell soils throughout the EIR Study Area. Future development would be required to comply with the provisions of the CBC, as adopted by the City in LMC Chapter 15.02. Specific engineering methods are required to reduce the impact of expansive soils, and can

include drainage-control devices to limit water infiltration near foundations, over-excavation and re-compaction of engineered fill method, and support of the foundation with piles. Future development requiring a tentative map would be required to submit preliminary soil and engineering geology reports as part of the application, pursuant to LDC Section 10.20.030, to identify soil or geologic conditions that could require corrective action.

Additionally, the proposed General Plan 2045 goal and policies identified under impact discussion (a), in addition to the following goal and policy from the Safety (S) Element, are designed to minimize impacts related to expansive soils:

- **Goal S-6:** Reduce impacts from geologic and seismic hazards.
  - **Policy S-6.9: Development on Expansive Soils.** Require geotechnical evaluations for development in areas with expansive soils. Where such soils are present, require appropriate mitigation measures, such as specialized site grading, foundation design, and construction techniques (erosion and sediment-control best management practices [BMPs]) to minimize risk of structural damage. In foothill areas, require additional site-specific design measures to address topographic and soil movement concerns.

Proposed Policy S-6.9 would require geotechnical evaluations to confirm that for development on expansive soils would not pose risks of structural damage and to propose any additional design measures in foothill areas required to address topographic and soil movement concerns.

Implementation of the proposed General Plan 2045 goals and policies, as well as compliance with existing State, regional, and local regulations, would ensure that future development would not directly or indirectly cause substantial adverse effects, including the risks to life or property, from expansive soils. Therefore, impacts would be **less than significant**.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Less than significant. Proposed General Plan 2045 Policy INF-3.1 would require structures with plumbing in the City Limit to connect to the public wastewater collection system area, which is coterminous with the Urban Growth Boundary. Therefore, future development in the EIR Study Area is not anticipated to result in the use of septic tanks or alternative wastewater disposal systems. In the event septic tanks or alternative wastewater disposal systems are required, LMC Chapter 13-32 would allow for the construction of septic tanks or alternative wastewater disposal systems provided that a special permit is granted by the City Council. The approval, installation, and operation of a septic system or alternative wastewater disposal system would be subject to the standards of the Alameda County OWTS Ordinance, consistent with the State OWTS Policy and appropriate RWQCB standards and basin plans. As outlined in the OWTS Manual, a site evaluation would be required and shall take into consideration soil texture, soil

percolation rate, depth to groundwater and horizontal setback distances from natural land features and structures to the OWTS and site topography.

Compliance with State, regional, and local regulations would ensure that new septic tanks or alternative wastewater disposal systems are constructed on soils that can support such systems; impacts would be **less than significant.**

f) Would the project directly or indirectly destroy a unique paleontological resource, site, or unique geologic feature?

Less than significant. Future development would be required to comply with the federal Paleontological Resources Preservation Act that limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency and PRC Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. Ground-disturbing construction activities (e.g., grading and excavation) associated with future development in the EIR Study Area could uncover fossilized remains of organisms from prehistoric environments that have not been recorded. Implementation protocols and adherence to the SVP standards, when and if required, would ensure the protection of unique paleontological resources during construction of future development. Some protocols include, but are not limited to:

- Excavations within a 50-foot radius of the find shall be temporarily halted or diverted.
- Ground-disturbance work shall cease until a City-approved, qualified paleontologist determines whether the resource requires further study.
- The paleontologist shall document the discovery as needed, in accordance with SVP standards as appropriate, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5.
- The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find.
- If is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the lead agency for review and approval prior to implementation.
- All construction activities shall adhere to the recommendations in the excavation plan.

Additionally, the Community Identity (CI) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to minimize impacts related to paleontological resources:

- **Goal CI-5:** Protect cultural resources (archaeological and/or Tribal) and paleontological resources that enrich our understanding of early Livermore and the surrounding region.
  - **Policy CI-5.1: Resource Sensitivity and Evaluation.** Require appropriate investigations, such as site surveys, subsurface testing, and monitoring by qualified professionals as part of the environmental review process when development is proposed in identified areas of cultural, tribal cultural, and paleontological sensitivity.
  - **Policy CI-5.2: Discovery and Mitigation.** If cultural, tribal cultural, including human remains, or paleontological resources are discovered during construction, require immediate suspension of work in the area and evaluation by a qualified professional. If the resource is significant, prioritize preservation in place; if not feasible, implement appropriate mitigation such as data recovery.

Specifically, proposed Policy CI-5.2 requires that if resources, including paleontological resources, are discovered during construction, the immediate suspension of work in the area and a qualified professional shall evaluate the resource.

Compliance with federal, State, regional, and local regulations and implementation of the proposed General Plan 2045 goal and policies pertaining to paleontological resources would ensure that future development would not directly or indirectly cause substantial adverse effects to paleontological resources. Therefore, the impact would be **less than significant**.

3.7.5 Cumulative Impact Analysis

The geographic context for impacts resulting from geologic hazards is site specific rather than cumulative in nature, because each project site has a different set of geologic considerations that would be subject to uniform site development and construction standards and unique standards depending on the outcome of a project-specific geotechnical study.

Would the project have a cumulative effect related to geological resources?

Less than significant. Cumulative projects within eastern Alameda County would be exposed to similar geologic and seismic hazards during seismic events, but development of individual projects would not increase the potential for impacts to occur. Individual development proposals would be reviewed separately by the appropriate public agency depending on location and undergo environmental review, if appropriate. If future cumulative development would result in impacts related to geologic or seismic impacts, those potential project or site-specific impacts would be addressed in accordance with the requirements of CEQA. New buildings would be constructed utilizing current design and construction methodologies for earthquake resistant design as required by relevant regulations, including those as discussed in impact discussions (a) through (f), such as the CBC, in addition to any local requirements, including the applicable policies and programs included in the applicable general plans and the applicable municipal codes. They would also be required to comply with SVP standards, when

and if required, which would ensure the protection of unique paleontological resources. Compliance with these requirements would reduce cumulative, development-related impacts that pertain to seismic events, erosion and loss of topsoil, unstable geologic units, expansive soils, use of septic tanks or other alternative wastewater disposal systems, or destruction of a unique paleontological unit and ensure that cumulative development would have **less than significant** impacts associated with geology and soils.

3.7.6 References

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3.8 GREENHOUSE GAS EMISSIONS

This section evaluates the potential greenhouse gas (GHG) emission impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential GHG emission impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to GHG emission impacts of the proposed Project were received during the EIR scoping period.

Terminology

The following terminology is used throughout this section:

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period (e.g., 20, 100, and 500 years). CO_2 has a GWP of 1.
- **Carbon dioxide-equivalent (CO_2e).** The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- **$MTCO_2e$.** Metric ton of CO_2e.
- **$MMTCO_2e$.** Million metric tons of CO_2e.

3.8.1 Regulatory Framework

FEDERAL

The United States Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The USEPA's final findings respond to the 2007 United States Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not impose any emission reduction requirements but allow the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

To regulate GHGs from passenger vehicles, USEPA was required to issue an endangerment finding (USEPA 2025a). The finding identified emissions of six key GHGs—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HCFs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, according to guidance by the Bay Area Air District (Air District), are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory. However, in response to President Trump's "Unleashing American Energy" Executive Order (EO), published on January 20, 2025, the USEPA announced its intention to reconsider regulations and actions that rely on the Endangerment Finding on March 12, 2025 (Holland & Knight 2025).

The March 12 announcement specifically targets the following, which impact GHG emissions:

- Advanced Clean Trucks (ACT) Plan
- Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards
- Multi-Pollutant Emissions Standards for Model Year 2027 and Later Light- and Medium-Duty Vehicles
- Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles – Phase 3
- Corporate Average Fuel Economy (CAFE) Standards

Mandatory Reporting Rule for GHGs

In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2e per year are required to submit an annual report. However, under the USEPA's Proposed Reconsideration of the Greenhouse Gas Reporting Program, the USEPA would rescind reporting requirements for a substantial portion of the Greenhouse Gas Reporting Program (GHGRP) (covering most source categories) and would suspend reporting obligations for the remaining sectors (those under Subpart W of the GHGRP) until reporting year 2034 (Holland & Knight 2025).

Federal Fuel Economy and Fuel Standards

Update to Corporate Average Fuel Economy Standards

The federal government issued new CAFE standards in 2012 for vehicle model years 2017 to 2025, requiring a fleet average of 54.5 miles per gallon (mpg) in 2025. However, on March 30, 2020, the USEPA finalized updated CAFE and GHG emissions standards for passenger cars and light trucks, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. On June 7, 2024, the National

Highway Traffic Safety Administration (NHTSA) announced final CAFE standards for passenger cars and light trucks built in model years 2027-2031 and final fuel-efficiency standards for heavy-duty pickup trucks and vans built in model years 2030-2035. The final rules establish standards that would require an industry fleet-wide average of approximately 50.4 mpg for passenger cars and light trucks in model year 2031, by increasing fuel economy by 2 percent year over year for passenger cars (model years 2027-2031) and for light trucks (model years 2029-2031). For heavy-duty pickup trucks and vans, the final rule would increase fuel efficiency at a rate of 10 percent per year (model years 2030-2032) and 8 percent per year (model years 2033-2035) (NHTSA 2024).

Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

In 2024, the USEPA issued a final rule, "Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles," that sets new, more protective standards to reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027 (USEPA 2025b).

2025 Rollback of CAFE and Federal Fuel Standards

While both the new CAFE standards and fuel standard are currently in effect, the Trump Administration directed the Department of Transportation to rescind and replace all existing CAFE standards and emissions standards on January 29, 2025. This action targeted regulations covering model year 2024 through 2035 for both light-duty and heavy-duty vehicles.

On June 6, 2025, the NHTSA published an interpretive rule that establishes the NHTSA's authority to revise the CAFE standards without consideration of electric vehicles (EVs). California currently has no authority to implement these standards.

On June 11, 2025, the NHTSA published the final rule, "Resetting the Corporate Average Fuel Economy Program." This rule does not immediately change current fuel economy standards; however, the rule clarifies the NHTSA's interpretation of its obligations for CAFE standards stemming from the Energy Policy and Conservation Act of 1975 and the Energy Independence and Security Act of 2007. The rule asserts that some regulations, such as those established under previous presidential administrations, improperly considered EVs when identifying the "maximum feasibility" average fuel economy level upon which CAFE standards are developed, thereby establishing a legal foundation for future rollbacks of CAFE standards (NHTSA 2025).

STATE

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05, EO B-30-15, EO B-55-18, Assembly Bill (AB) 32, AB 1279, Senate Bill (SB) 32, and SB 375.

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for California:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act

AB 32 was passed by the California State legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. The California Air Resources Board (CARB) prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Senate Bill 375

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans (RTP), and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligning planning for transportation and housing, and creating specified incentives for the implementation of the strategies. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). The Metropolitan Transportation Commission (MTC) is the MPO for the Bay Area region, which includes Alameda, Contra Costa, Napa, Marin, San Francisco, Santa Clara, Solano, Sonoma, and San Mateo Counties.

SB 375 Regional Targets

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target. CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology, and then released another update in February 2018, which became effective in October 2018 (CARB 2018). All sustainable community strategies (SCS) adopted after October 1, 2018, are subject to these new targets. The SB 375 targets are in units of percent per-capita reduction in GHG emissions from

automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs. CARB staff began the target update process in 2024 with a public workshop and plans to conclude it in 2026 with Board approval of the new targets (CARB 2025c).

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the EO goal for 2030 a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Executive Order B-55-18

EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure future scoping plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other State goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the state's human-caused GHG emissions (CARB 2022). The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18 and the ambitious GHG reduction target as directed by AB 1279. Previous scoping plans focused on specific GHG reduction targets for industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. This 2022 Scoping Plan expands on earlier scoping plans with a target of reducing human-caused emissions to 85 percent below 1990 levels by 2045. Carbon neutrality takes it one step further by expanding actions to capture and store carbon, including through natural and working lands and mechanical technologies, while drastically reducing sources of carbon pollution from humans at the same time.

The path forward was informed by the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6); the measures would achieve 85 percent below 1990 levels by 2045 in accordance with AB 1279. CARB's 2022 Scoping Plan identifies strategies, as shown in Table 3.8-1, *Priority Strategies for Local Government Climate Action Plans*, that would be most impactful at the local level for ensuring substantial process towards the State's carbon neutrality goals.

Table 3.8-1 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	▪ Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites. ▪ Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
VMT Reduction	▪ Reduce or eliminate minimum parking standards. ▪ Implement Complete Streets policies and investments, consistent with general plan circulation element requirements. ▪ Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc. ▪ Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking ▪ Implement parking pricing or transportation demand management pricing strategies. ▪ Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood). ▪ Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)
Building Decarbonization	▪ Adopt all-electric new construction reach codes for residential and commercial uses. ▪ Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers). ▪ Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.

Table 3.8-1 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
	▪ Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing). ▪ Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: CARB 2022.

Based on Appendix D of the 2022 Scoping Plan, for residential and mixed-use development projects, CARB recommends first demonstrating that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing (CARB 2022). Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- Transportation Electrification
  - Provide EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.
- VMT Reduction
  - Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, and sewer).
  - Does not result in the loss or conversion of the state's natural and working lands.
  - Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's SCS.
  - Reduces parking requirements by:
    - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
    - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
    - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
  - At least 20 percent of the units are affordable to lower-income residents.
  - Result in no net loss of existing affordable units.

- Building Decarbonization
  - Use all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.

If the first approach to demonstrating consistency is not applicable, the second approach to project-level alignment with state climate goals is to achieve net-zero GHG emissions. The third approach to demonstrating project-level alignment with state climate goals is to align with GHG thresholds of significance, which many local air quality management districts (AQMDs) and air pollution control districts (APCDs) have developed or adopted.

Assembly Bill 1279

AB 1279, signed by Governor Newsom in September 2022, codifies the carbon neutrality targets of EO B-55-18 for year 2045 and sets a new legislative target for year 2045 of 85 percent below 1990 levels for human-caused GHG emissions. CARB was required to update the Scoping Plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

Additional GHG Sector-Specific Regulations

Table 3.8-2, *GHG Sector-Specific Regulations*, lists specific sector regulations that help reduce GHG emissions.

Table 3.8-2 GHG Sector-Specific Regulations

Sector	Regulations
Transportation	AB 1493, EO S-01-07, EO B-16-2012, EO N-79-20
Renewables Portfolio: Carbon Neutrality Regulations	SB 1078, SB 107, SB X1-2, EO S-14-08, SB 350, SB 100, SB 1020
Energy Efficiency	California Building Code: Building Energy Efficiency Standards, California Building Code: CALGreen, 2006 Appliance Efficiency Regulations
Solid Waste Diversion	AB 939, AB 341, AB 1327, AB 1826
Water Efficiency	SBX7-7, AB 1881
Short-Lived Climate Pollution Reduction Strategy	SB 1383

Source: Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

REGIONAL

Plan Bay Area 2050

The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021). Plan Bay Area 2050 overall provides transportation and environmental strategies to continue to

meet the regional transportation-related GHG reduction goals of SB 375. Under the Plan Bay Area 2050 strategies, just under half of all Bay Area households would live within one half mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly because of these transportation and land use changes, and the Bay Area would meet the State mandate of a 19-percent reduction in per-capita emissions by 2035 — but only if all strategies are implemented.

The Plan Bay Area land use concept plan for the region concentrates the majority of new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per-capita passenger vehicle, VMT, and associated GHG emissions reductions.

Plan Bay Area 2050 is currently undergoing an update, which is called Plan Bay Area 2050+. Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong economy, and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

Bay Area Air District Plans and Policies

2017 Clean Air Plan

The Air District adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate (2017 Clean Air Plan) on April 19, 2017 (Air District 2017). The 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG reduction goal. It includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.

- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce ozone emissions, particulate matter, toxic air contaminants, and GHG from a full range of emission sources. These control measures cover the following sectors: (1) stationary (industrial) sources; (2) transportation; (3) energy; (4) agriculture; (5) natural and working lands; (6) waste management; (7) water; and (8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs," such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (i.e., gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
  - Electrify the transportation and building sectors.

Bay Area Commuter Benefits Program

Under Air District Regulation 14, Rule 1, *Bay Area Commuter Benefits Program*, employers with 50 or more full-time employees within the Bay Area are required to register and offer commuter benefits to employees. In partnership with the Air District and MTC, the rule's purpose is to improve air quality, reduce GHG emissions, and decrease the Bay Area's traffic congestion by encouraging employees to use alternative commute modes, such as transit, vanpool, carpool, bicycling, and walking. The benefits program allows employees to choose from one of four commuter benefit options, including a pre-tax benefit, employer-provided subsidy, employer-provided transit, and alternative commute benefit.

Alameda County Transportation Authority Congestion Management Plan

The Alameda County Transportation Commission (CTC) is responsible for developing, updating, and implementing the county's Congestion Management Program (CMP). The CMP is a short-range plan that includes a variety of congestion and travel-demand element strategies, programs, and projects that support the larger Countywide Transportation Plan (CTP). CMPs are required to be developed in collaboration with relevant local and regional agency partners and must be updated every other year. The 2025 CMP updates references to policies in plans that

have been adopted since the 2023 CMP and contains the following components: contributes to maintaining or improving transportation system service levels and estimate roadway level of service, conforms to MTC's criteria for consistency with Plan Bay Area, provides a travel mode consistent with MTC's regional model and adopted Transportation Control Measures, identifies candidate projects for the Regional Transportation Improvement Program, considers transportation needs of future land use and benefits of GHG reductions (Alameda CTC 2025).

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives pertaining to GHG emissions. The code is organized by title, chapter, section, and, in some cases, articles. Most provisions related to GHG impacts are in Title 2, *Administration and Personnel*; Title 8, *Health and Safety*; Title 13, *Public Services*; and Title 15, *Building and Construction,* as follows:

- **Chapter 2.68, *Contracts and Purchasing*,** requires administrative regulations to incorporate the City's environmentally preferable purchasing and practices policy for environmental considerations, including recycled content and recovered organic waste product use into purchasing practices and procedures.
- **Chapter 8.08, *Solid Waste Management*,** focuses on preventing public nuisance and health hazards through effective management of solid waste. It highlights the importance of a collection program for recyclable and compostable materials to achieve diversion goals, addressing solid waste collection, disposal, and the processing of recyclable and compostable materials.
- **Chapter 13.25, *Water Efficient Landscape*,** enacted under the State Model Water Efficient Landscape Ordinance, is a "water efficient landscape ordinance" adopted to establish standards for designing, installing, and maintaining water-efficient landscapes that avoid runoff and other water waste in landscape projects.
- **Chapter 13.45, *Stormwater Management and Control Program*,** discusses stormwater discharge, inspection, and violations.
- **Chapter 15.26, Section 15.26.070, *GSBC Section 4.106.4 amended – Electric vehicle (EV)*,** requires new residential construction to include EV charging infrastructure consistent with the mandatory measures of the California Green Building Standards Code (CALGreen).
- **Chapter 15.26, Section 15.26.220, *GSBC Section 5.106.5.3 amended – Electric vehicle (EV) charging*,** requires new nonresidential construction to include EV charging infrastructure consistent with the mandatory measures of CALGreen.
- **Chapter 15.26, Section 15.26.280, *GSBC Section 5.106.13.1 added – New construction*,** requires new construction to be designed all-electric but provides exemptions for commercial cooking uses where no electric alternative is available, clothes drying equipment for hotels and motels with 80 or more units, and laboratories.

Livermore Climate Action Plan

The City's 2022 Climate Action Plan (2022 CAP), adopted on November 28, 2022, identifies a series of communitywide strategies to reduce GHG emissions and adapt to extreme weather (City of Livermore 2022b). Strategies established in the 2022 CAP include dedicating resources for identified climate protection actions, electrifying buildings and transportation, promoting renewable electricity generation, improving organic waste diversion from landfills, improving carbon sequestration efforts, investing in complete neighborhoods to promote active transportation modes, incentivizing investment in green and innovative businesses, and educating and working with the community.

The 2022 CAP established per-capita GHG emission-reduction targets aimed to reduce GHG emissions by 40 percent below 1990 levels by 2030 per SB 32 and achieve carbon neutrality by 2045. Various strategies from the 2022 CAP help improve GHG emissions by promoting building electrification and energy efficiency, expanding renewable and low-carbon energy use, supporting reduction in VMT and EVs, and increasing waste diversion and organics recycling.

The City produces annual progress reports to identify the implementation and funding sources for the strategies identified in the 2022 CAP. The 2024 Progress Report shows that the City has implemented, and is continuing to implement, the majority of its short-term strategies (City of Livermore 2024).

Livermore Climate Change Vulnerability Assessment

In 2020, the City of Livermore conducted a Climate Change Vulnerability Analysis (Vulnerability Analysis or CCVA) as part of the City's 2022 CAP (City of Livermore 2020). This Vulnerability Analysis was intended to help develop an understanding of the primary impacts of climate change on Livermore and the degree to which physical, socioeconomic, and natural factors are susceptible to, or unable to accommodate, the effects of climate change. The Vulnerability Analysis considered community exposure to changes in temperature, precipitation, and wildfire; sensitivity of community structures, community functions, and populations; potential impacts of each hazard on community structures, functions, and populations; Livermore's ability to adapt to climate change impacts; and the likelihood and projected timing of hazard exposure. The Vulnerability Analysis concluded that:

- Maximum and minimum temperatures are expected to increase.
- Precipitation variability is expected to increase.
- Intense rainstorms and changes in seasonal patterns are expected to occur within the next several years and decades.
- The City of Livermore has a low to medium adaptive capacity rating because, while the City has developed an extensive suite of sustainability and adaptation measures, the implementation rate of these measures has been low.

In 2022, as part of the proposed General Plan 2045, the Vulnerability Analysis was reviewed and updated (City of Livermore 2022a). The 2022 revisions ensured consistency with the update of the Adaptation Planning Guide released in July 2020 and the State's requirements for the Safety Elements. The proposed General Plan 2045 will integrate adaptation and resilience strategies into goals, policies, and actions that will help increase resiliency and reduce vulnerability.

3.8.2 Existing Conditions

GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The IPCC has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the twentieth and twenty-first centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1, 2] The major GHGs applicable to the proposed Project are briefly described.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (i.e., oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (i.e., sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022). However, State and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high global warming potential (GWP) gases. The GWP of GHG emissions are shown in Table 3.8-3, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2e to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Fifth Assessment Report (AR5) GWP values for CH_4, 10 MT of CH_4 would be equivalent to 280 MT of CO_2.

Table 3.8-3 GHG Emissions and Their Relative Global Warming Potential

GHGs	Fourth Assessment Report (AR4) GWP Relative to CO_2 [1]	Fifth Assessment Report (AR5) GWP Relative to CO_2 [1]	Sixth Assessment Report (AR6) GWP Relative to CO_2 [1]
Carbon Dioxide (CO_2)	1	1	1
Methane[2] (CH_4)	25	28	30
Nitrous Oxide (N_2O)	298	265	273

Sources: IPCC 2007, 2013, and 2023.

Notes: GHG = greenhouse gas; GWP = global warming potential. The Intergovernmental Panel on Climate Change published updated GWP values in its AR6 that reflect latest information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in AR5 are used by the 2022 Scoping Plan for long-term emissions forecasting.

1. Based on 100-year horizon of the GWP of the air pollutant compared to CO_2.
2. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the twentieth century, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities.

The recent IPCC Sixth Assessment Report (AR6) summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO_2 have increased by 50 percent since the Industrial Revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming (CARB 2022). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (California Climate Action Team 2006). In the past, gradual changes in the Earth's temperature changed the distribution of species, availability of water, and other

conditions. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily on future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in the frequency of warm spells and heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC 2023). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1 degree Fahrenheit (°F) higher than historical levels, and some areas have seen average increases in excess of 2°F. The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual (BAU) scenario, in which no new actions are taken to curb GHG emissions (CalOES 2020):

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.

- Droughts are likely to become more frequent and persistent through 2100.[3]
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt. California's water storage system is designed with the expectation that snow will stay frozen for many months, and that as it melts, it will be stored in a series of reservoirs and dams, many of which are used to generate electricity. Changing waterfall patterns therefore impact both water supply and electricity supply.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) are expected to occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century. Drought and reduced water supplies can increase wildfire risk.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea-level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs.

Global climate change risks to California are shown in Table 3.8-4, *Summary of GHG Emissions Risks to California*, and include impacts on public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

Table 3.8-4 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snowpack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation

[3] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

Table 3.8-4 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006, 2009; California Climate Change Center 2012; CNRA 2014; CalOES 2020.

CALIFORNIA'S GHG SOURCES AND RELATIVE CONTRIBUTION

In 2025, the statewide GHG emissions inventory was updated for 2000 to 2023 emissions using the GWPs in IPCC's AR4 and reported that California produced 360.4 $MMTCO_2e$ GHG emissions in 2023 (3 percent lower than 2022 levels). Since peak levels in 2004, California's GHG emissions have generally followed a decreasing trend. By 2014, statewide GHG emissions dropped below the 2020 GHG limit (AB 32 target for year 2020) and have remained below the limit since that time. Additionally, the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross state product) is declining (CARB 2025a).

California's transportation sector remains the largest source of GHG emissions, producing 37.1 percent of the state's total emissions. Industrial sector emissions made up 18.6 percent, and electric power generation made up 15.9 percent of the state's emissions inventory. Other major sectors of GHG emissions include residential and commercial (12.0 percent), agriculture and forestry (8.1 percent), high GWP (5.9 percent), and recycling and waste (2.4 percent).

Emissions from the transportation sector have generally decreased since their peak in 2002, but this sector has experienced periods of growth and decline. The decrease in 2023 was primarily due to reductions from on-road sources and decrease in the amount of fuel used. Electricity emissions also have decreased since the early 2000s due to the deployment of renewable and less carbon-intensive resources, leading to reduced dependence on fossil fuel electricity generation. Emissions from the industrial sector decreased from 2022, largely due to the continued downward trend in oil and gas production (CARB 2025a).

EXISTING COMMUNITY-WIDE GHG EMISSIONS

The existing land uses in the EIR Study Area consist of single- and multifamily residences and retail, office, commercial, industrial, and institutional uses. Operation of these land uses generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees and residents; area sources such as landscaping equipment and consumer cleaning products; water demand; waste generation; and solid waste generation.[4] Table 3.8-5, *EIR Study Area Existing GHG Emissions Inventory*, shows the emissions associated with existing land uses in the EIR Study Area.

Table 3.8-5 EIR Study Area Existing GHG Emissions Inventory

Sector	Existing $MTCO_2e$/year	Percentage of Total
Building Electricity	75,550	11%
Building Natural Gas	102,851	15%
On-Road Transportation	446,668	64%
Off-Road Vehicles and Equipment	11,045	2%
Solid Waste/Landfills	24,659	4%
Refrigerants	39,631	6%
Water Use	1,685	<1%
Wastewater Treatment	1,078	<1%
Subtotal	**703,167**	**100%**
Service Population (SP)[1]	145,150	NA
$MTCO_2e$/SP	4.8	NA

Source: Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Note: $MTCO_2e$ = Metric ton of carbon dioxide-equivalent.

Totals may not add to 100% due to rounding.

1. Service Population consists of the aggregate of total employees and population within the EIR Study Area.

[4] Emissions from water demand and wastewater are emissions associated with electricity used to supply, treat, and distribute water.

3.8.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to GHG emissions if it would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

AIR DISTRICT'S CEQA THRESHOLDS

The Air District's CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (GHG Justification Report) contains instructions on how to evaluate, measure, and mitigate GHG impacts generated from land use development projects and plans (Air District 2022). For the purposes of this analysis, this EIR is using the Air District's current GHG plan-level significance thresholds to evaluate the proposed Project's potential impacts related to GHG emissions.

Greenhouse Gas Emission Impacts – Plan Level

The Air District's GHG Justification Report contains instructions on how to evaluate, measure, and mitigate GHG impacts generated from land use development projects and plans. If a proposed plan cannot demonstrate consistency with the Air District-recommended Criterion A or Criterion B, that plan would result in a potentially significant impact related to GHG emissions:

- The proposed plan must be consistent with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b); or
- The proposed plan must meet the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

Consistency with A GHG Reduction Plan

CEQA Guidelines Section 15183.5, *Tiering and Streamlining the Analysis of Greenhouse Gas Emissions*, allows for lead agencies to analyze and mitigate the significant effects of GHG emissions at a programmatic level. Pursuant to CEQA Guidelines Section 15183.5, later project-specific environmental documents may tier from and/or incorporate by reference the GHG reduction plan so long as they include the following plan elements:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.
- Be adopted in a public process following environmental review.

The 2022 CAP was adopted in a public process following environmental review in November 2022. The 2022 CAP included community-wide GHG inventories for Livermore, as well as an updated 2005 baseline GHG inventory, consistent with the Local Governments for Sustainability's United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions. The 2022 CAP also provided emissions forecasts through 2045 based on future demographic projections including population, employment, housing, and transportation activity. The 2022 CAP identified State and local measures to reduce GHG emissions and quantified GHG reductions associated with these measures. Another facet of the 2022 CAP includes a framework for ensuring successful implementation of the strategies and actions listed in the 2022 CAP.

The 2022 CAP provides a flexible path to reduce the community's GHG emissions by establishing per-capita GHG emission reduction targets aimed to reduce GHG emissions by 40 percent below 1990 levels by 2030 per SB 32 and achieve carbon neutrality by 2045 pursuant to EO B-55-18. The 2022 CAP includes a forecast with reductions for the 2045 horizon. It was based on the reductions needed to achieve an 85 percent reduction in GHG emissions by 2045 as well as substantial progress toward carbon neutrality, consistent with the objectives of AB 1279.[5] Consequently, the 2022 CAP is a qualified GHG reduction plan through 2045. Therefore, the

[5] The 2022 Scoping Plan includes statewide measures to achieve the state's carbon neutrality goals under Executive Order B-55-18 such as carbon dioxide removal (CDR) that are not applicable to local governments. Carbon neutrality goals are a "no impact" level and not a "less-than-significant" impact level for climate change effects. There are presently no reliable means of forecasting how future technological developments related to carbon dioxide removal may affect future emissions in a planning jurisdiction. Therefore, carbon neutrality targets are not directly applicable to local governments and CEQA projects to mitigate GHG emissions impacts of a project. Moreover, AB 1279 GHG reduction targets for 2045 are in line with the scientifically established levels needed in the U.S. to limit global warming below 1.5 to 2.0 degrees Celsius, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. For these reasons, the targets of AB 1279 are applicable to the EIR. However, the 2022 CAP includes measures that align with the state's carbon neutrality goals under Executive Order B-55-18 and per-capita targets under SB 32.

2022 CAP demonstrates consistency with the latest legislative reduction target established by AB 1279 and can be used for a streamlined GHG analysis.

To demonstrate consistency with the 2022 CAP GHG emission-reduction targets for 2045, the proposed Project's 2045 emissions will be compared to the 2022 CAP's long-term per-capita efficiency target of zero MT CO_2e per person per year.

Mass Emissions and Health Effects

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the USEPA issued an endangerment finding for six GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves and ozone levels. The effects of climate change are identified in Table 3.8-4. Though identified effects such as sea level rise and increased extreme weather can indirectly impact human health, neither the USEPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change, and the state's GHG reduction goals and strategies are based on the path to reducing statewide cumulative GHGs as outlined in AB 32, SB 32, and EO S-03-05.

Because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the Air District's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

3.8.4 Project Impact Analysis

The following GHG emissions analysis is based on the conditions present at the time the Notice of Preparation was issued in March 2023. The City of Livermore Travel Demand Model is keyed to a base year of 2020. The 2020 data was adjusted for population and employment in the EIR Study Area in calendar year 2023. Therefore, the impacts of the proposed Project are largely compared to existing conditions in 2023.

METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur in conjunction with future development. The GHG emissions inventory includes the following sectors:

- **Building Energy.** Emissions associated with electricity and natural gas use for residential and nonresidential land uses in the EIR Study Area were based on the energy information provided by PG&E and Ava Energy. Energy usage for national laboratories (Lawrence Livermore National Laboratory and Sandia National Laboratories) was estimated based on facility square footage and annual energy use factors by land use type from the CalEEMod Users Guide. Forecasts are adjusted for increases in housing units for residential electricity and natural gas use and nonresidential square footage for nonresidential electricity and natural gas use. A weighted average of the carbon intensity factors was calculated using electricity consumption from PG&E and Ava Energy. For the 2045 scenario, Ava Energy's carbon intensity factor was assumed to be zero, reflecting an assumption that Ava Energy achieves and maintains its stated goal of 100 percent carbon-free energy supply by 2030 (Ava Energy 2026).
- **Transportation.** Transportation emissions forecasts were modeled using emissions rates from CARB's EMFAC2021, version 1.0.2 web database, including the USEPA's Off-Model Adjustment Factors to Remove the Impact of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Heavy-Duty Omnibus and Warranty Phase I Regulations ("EMFAC2021 adjustment factors"). Model runs were based on daily VMT data provided by Kittelson and Associates, Inc. (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*) adjusted for population and employment in the EIR Study Area in calendar year 2023 (existing) and 2045 (forecasted) emission rates. The VMT figures are based on the origin-destination method using the Alameda Countywide Transportation Model based on the recommendations of CARB's Regional Targets Advisory Committee under SB 375. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement (CARB 2025b), daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.

- **Off-Road Equipment.** OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB. Off-road equipment in the EIR Study Area is based on year 2023 (existing) and 2045 (forecasted) emission rates for Alameda County obtained from CARB's Off-Road Web Query, version 1.1.0 and 1.1.2, web database. OFFROAD was used to estimate criteria air pollutant emissions from agricultural, construction equipment, lawn and garden, and light commercial/industrial equipment in the county and EIR Study Area. Agricultural equipment is based on the percentage of farmland acreage in the EIR Study Area compared to Alameda County and forecasted based on the change in farmland acreage in the EIR Study Area. Because the OFFROAD database is based on county-level data, construction equipment use in the EIR Study Area is estimated based on the proportion of building permits issued in Alameda County that are issued in the EIR Study Area, based on data compiled by the US Census, and conservatively assumes that construction equipment use for the forecast year does not account for equipment or fleet turnover. Similarly, lawn and garden equipment is based on the percentage of housing units in the EIR Study Area compared to Alameda County and forecast based on the change in housing growth in the EIR Study Area. Light commercial equipment is estimated based on employment for the EIR Study Area as a percentage of Alameda County and forecast based on the change in employment in the EIR Study Area.
- **Refrigerant Leakage.** Refrigerants are based on the statewide 2021 refrigerant use and statewide population based on the 2021 census data to derive emissions per person. Emissions from this sector are based on AR5.
- **Solid Waste Disposal.** GHG emissions from solid waste disposed of by residents and employees in the EIR Study Area were quantified based on the waste-in-place method. This method assumes that the degradable organic component in waste decays slowly throughout a few decades, during which CH_4 and biogenic CO_2 are formed. If conditions are constant, the rate of CH_4 production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH_4 from waste deposited in a disposal site are highest in the first few years, then gradually decline. Significant CH_4 production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. Waste disposal was averaged over several years to account for fluctuations in average annual solid waste disposal. Waste generated was based on data obtained from the California Department of Resources Recycling and Recovery (CalRecycle). Data from 2023 was used to provide an estimate of GHG emissions for existing conditions. GHG emissions from solid waste disposal in the existing year were modeled using CARB's Landfill Emissions Tool v.1.9, which includes waste characterization data from CalRecycle. Because the landfill gas captured is not under the jurisdiction of the City of Livermore, the landfill gas emissions from the capture system are not included in the inventory. Only fugitive sources of GHG emissions from landfills are included. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's Landfill Gas Capture System. The landfill gas capture efficiency is based on CARB's LGOP, v.1.1. Total GHG emissions from waste disposal in 2045

were forecast based on the percentage increase in service population for the EIR Study Area. The emissions forecast does not account for reductions from increasing waste diversion.

- **Water Use and Wastewater Treatment.** GHG emissions from this sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. The total annual existing and proposed water demand/wastewater generation in the EIR Study Area are based on water demand factors for existing and proposed conditions (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data*). Indoor water demand was assumed to equal 100 percent of wastewater generation. Electricity use from water use is estimated using energy rates identified in the 2022 CalEEMod Users Guide. Then energy is multiplied by the carbon intensity of energy. Wastewater treatment also results in direct CH_4 emissions from wastewater processing, which are based on the emission rates identified in the 2022 CalEEMod Users Guide (CAPCOA 2022).

Industrial sources of emissions that require a permit from the Air District are not included in the community inventory. Life-cycle emissions are not included in this analysis because not enough information is available for the proposed Project; therefore, they would be speculative.[6] Black carbon emissions are not included in the GHG analysis because CARB does not include this short-lived climate pollutant in the state's GHG emissions inventory but treats it separately.[7]

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Significant and unavoidable. To evaluate whether the proposed Project's GHG emissions may directly or indirectly result in a significant impact on the environment, this analysis compares the Project's emissions to a 2045 efficiency threshold of zero MT CO_2e per person per year. This threshold reflects the State's 2045 GHG reduction (AB 1279) and is consistent with the 2022 CAP. As shown in Table 3.8-6, *GHG Emissions Forecast in the EIR Study Area*, implementation of

[6] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (CNRA 2009). Because the amount of materials consumed during the operation or construction of the proposed Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (LCI 2008).

[7] Particulate matter emissions, which include black carbon, are analyzed in Section 3.3, *Air Quality*. The majority of anthropogenic sources come from transportation—specifically, heavy-duty vehicles. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022).

the proposed Project would result in a net decrease in GHG emissions from existing conditions and in GHG emissions per service population (SP). The primary reason for the net decrease in community-wide GHG emissions is due to Ava Energy's goal of carbon-free electricity by 2030, which would substantially reduce GHG emissions by replacing fossil-fuel power with clean sources, like wind and solar. On-road transportation would also see a decrease primarily because of future implementation of on-road vehicle emission regulations assumed to be in effect in EMFAC2021 that was used for estimating 2045 vehicle emissions.

Table 3.8-6 GHG Emissions Forecast in the EIR Study Area

	GHG Emissions ($MTCO_2e$/year)					
Emissions Sector	**Existing Land Uses (2023)**	**%**	**Proposed Project (2045)**	**%**	**Net Change**	**%**
Building Electricity	75,550	11%	3,599	1%	-71,951	-95%
Building Natural Gas	102,851	15%	143,928	21%	41,077	40%
On-Road Transportation	446,668	64%	437,675	63%	-8,993	-2%
Off-Road Vehicles and Equipment	11,045	2%	11,210	2%	165	1%
Solid Waste/Landfills	24,659	4%	33,141	5%	8,482	34%
Refrigerants	39,631	6%	59,381	9%	19,750	50%
Water Use	1,685	<1%	88	<1%	-1,598	-95%
Wastewater Treatment	1,078	<1%	815	<1%	-264	-24%
Total Community Emissions	**703,167**	**100%**	**689,836**	**100%**	**-13,331**	**-2%**
Service Population (SP)[1]	145,150	—	195,080	—	49,930	34%
$MTCO_2e$/SP	4.8	—	3.5	—	-1.3	-27%
2022 CAP 2045 Per Capita Goal	—	—	0 $MTCO_2e$/SP	—	—	—
Per Capita Goal Achieved?	—	—	**Does Not Achieve Per Capita Goal**	—	—	—

Source: Appendix B, *Air Quality and Greenhouse Gas Emissions Data*.

Note: $MTCO_2e$ = Metric ton of carbon dioxide-equivalent.

Based on global warming potentials in the Intergovernmental Panel on Climate Change Fifth Assessment Report. Emissions may not total to 100 percent due to rounding.

1. Service Population accounts for total population and jobs. See Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study* Area, in Chapter 2, *Project Description*.

As shown in Table 3.8-6, it is anticipated that year 2045 conditions would result in an overall decrease in emissions compared to the existing baseline. However, the proposed Project's emissions would not achieve the 2022 CAP's long-term per-capita efficiency target of zero

$MTCO_2e$ per person per year and would not be considered consistent with the long-term year goals under AB 1279.

Adopted State measures would result in reductions of mobile and energy sources to reduce GHG emissions, such as:

- The updated Title 24 Building Energy Efficiency Standards require new buildings to achieve increased energy-efficiency targets.
- The Climate Change Scoping Plan Low Carbon Fuel Standard (LCFS) mandates reduced carbon intensity of fuels used in off-road equipment.
- SB 1383 aims for a 75 percent reduction in organic waste by 2025 aimed at tackling climate change.
- SB 350 directs CARB, in coordination with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC), to establish 2030 GHG emissions targets for the electricity sector in general and each electricity provider.

These State measures are primarily regulatory or programmatic in nature and rely on multiple parties' compliance or on statewide program implementation. Because future project-level compliance, energy mix, or fuel use cannot be precisely predicted, their effects cannot be reliably quantified in the GHG inventory and forecast. However, they are acknowledged as contributing to overall long-term GHG reductions.

The Land Use (LU) Element, Mobility (MO) Element, Infrastructure (INF) Element, Open Space and Conservation (OS) Element, and Safety (S) Element of the proposed General Plan 2045 contain goals and policies that require local planning and development decisions to consider impacts from GHG emissions. The following goals and policies would serve to minimize long-term GHG emissions and mobile-source emissions:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.2: Housing Choices and Employment Opportunities.** Plan for a range of housing choices and employment space that meets the needs of all Livermore's residents and workforce. Promote a citywide balance between jobs and housing (1.25-1.75) to support economic vitality and reduce commute-related impacts.
  - **Policy LU-1.6: Climate-Responsive and Green Building Practices.** Promote environmentally responsive site and building design that reduces construction impacts and supports long-term climate resilience. Encourage the use of green building practices in both public and private development, consistent with CalGreen and Title 24 standards.

- **Policy LU-1.7: Transit-Supportive Development.** Facilitate new development in major commercial and transit-supportive development areas, including the Downtown, Isabel Neighborhood, Brisa Neighborhood, Midtown area, and appropriate areas around Livermore Municipal Airport, to maximize the density and intensity specified in the Land Use Plan and to efficiently use land and infrastructure resources.
- **Policy LU-1.8: Sustainable Land Practices.** Advance land use strategies that reduce greenhouse gas emissions and vehicle miles traveled, including compact development, walkable and bikeable neighborhoods, and access to transit and services.
- **Policy LU-1.9: Infill and Reinvestment.** Prioritize development for locations in or in close proximity to transit, nodes for active transportation, or major commercial sites or other activity centers. Update the Development Code and Specific and Neighborhood Plans accordingly.

- **Goal LU-4:** Establish mixed-use districts that integrate housing, commercial, and employment uses to increase housing supply, support economic vitality, and create walkable neighborhoods with a strong sense of place.
  - **Policy LU-4.1: Mixed-Use District Planning.** Plan and implement high-density mixed-use districts in strategic locations, such as near transit, commercial hubs, and employment centers, to integrate housing, commercial, and employment uses. These districts should be designed to be walkable, inclusive, and compatible with surrounding neighborhoods, supporting the needs of residents, employers, and the workforce.
  - **Policy LU-4.2: Housing Integration and Livability.** Facilitate the inclusion of diverse and affordable housing types within mixed-use developments to promote proximity between jobs and housing, support inclusive communities, and reduce vehicle miles traveled (VMT). Ensure residential components are designed to minimize exposure to noise and traffic impacts, particularly along arterial corridors.
  - **Policy LU-4.5: Multimodal Access and Connectivity.** Design mixed-use districts to support walking, biking, and transit access, reducing reliance on single-occupancy vehicles and enhancing connectivity between homes, jobs, and services.
- **Goal LU-10:** Advance a strong and resilient Livermore through sustainable land use planning.
  - **Policy LU-10.1: Prioritize Infill and Mixed-Use Development.** Direct new development to infill sites and mixed-use zones within existing urban areas to facilitate compact and walkable environments. Concentrate new growth near transit corridors and employment centers to reduce vehicle miles traveled, lower greenhouse gas emissions, and limit the expansion of urban infrastructure.
- **Goal MO-1:** Design and maintain streets that are safe, comfortable, convenient, and accommodate all users.
  - **Policy MO-1.1: Complete Streets Approach.** Plan for Complete Streets that support all transportation systems throughout the city and consider and balance the needs of all users, including vulnerable users and underserved communities.

- **Goal MO-2:** Reduce the number and length of single-occupancy vehicle trips.
  - **Policy MO-2.1: Transportation Mode Choice.** Support and provide viable transportation alternatives to reduce vehicle miles traveled.
  - **Policy MO-2.2: Transportation Priorities.** Make transit and active transportation safe and feasible choices for residents by prioritizing transportation modes as follows: (1) public transit and active transportation, (2) zero-emission vehicles, and (3) fossil fuel vehicles. Support this prioritization through funding, development standards, education, and other allocation of resources.
  - **Policy MO-2.4: Transportation Demand Management (TDM) Implementation.** Promote and implement Transportation Demand Management strategies to reduce vehicle miles traveled and reliance on single-occupancy vehicles across all development types.
    A. New Development: Require Transportation Demand Management measures through development agreements, partnerships with Transportation Management Associations (TMAs), and collaboration with regional stakeholders.
    B. Existing Development: Encourage adoption of Transportation Demand Management measures by offering incentives such as grants, tax benefits, or reduced fees.
    C. Organizational Support: Provide technical assistance for the formation and operation of Transportation Management Associations and other entities that facilitate Transportation Demand Management programs.
- **Goal MO-3:** Provide comfortable access to jobs, schools, recreation, shopping, and transit on foot or by bicycle as part of daily life in a healthy and active community.
  - **Policy MO-3.1: Active Transportation Plan.** Regularly update and implement the City's Active Transportation Plan as a guide for developing pedestrian, bicycle, and trail networks.
  - **Policy MO-3.2: Bicycle/Pedestrian Connectivity.** Improve connectivity for cyclists and pedestrians between and through neighborhoods and to and from activity centers in collaboration with the community and stakeholders.
- **Goal MO-4:** Make transit a viable option by supporting frequent, reliable, cost-efficient, and connected service.
  - **Policy MO-4.1: Local Transit Ridership.** Increase local transit ridership and service as an alternative to driving by supporting Livermore Amador Valley Transit Authority and Altamont Corridor Express services.
- **Goal INF-2:** Provide sufficient water supplies and facilities that meet current and future needs in an efficient and sustainable manner.
  - **Policy INF-2.4: Recycled Water.** Use and expand the use of recycled water for appropriate uses, where and when available.
  - **Policy INF-2.5: On-Site Water Reuse.** Allow on-site stormwater capture and greywater reuse in commercial and residential settings.

- **Goal INF-4:** Collect and convey stormwater in ways that are safe, sanitary, environmentally acceptable, and financially sustainable.
  - **Policy INF-4.2: Storm Drainage Studies.** Require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems. Projects must include plans for detention and drainage facilities to prevent increased flood risk.
  - **Policy INF-4.3: Impervious Surfaces.** Minimize impervious surfaces in new development and integrate green infrastructure to assist in stormwater management.
  - **Policy INF-4.4: Green Stormwater Infrastructure on City Property.** Install green infrastructure and other natural stormwater management infrastructure on City property and at City facilities, as appropriate.
  - **Policy INF-4.5: Stream Modifications.** Allow stream modifications when necessary to contain flood flows. Modifications shall enhance and/or restore creek natural habitat while providing stormwater management.
- **Goal OS-1:** Conserve the value and function of Livermore's open space for natural resource protection, recreation, and scenic value.
  - **Policy OS-1.1: Diverse Open Space System.** Foster an open space system that supports the natural function of the land, protects sensitive wildlife and plant species, preserves important viewscapes, and creates opportunities for recreation.
  - **Policy OS-1.2: Greenbelts.** Secure and maintain a greenbelt of nonurbanized land surrounding Livermore to serve as a buffer between communities and to preserve, enhance, and expand an integrated network of open space.
  - **Policy OS-1.3: Open Space Preservation and Restoration.** Prioritize opportunities to preserve, restore, rewild, and enhance natural landscapes to support environmental and community health.
  - **Policy OS-1.4: Open Space Acquisition and Connection.** Prioritize land acquisition efforts that would result in the creation and expansion of permanent open spaces or corridors that link existing or create new protected natural resource areas.
  - **Policy OS-1.5: Open Space Public Access.** Maintain existing and establish new public access to public open space lands as appropriate, while also preserving the character and conservation value of the open space.
  - **Policy OS-1.6: Open Space Easement Designation.** Work with local stakeholders and agencies to use open space easements to preserve sensitive habitat and resources.
  - **Policy OS-1.7: Open Space Easement Monitoring.** Monitor City-owned open space easements on an ongoing basis and work with other easement holders to comply with the terms of the easements.

- **Policy OS-1.8: Open Space Preservation Agency Coordination.** Coordinate with the County of Alameda, East Bay Regional Park District, Livermore Area Recreation and Park District, Tri-Valley Conservancy, and other partner organizations to preserve and protect important resources inside and outside the urban growth boundary.
- **Policy OS-1.9: Brushy Peak Regional Preserve.** Coordinate with the Livermore Area Recreation and Park District and East Bay Regional Park District to support efforts to preserve and protect the Brushy Peak Regional Preserve consistent with the goals of the Livermore Area Recreation and Park District's Parks, Recreation, and Trails Master Plan and East Bay Regional Park District's Master Plan.
- **Policy OS-1.10: Preservation of Natural Amenities.** Preserve and enhance, or work with other agencies, as appropriate (e.g., with joint grant applications, sharing of staff resources and legal services), to preserve and enhance the following natural amenities:
  a. Ridgelines
  b. Oak Woodlands and Grasslands
  c. Grasslands
  d. Riparian Woodland
  e. Arroyos and Creeks
  f. Knolls
  g. Doolan Canyon
  h. Arroyo Mocho/Cedar Mountain
  i. Corral Hollow
  j. Sycamore Grove
  k. Hilltops (North Livermore Urban Growth Boundary Initiative)
  l. Slopes (North Livermore Urban Growth Boundary Initiative)
  m. Viewscapes (North Livermore Urban Growth Boundary Initiative)
  n. Frick Lake
  o. Springtown Alkali Sink

- **Goal OS-2:** Preserve and enhance biological resources.
  - **Policy OS-2.2: East Alameda County Conservation Strategy.** Require all development projects involving ground-disturbing activities to submit an Environmental Assessment Form as part of a complete application. The City will use this assessment to identify potential effects on special-status species and sensitive habitats and require that project design and implementation are consistent with the applicable avoidance, minimization, and, where necessary, compensatory mitigation measures set forth in Tables 3.2 through 3.12 of the East Alameda County Conservation Strategy

- **Policy OS-2.3: Livermore Habitat Conservation Plan.** Adopt and implement the Livermore Habitat Conservation Plan to address impacts to the federally listed species that result from implementation of the City's Capital Improvement Program and Stream Maintenance Program, and other projects implemented by the City to support General Plan buildout.
- **Policy OS-2.4: Existing Native Vegetation**. Conserve Livermore's native trees and vegetation, which are important biological resources in the Planning Area.
- **Policy OS-2.5: Cluster Development**. Work with project applicants to cluster new development to minimize its overall footprint in areas of ecological sensitivity, such as hillsides, alkali springs, creek corridors, and watersheds, and preserve space for habitat and wildlife connectivity.
- **Policy OS-2.6: Avoidance of Sensitive Features.** Protect wetland and biological resources by requiring new development to avoid areas that support wildlife and plant habitats that contribute to ecological connectivity. Instead, integrate these features into overall development to support long-term ecological health.
- **Policy OS-2.9: Riparian Enhancements.** Promote the long-term health and ecological function of riparian areas by ensuring that adjacent development supports the protection, enhancement, and restoration of native riparian vegetation.
- **Policy OS-2.14: Biological Resource Preservation Grant Funding.** Work with local, regional, and State natural resource agencies and area nonprofit organizations to develop programs and apply for grants to fund preservation of sensitive biological resources, including arroyos, wetlands, riparian areas, and grasslands.

- **Goal OS-3:** Protect Livermore's groundwater resources, waterways, tributaries, and associated riparian habitats.
  - **Policy OS-3.1: Water Quality.** Maintain and improve the quality and quantity of Livermore's surface water, groundwater, and groundwater recharge areas.
  - **Policy OS-3.3: Runoff Regulation.** Regulate runoff from urban uses to protect the quality of surface water and groundwater.
- **Goal OS-6:** Protect and improve Livermore's air quality.
  - **Policy OS-6.10: Vehicle Emissions Reduction.** Work with regional municipalities and State agencies to reduce automobile-related vehicle emissions.
  - **Policy OS-6.11: Vehicle Trip Reduction Incentives.** Develop incentives to reduce vehicle trips and increase ridesharing to reduce pollutants generated by vehicular combustion engines.
  - **Policy OS-6.12: Anti-Idling Requirements.** Reduce and limit idling of municipal, community, and/or commercial vehicles.

- **Policy OS-6.15: Public Transit Support.** Work with transit providers and implement local improvements to maximize the use of regional and local mass transit systems. To this end, the City shall actively support:
  a) Federal, State, and regional funding for construction of Valley Link passenger rail service.
  b) The designation of special lanes on Interstate 580 for the exclusive use of commuter buses during peak-traffic periods.
  c) Efficient operations of local and regional transit systems to minimize the travel time between communities and major generating areas served by the regional system.
  d) Transit connections to ACE, BART, and future rail stations in close coordination with the Livermore Amador Valley Transit Authority.
  e) Improved bicycle and pedestrian connections to ACE stations and the Livermore transit center.
- **Policy OS-6.16: Privately Owned Zero-Emission Equipment.** Work with local and regional partners to publicize the advantage of zero-emission equipment and any available financial incentives.
- **Policy OS-6.17: Low-Emission City Vehicles**. Purchase City vehicles that have alternative fuel systems with reduced emissions as suitable models are available.

- **Goal OS-7:** Make Livermore strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.
  - **Policy OS-7.1: Climate Action Plan Updates.** Update the Livermore Climate Action Plan (CAP) at least every five years, maintaining the CAP as a Qualified Greenhouse Gas (GHG) Reduction Strategy under the Guidelines for the California Environmental Quality Act as laid out by the State and Bay Area Air Quality Management District. The CAP shall include an inventory of the level of GHG emissions within the city for a recent year, in comparison to a 2005 baseline, and shall set out specific policies and actions to be undertaken by the City to reduce GHG emissions to a level that meets or exceeds State GHG reduction targets. The policies and actions will include incentives, actions, and requirements to reduce the city's GHG emissions, the GHG emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce GHG emissions. Updates to the CAP will include a public and stakeholder engagement process.
  - **Policy OS-7.2: Climate Action Plan Implementation.** Continue to implement the Climate Action Plan (CAP). Identify key City staff and partner agencies responsible for implementing CAP strategies and actions. Integrate CAP strategies and actions into annual department workplans and budget. Continue to identify and pursue funding mechanisms for CAP implementation.

- **Policy OS-7.3: Planning for Climate Change.** Account for the effects of climate change in updating or amending the General Plan or Development Code, disaster planning efforts, City projects, infrastructure planning, future policies, and long-term strategies, as feasible. Recognize potential climate change consequences, such as flooding, wildfire, hotter temperatures, and changing air quality. Protect the community from the effects of climate hazards, including against risks of displacement and challenges in rebuilding after major incidents.
- **Policy OS-7.4: Climate Awareness.** Maintain a climate protection action-awareness campaign as well as support and coordinate other similar efforts in order to make residents, public institutions and businesses aware of the link between their everyday energy use and greenhouse gas emissions.
- **Policy OS-7.5: Climate Action Coordination.** Coordinate climate action efforts and implementation of climate adaptation projects across City departments.

- **Goal OS-8:** Promote a clean, reliable, and equitable energy system by increasing energy efficiency, expanding the use of renewable and carbon-free energy sources, and reducing greenhouse gas emissions from buildings, transportation, and infrastructure.
  - **Policy OS-8.1: Climate Action Plan Implementation.** Implement Climate Action Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions.
  - **Policy OS-8.2: Per-Capita Energy Use.** Reduce per-capita energy use.
  - **Policy OS-8.3: Clean and Resilient Energy for Public Facilities.** Ensure City facilities and operations use clean, reliable, and resilient energy sources that reduce emissions and support long-term sustainability. Prioritize energy systems that improve efficiency and maintain essential services during power disruptions.
  - **Policy OS-8.4: Sustainable Energy through Electrification.** Develop strategies and standards to advance sustainable energy by requiring efficient, all-electric appliances in new buildings, where feasible. Encourage property owners to transition existing buildings to electric appliances over time through partnerships, incentives, and public education that promotes clean energy.
  - **Policy OS-8.5: Energy-Efficient Development Decisions.** Consider the energy efficiency of proposed development when making land use and development review decisions.
  - **Policy OS-8.6: Solar Access.** Consider solar access, siting structures to maximize natural heating and cooling, and landscaping during the design review process to aid passive cooling protection from prevailing winds and maximize year-round solar access.
- **Goal S-7:** Minimize flood risks to people, property, and critical infrastructure.
  - **Policy S-7.1: Climate Resilience to Flooding.** Strengthen community resilience to flooding by integrating climate adaptation strategies into stormwater management, land use planning, infrastructure investment, and emergency preparedness to reduce risks to people, property, and infrastructure.

- **Policy S-7.5: Flood-Resilient Infrastructure.** Require new public and private service facilities in flood zones to be floodproofed to or above the base flood elevation, including required freeboard, as determined on a project-specific basis.
- **Policy S-7.7: Climate-Informed Design.** Incorporate the best-available climate science into flood risk assessments, infrastructure design, and land use decisions such as projections for increased rainfall, storm frequency, floodplain shifts, and long-term impacts on erosion and groundwater.
- **Policy S-7.10: Storm Drain Risk Mitigation.** Consider the risk of storm drain blockage when reviewing development proposals in flood-prone areas.

- **Goal-S-9:** Reduce the impact of drought on Livermore communities by supporting resilient water supplies.
  - **Policy S-9.1: Integrated Water Resource Management.** Promote sustainable water use and climate resiliency by encouraging rainwater capture, greywater systems, and green infrastructure, along with other water-efficient landscaping and building practices that reduce overall water demand.
  - **Policy S-9.2: Sustainable Landscaping Practices.** Support the transition to water-efficient and climate-appropriate landscaping on public and private property, and provide incentives, technical assistance, and educational resources to reduce outdoor water use.
  - **Policy S-9.3: Water Reuse and Recycling.** Encourage the use of alternative water sources, including greywater and rainwater, in residential, commercial, and institutional developments to reduce reliance on potable water.
  - **Policy S-9.4: Agricultural Water Stewardship.** Collaborate with regional partners to promote water-efficient agricultural practices that increase resilience to drought and changing weather patterns and support long-term water sustainability and agricultural viability in the Livermore Valley.
- **Goal S-10:** Make Livermore resilient to the impacts of severe weather and extreme temperatures.
  - **S-10.2: Heat Mitigation in Private Development.** Encourage new and existing developments to increase resilience to heat by incorporating heat-mitigating, energy-efficient features into their facilities, landscapes, and structures.
  - **S-10.3: Clean and Efficient Climate Control Systems.** Promote the transition to clean, energy-efficient heating and cooling technologies that enhance heat resilience in residential and commercial buildings while also reducing greenhouse gas emissions and improving indoor air quality.
  - **Policy S-10.6: Cooling Centers.** Ensure access to safe, climate-resilient public facilities during extreme heat events that accommodate all ages, languages, and functional needs. Promote awareness of these centers through the City's website, social media, and outreach at public events and venues.

- **Policy S-10.7: Landscaping with Native Vegetation.** Encourage the use of native vegetation, pollinators, and natural or green infrastructure to absorb the impacts of extreme heat.
- **Policy S-10.8: Tree Maintenance.** Regularly maintain and trim City-owned trees and remove dead trees or hazardous trees to reduce risks during severe weather events. Facilitate and enforce private landowner responsibility for trimming trees and removing dead or hazardous trees through education, technical support, and applicable City ordinances.
- **Policy S-10.9: Heat-resistant Farming Techniques.** Collaborate with agricultural partners to support and promote heat-resistant farming practices, such as testing heat-tolerant crops, using climate-adaptive irrigation, and improving soil management to increase resilience to extreme heat.
- **S-10.10: Electrical Grid Reliability.** Coordinate with energy providers, infrastructure operators, and state regulators to ensure the safety and reliability of the local electrical grid to improve energy resilience and minimize the impacts of severe weather and extreme temperatures. Underground existing utilities to reduce damage and service interruptions from severe weather.
- **S-10.11: Solar Energy.** Work with local contractors, electricians, and solar energy installers to increase installation of solar and battery systems for residents, businesses, and public agencies.

See Table 3.8-7, *2022 CAP Consistency Analysis*, for proposed General Plan 2045 goals and policies that are consistent with the CAP, which would also serve to minimize GHG emissions.

While implementation of the proposed General Plan 2045 policies and other statewide measures would reduce GHG emissions associated with the proposed Project to the extent feasible, and GHG emissions are projected to slightly decrease compared to the existing baseline as shown in Table 3.8-6, the proposed Project's emissions would not meet the 2022 CAP's long-term per-capita efficiency target of zero MT CO_2e per person per year. Therefore, impacts would be *potentially significant*.

Impact GHG-1: Implementation of the proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Implementation of Policy OS-7.1 would require the City to monitor the CAP and ensure that the CAP aligns with the GHG reduction targets of AB 1279 and the latest applicable statewide legislative GHG emission reduction standards. It would also require the City to track and monitor GHG emissions. In addition, CAP measures and General Plan policies that increase energy efficiency, reduce water use, and offset electricity use through solar panels would reduce GHG emissions to the extent feasible.

However, given the projected growth in population and employment within the EIR Study Area, the reductions needed from existing land uses, and the magnitude of reductions required to achieve the State's long-term GHG targets, it cannot be determined with certainty that Policy OS-7.1 and related CAP measures would achieve the substantial reductions necessary to meet AB 1279 targets. Achieving these statewide targets relies, in part, on future technological advancements and statewide actions that are outside the City's authority and cannot be imposed as feasible mitigation at the General Plan program level. No additional feasible mitigation measures are available that would reduce emissions to a level consistent with the long-term State targets until the 2022 CAP is updated pursuant to Policy OS-7.1.

Therefore, because no further feasible mitigation is available and the proposed Project would not meet State GHG reduction targets and is inconsistent with the 2022 CAP, GHG emissions under the proposed Project would remain **significant and unavoidable**.

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Significant and unavoidable.

2022 Climate Action Plan

Consistency with 2022 CAP Long-Term Per-Capita Goal

As shown in Table 3.8-6, the proposed Project would not achieve the 2022 CAP's long-term per-capita efficiency target of zero MT CO_2e per person per year. Therefore, implementation of the proposed Project would conflict with the underlying goal of the 2022 CAP to reduce citywide GHG emissions.

Consistency with 2022 CAP Strategies

The City developed 23 CAP strategies to lower GHG emissions from a range of sources, including buildings and energy, transportation and land use, waste and materials, and carbon sequestration. As identified in Table 3.8-7, the proposed Project would not conflict with the applicable 2022 CAP Strategies.

Table 3.8-7 City's CAP Consistency Analysis

CAP Adaptation Strategy	Consistency Analysis
Energy Resilience	
Strategy E-1: Enhance community energy resilience.	**Consistent.** Future development would be required to be constructed in accordance with current State and City building codes as applicable. Compliance with the latest building codes would help increase energy efficiency and require on-site or backup energy capabilities, which reduce the demand on the grid. Moreover, the proposed Project contains various policies related to the promotion of energy resiliency and increasing regional grid reliability. Policies OS-7.2 and OS-8.1 support CAP strategies to improve energy efficiency and reduce energy-related GHG emissions. Policies OS-8.3 and S-10.10 support electrical grid agencies efforts to improve local grid resilience and encourage renewable energy neighborhood microgrids, especially in equity priority communities. Policies OS-8.4 through OS-8.6 and S-10.2 and S-10.3 support energy-efficient development and environmentally regenerative features to reduce energy demands. Implementation of these policies would enhance community energy resilience by prioritizing local sources of renewable energy.
Drought	
Strategy D-1: Improve water conservation and reuse.	**Consistent.** Future development would be required to be constructed in accordance with current State and City development codes as applicable. Compliance with the most recent California Building Standards Code and CALGreen mandatory measures will require the installation of water-efficient appliances and fixtures, such as low-flow toilets, faucets, showerheads, and other plumbing fittings. LMC Chapter 13.25, *Water Efficient Landscape*, also establishes standards for designing, installing, and maintaining water-efficient landscapes. Additionally, the proposed Project contains various goals and policies related to the improvement of water conservation and on-site water reuse that would support this strategy. Policies S-9.1, S-9.3, INF-2.4, and INF-2.5 support retention and reuse of rainwater and greywater systems. Policies S-9.2 and S-9.4 promote the use of water-efficient landscaping and low-water use agricultural techniques. Policies OS-3.1, OS-3.3, and INF-4.2 aim to regulate runoff from urban uses to protect the quality of surface water and groundwater.

Table 3.8-7 City's CAP Consistency Analysis

CAP Adaptation Strategy	Consistency Analysis
Flooding	
Strategy F-1: Improve stormwater management.	**Consistent.** Future development would be required to be constructed in accordance with current State and City development codes as applicable. Additionally, LMC Chapter 13.45, *Stormwater Management and Control Program*, contains regulations to reduce pollutants in stormwater discharges and better control the discharge to municipal storm sewers. The proposed Project also contains various goals and policies related to the improvement of stormwater management. Policies S-7.1, S-7.5, S-7-7, S-7.10, and INF-4.2 aim to implement regional flood mitigation strategies and structural floodproofing services. Policies S-9.1, INF-2.4, and INF-2.5 encourage the retention and reuse of rainwater. Policies OS-2.5, OS-2.6, OS-2.9, OS-2.14, and INF-4.3 through INF-4.5 support minimizing impacts to native riparian vegetation and conserving native trees. Compliance with the most recent California Building Standards Code and CALGreen mandatory measures and the proposed General Plan 2045 goals and policies will help improve stormwater management by requiring reduced impervious surfaces, promoting efficient water use, and supporting compliance with post-construction stormwater regulation.
Extreme Heat	
Strategy H-1: Increase resilience to extreme heat events.	**Consistent.** The proposed Project contains various policies related to heat resilience. Policies S-10.6, S-10.7, S-10.8, and S-10.9 would increase the resilience to extreme heat events by expanding the urban canopy, providing shade structures, and providing local cooling centers to be used during extreme heat events.
Wildfire	
Strategy WF-1: Mitigate wildfire risk and improve preparedness.	**Consistent.** The proposed Project contains various policies related to minimization of wildfire risk. Policies S-5.1 through S-5.8 would require a fire safety plan for new major developments in or near a Fire Hazard Severity Zone and promote the use of best development and site design practices identified by the Fire Department to reduce vulnerabilities to fire hazards. Policies S-5.8 and S-5.9 support reduction of fire hazards through site preparation, layout design, and fire-retarding building design and materials to reduce fire risk. These goals and policies would mitigate wildfire risk by requiring certain requirements in wildfire-prone areas that have been shown to reduce vulnerabilities to fire hazards, reducing fuel load, and improving community preparedness through the preparation of fire safety plans.

Table 3.8-7 City's CAP Consistency Analysis

CAP Adaptation Strategy	Consistency Analysis
Buildings and Energy	
Strategy B-1: Require new buildings to be all-electric and incentivize electrification retrofits of existing buildings.	**Consistent.** Future development would be required to be constructed in accordance with State and City building codes current at the time, which include provisions that support building electrification. The City has adopted amendments to the 2022 CALGreen code that requires most new buildings to be constructed all-electric and to install more EV chargers than required by the State code. Moreover, the proposed Project contains various policies related to the promotion of energy efficiency. Policies OS-8.6 and S-10.11 support increased installation of solar, battery systems, and solar access for residents, businesses, and public agencies. Policy OS-8.4 requires new building applicants to install all-electric appliances and encourages existing building owners to replace appliances with all-electric models. Compliance with State and City building codes that require building electrification, including CALGreen mandatory measures, and proposed General Plan 2045 goals and policies would promote building electrification and electrification retrofits of existing buildings.
Strategy B-2: Decarbonize electricity from the grid and increase local renewable energy generation.	**Consistent.** The proposed Project contains various policies related to decarbonization. Policies S-10.10 and OS-8.3 support PG&E, Ava Community Energy, and other Tri-Valley jurisdictions' efforts to improve grid resilience. These policies would promote decarbonization of electricity from the grid and increase renewable energy generation by prioritizing local sources of renewable energy.
Transportation and Land Use	
Strategy T-1: Facilitate a transition to electric vehicles.	**Consistent.** The proposed Project contains various policies related to the electrification of vehicles. Policy MO-11.4 requires all new and significantly remodeled gas stations to include a Level 3 electric vehicle charger at a minimum. Policies MO-11.1, MO-11.3, and OS-6.9 support the adoption of zero-emission vehicles or alternative fuel systems with reduced emissions and zero-emission power sources for refrigerated trucks. These policies would facilitate a transition to zero-emission vehicles by incentivizing the use of zero-emissions vehicles and requiring the provision of EV charging infrastructure.
Strategy T-2: Facilitate a transition to transit and shared mobility services.	**Consistent.** The proposed Project contains various policies related to transit services. Policies LU-1.9, LU-4.1, LU-10.1, OS-6.11, OS-6.15, MO-2.2, and MO-2.4 aim to increase ridesharing and expand transportation alternatives by encouraging mixed-use development, creating safe active transportation, and implementing transportation demand-management strategies for new development. These policies support reliable and safe transit systems and shared mobility services.

Table 3.8-7 City's CAP Consistency Analysis

CAP Adaptation Strategy	Consistency Analysis
Strategy T-3: Improve active transportation infrastructure.	**Consistent.** The proposed Project contains various policies related to active transportation infrastructure. Policies LU-1.9, LU-4.5, LU-10.1, and MO-2.2 support infill development near transit and aim to make active transportation safe and feasible for residents. Policies MO-3.1, MO-3.2, MO-3.4, and MO-3.6 aim to improve connectivity for cyclists and pedestrians. These policies support an active transportation infrastructure, encouraging alternative modes of transit.
Strategy T-4: Support sustainable land use practices.	**Consistent.** The proposed Project contains various policies related to sustainable land use practices. Policies LU-1.2, LU-1.7 through LU-1.9, LU-4.1, and LU-4.3 aim to locate infill, mixed-use, and higher-density development in areas that maximize the existing public services and improve the jobs/housing balance. These policies would support compact and mixed-use development, which would promote sustainable development.
Waste and Materials	
Strategy W-1: Reduce the amount of waste that is landfilled.	**Consistent.** Future development would be required to comply with all applicable federal, State, and local nonhazardous waste diversion requirements, including those in the applicable mandatory measures of CALGreen. LMC Chapter 8.08, *Solid Waste Management*, implements the requirements of AB 939 and SB 1383 by prioritizing waste reduction and the recycling of solid and organic waste to the maximum extent feasible prior to landfill disposal. Compliance with these mandatory requirements would result in the reduction of waste that is landfilled.
Strategy W-2: Expand use of low-carbon and recycled building materials.	**Consistent.** Future development would be required to be constructed in accordance with current State and City building codes as applicable, which encourage sustainable construction practices, including material conservation and resource efficiency.
Carbon Sequestration	
Strategy S-1: Maximize local carbon sequestration.	**Consistent.** The proposed Project contains various policies related to carbon sequestration. Policies OS-1.1 through OS-1.10, OS-2.2, and OS-2.3 help preserve, restore, rewild, and enhance Livermore's open space and sensitive habitats. Policy OS-2.4 aims to conserve native trees and vegetation. These policies would support local carbon sequestration through the preservation of open spaces.
Municipal Strategies & Actions	
Strategy M-1: Enhance resilience at public facilities.	**Consistent.** The proposed Project contains various policies related to the resilience of public facilities. Policy OS-8.3 ensures City facilities and operations use, clean, reliable, and resilient energy sources.

Table 3.8-7 City's CAP Consistency Analysis

CAP Adaptation Strategy	Consistency Analysis
Strategy M-2: Electrify municipal facilities and operations.	**Consistent.** The proposed Project contains various policies related to electrification. Policy OS-6.16 aims to replace City-owned gasoline- and diesel-powered equipment with zero-emission models. Policy OS-8.3 promotes energy systems that improve efficiency and maintain essential services during power disruptions. These policies would result in the electrification of municipal facilities and operations by prioritizing, and in some cases requiring, such electrification.
Strategy M-3: Electrify the City's vehicle fleet and encourage City employees to utilize alternative transportation and teleworking opportunities.	**Consistent.** The City was awarded a grant from the California Energy Commission's Charging Infrastructure for Government Fleets program, which supports public agencies in accelerating the adoption of zero-emission vehicle technologies. This grant will add 100 EV charging ports to five municipal facilities by January 2027 and help the City toward their goal of 100 percent zero-emission fleet by 2045. The proposed Project contains various policies related to the transition to low-emission vehicles. Policies MO-11.1 and OS-6.17 support the adoption of low-emission vehicles or alternative fuel systems with reduced emissions and are consistent with this strategy.
Strategy M-4: Conserve water in municipal landscaping and improve on-site stormwater management.	**Consistent.** The proposed Project contains various policies related to water conservation. Policy INF-4.4 aims to install green infrastructure, rain gardens, and other natural stormwater management infrastructure at City facilities, which would conserve water in municipal landscaping.
Strategy M-5: Purchase more sustainable products to reduce waste from City operations.	**Consistent.** The City Council has adopted an Environmentally Preferable Purchasing and Practices (EPP) policy that helps guide the City to purchase products that minimize environmental impacts and reduce waste. Additionally, LMC Chapter 2.68, *Contracts and Purchasing*, incorporates the EPP policy, requiring environmental considerations, such as recycled content and the use of products made from recovered organic waste. As described throughout this table, the proposed Project includes goals and policies that would support these requirements, and, therefore, would not conflict with or obstruct the City's EPP policy.
Strategy M-6: Utilize public lands to increase local carbon sequestration and reduce urban heat island effect.	**Consistent.** The proposed Project contains various policies related to carbon sequestration and urban heat island effects. Policies OS-1.1 through OS-1.10, OS-2.2, and OS-2.3 would preserve, restore, rewild, and enhance Livermore's open space and sensitive habitats. Policy OS-2.4 aims to conserve native trees and vegetation. Policies S-10.6 and S-10.9 support efforts to ensure public facilities, public events, and farming are resilient to high heat. These goals and policies would support local carbon sequestration and reduce urban heat island effects.

Source: City of Livermore 2022b.

CARB Scoping Plan

CARB's Scoping Plan is applicable to State agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require local jurisdictions to adopt its policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies from the Scoping Plan result in GHG emissions reductions at the local level. So local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down.

Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include implementing SB 100, which would achieve 100 percent clean electricity by 2045; LCFS; California Appliance Energy Efficiency regulations; California RPS; changes in the standards, and other early action measures as necessary to ensure the State is on target to achieve the GHG emissions-reduction goals of AB 32, SB 32, and AB 1279. Additional policies include the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, and Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation. The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate carbon dioxide removal projects and technology.

Table 3.8-6 shows a large decrease in GHG emissions from building energy sources based on implementation of SB 100, which accelerates the State's RPS program and requires power utility providers to supply 100 percent of in-State electricity sales sourced from eligible renewable and carbon-free generation sources. Because compliance with the RPS is evaluated on a three-year average, power utility providers, such as PG&E and Ava Energy, will be required to provide 100 percent renewable and carbon-free electricity by 2045.

Forecasted GHG emissions would be further reduced over time by the 2022 Scoping Plan measures, as described above, cleaner technology, and fleet turnover. Future development would be required to comply with statewide, regional, and local agencies to achieve the statewide GHG reduction goals.

The same proposed General Plan 2045 goals and policies identified under impact discussion (a) and in Table 3.8-7 would help reduce long-term GHG emissions and would result in an overall reduction in GHG emissions from existing conditions, making progress toward the statewide carbon neutrality target for 2045. Therefore, implementation of the proposed Project would not conflict with the CARB Scoping Plan.

Plan Bay Area

Plan Bay Area 2050 is the Bay Area's Regional Transportation Plan/Sustainable Community Strategy that identifies the sustainable vision for the Bay Area (ABAG and MTC 2021). In addition to significant transit and roadway performance investments to encourage focused growth, Plan Bay Area 2050 directs funding to neighborhood active transportation and complete streets projects, climate initiatives, lifeline transportation and access initiatives, safety programs, and PDA planning. As shown on Figure 3-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 3, *Environmental Analysis*, the EIR Study Area includes three PDAs.

As described previously, the proposed General Plan 2045 includes goals and policies that would support development on infill parcels in previously developed areas, including within PDAs. Given that future growth would be concentrated in areas currently served by public services and infrastructure, it would reduce infrastructure investment needed to serve future development, and it would reduce consumption of transportation energy resources. Thus, the proposed Project would not conflict with the overall goals of Plan Bay Area 2050 in concentrating new development in locations where there is existing infrastructure.

Summary

The proposed Project would be consistent with the applicable 2022 CAP Strategies, the 2020 Scoping Plan, and Plan Bay Area 2050. However, implementation of the proposed Project would not achieve the 2022 CAP per-capita efficiency target and therefore conflicts with the 2022 CAP. As described under impact discussion (a), implementation of the proposed Project would not achieve the 2022 CAP long-term per-capita efficiency target of zero $MTCO_2e$ per person per year. Therefore, impacts would be *potentially significant*.

Impact GHG-2: Implementation of the proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Implementation of CAP measures would increase energy efficiency, reduce water use, and offset electricity use through solar panels and would reduce GHG emissions to the extent feasible. However, given the growth in population and employment within the EIR Study Area, the reductions needed from existing land uses, the magnitude of emissions reductions needed to achieve the long-term efficiency threshold, and federal legal constraints on the implementation and effectiveness of State actions for emission reduction, it is uncertain whether consistency with the 2022 CAP and implementation of proposed Policy 7.1 would achieve the substantial reductions needed to achieve the long-term efficiency threshold. Because the proposed Project would conflict with the underlying goal of the 2022 CAP, this impact is **significant and unavoidable**.

3.8.5 Cumulative Impact Analysis

Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the following discussion considers the proposed Project's cumulative contribution to global impacts and to meet the State's carbon neutrality targets.

Would the project have a cumulative effect related to GHG emissions?

Significant and unavoidable. Because GHG emissions are cumulative in nature and not confined to a particular air basin, impacts described previously under impact discussions (a) and (b) are not project-specific impacts, but the proposed Project's contribution to this cumulative impact. As described previously, various proposed General Plan 2045 goals and policies would help minimize GHG emissions.

As described under impact discussion (a), the proposed Project would result in a 2 percent reduction in GHG emissions in year 2045; however, the proposed Project would exceed the long-term efficiency threshold of zero MT CO_2e per person per year in 2045. Therefore, the proposed Project would not achieve the long-term year 2045 reduction goal and State's carbon neutrality goal set by AB 1279.

As described under impact discussion (b), the proposed Project would not obstruct implementation of the City's 2022 CAP strategies, CARB's Scoping Plan, or Plan Bay Area 2050. However, the proposed Project would not achieve the City's 2022 underlying per-capita goal for year 2045. Accordingly, project-related GHG emissions and their cumulative contribution to global climate change would be *potentially significant*.

Impact GHG-3: Implementation of the proposed Project could result in a significant cumulative impact with respect to generation of greenhouse gas (GHG) emissions that may have a significant impact on the environment and conflict with an applicable plan adopted for the purpose of reducing GHG emissions.

Proposed General Plan 2045 Policy OS-7.1 would require the City to monitor the CAP to align GHG emissions targets in the city with the state's carbon neutrality goal set by AB 1279. This policy would also ensure that the City is tracking and monitoring GHG emissions. The proposed Project aligns with plans and regulations aimed at reducing their cumulative environmental impacts. However, given the projected growth in population and employment within the EIR Study Area, the reductions needed from existing land uses, and the magnitude of reductions required to achieve the State's long-term GHG targets, it cannot be determined with certainty that Policy OS-7.1 and related CAP measures would achieve the substantial reductions necessary to meet AB 1279 targets. Achieving these statewide targets relies, in part, on future technological advancements and statewide actions that are outside the City's authority and cannot be imposed as feasible mitigation at the General Plan program level. No additional

feasible mitigation measures are available that would reduce emissions to a level consistent with the long-term State targets until the 2022 CAP is updated pursuant to proposed Policy OS-7.1, and implementation of the proposed Project would contribute to cumulative GHG impacts; therefore, the proposed Project would have a **significant and unavoidable** cumulative impact with respect to GHG emissions.

3.8.6 References

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3.9 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential hazards and hazardous materials impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential hazardous impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to hazards and hazardous materials were received during the EIR scoping period.

3.9.1 Regulatory Framework

FEDERAL

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, delegating the responsibility for issuing permits, and monitoring and enforcing compliance to states and Native American tribes. USEPA programs promote handling hazardous waste safely, cleaning up contaminated land, and reducing waste volumes through such strategies as recycling. California falls under the jurisdiction of USEPA Region 9. Under the authority of the Resource Conservation and Recovery Act (RCRA) and in cooperation with State and tribal partners, the USEPA Region 9 Waste Management and Superfund Divisions manage programs for site environmental assessment and cleanup, hazardous and solid waste management, and underground storage tanks.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 gives the USEPA the authority to require reporting, record-keeping, testing requirements, and restrictions related to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint. Title IV of the TSCA directs the USEPA to regulate lead-based paint hazards.

TSCA Section 402 and Section 404 require those engaged in lead abatements, risk assessments, and inspections in homes or child-occupied facilities before 1978 (e.g., in daycare centers and kindergartens) to be trained and certified in specific practices to ensure accuracy and safety. TSCA Section 403 sets standards for dangerous lead levels in paint, household dust, and residential soil.

United States Department of Transportation

The United States Department of Transportation (USDOT) has the regulatory responsibility for the safe transportation of hazardous materials between states and internationally. The USDOT regulations govern all means of transportation, except for those packages shipped by mail, which are covered by United States Postal Service regulations. The federal RCRA of 1976 imposes additional standards for the transport of hazardous wastes.

Hazardous Materials Transportation Act

The USDOT also regulates hazardous materials transportation under Code of Federal Regulations (CFR) Title 49. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the agencies with the primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. The California State Fire Marshal's Office has oversight authority for hazardous materials liquid pipelines. The California Public Utilities Commission has oversight authority for natural gas pipelines. These agencies also govern permitting for hazardous materials transportation.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from materials manufacturers. The material safety data sheets describe the risks, as well as proper handling and procedures related to specific hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

Resource Conservation and Recovery Act

Federal hazardous waste laws are generally promulgated under the RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the "cradle to grave" regulation of hazardous waste. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The Department of Toxic Substance Control (DTSC) is responsible for implementing the RCRA program as well as California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Comprehensive Environmental Response, Compensation, and Liability Act

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites, required Superfund actions to consider the standards and requirements found in other State and federal environmental laws and regulations, provided new enforcement authorities and settlement tools, increased State involvement in every phase of the Superfund program, increased the focus on human health problems posed by hazardous waste sites, encouraged greater citizen participation in making decisions on how sites should be cleaned up, and increased the size of the trust fund to $8.5 billion.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted in October 1986. This law requires State and local governments to plan for chemical emergencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community. EPCRA Sections 301 through 312 are administered by USEPA's Office of Emergency Management. USEPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, SARA Title III is implemented through California Accidental Release Prevention (CalARP) program.

The Disaster Management Act

The Disaster Management Act (DMA) of 2000 shifts federal emphasis toward planning for disasters before they occur. The DMA requires State and local governments to develop hazard mitigation plans and update them every five years as a condition of federal disaster grant assistance. The DMA encourages cooperation among State and local authorities in pre-disaster planning through the preparation of local hazard mitigation plans (LHMPs). The DMA also promotes sustainability in hazard mitigation. To be sustainable, hazard mitigation needs to incorporate sound management of natural resources and address hazards and mitigation in the largest possible social and economic context.

Natural Gas and Pipeline Safety Act

The Natural Gas Pipeline Safety Act of 1968 authorizes the USDOT to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within the USDOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system. USDOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found in the CFR Title 49, Parts 190 through 192, Part 195, and Part 199.

Pipeline Safety Improvement Act

The Pipeline Safety Improvement Act of 2002 mandates that the USDOT, the Department of Energy, and the National Institute of Standards and Technology in the Department of Commerce carry out a program of research, development, demonstration, and standardization to ensure the integrity of pipeline facilities. The purpose of the Research and Design Program is to identify safety and integrity issues and develop methodologies and technologies to characterize, detect, and manage risks associated with natural gas and hazardous liquid pipelines.

Pipeline Inspection, Enforcement, and Protection Act

The Pipeline Inspection, Enforcement, and Protection Act of 2006 confirms the commitment to the Integrity Management Program and other programs enacted in the Pipeline Safety Improvement Act of 2002. The 2006 legislation includes provisions on the following:

- Preventing excavation damage to pipelines through the enhanced use and improved enforcement of State "One-Call" laws that preclude excavators from digging until they contact the State One-Call system to locate the underground pipelines
- Minimum standards for Integrity Management Programs for distribution pipelines (including installation of excess flow valves on single-family residential service lines based on feasibility and risk)
- Standards for managing gas and hazardous liquid pipelines to reduce risks associated with human factors (e.g., fatigue)
- Authority for the Secretary to waive safety standards in emergencies
- Authority for the Secretary to assist in restoration of disrupted pipeline operations
- Review and update incident reporting requirements
- Requirements for senior executive officers to certify operator integrity management performance reports
- Clarification of jurisdiction between states and PHMSA for short laterals that feed industrial and electric generator consumers from interstate natural gas pipelines

Pipeline Safety, Regulatory Certainty, and Job Creation Act

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 was designed to examine and improve the state of pipeline safety regulations. This act accomplishes the following:

- Reauthorizes PHMSA's federal pipeline safety programs through fiscal year 2015
- Provides the regulatory certainty necessary for pipeline owners and operators to plan infrastructure investments and create jobs
- Improves pipeline transportation by strengthening enforcement of current laws and improving existing laws where necessary
- Ensures a balanced regulatory approach to improving safety that applies cost-benefit principles
- Protects and preserves Congressional authority by ensuring certain key rulemakings are not finalized until Congress has an opportunity to act

STATE

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) is authorized by the USEPA to enforce and implement certain federal hazardous materials laws and regulations. The California DTSC, a department of the CalEPA, protects California and its residents from exposure to hazardous waste, primarily under the authority of the RCRA and the California Health and Safety Code (HSC). The DTSC requirements include the need for written programs and response plans such as hazardous materials management plans. The DTSC programs include dealing with aftermath clean-ups of improper hazardous waste management; evaluation of samples taken from sites; enforcement of regulations regarding use, storage, and disposal of hazardous materials; and encouragement of pollution prevention.

California Occupational Health and Safety Administration

Like OSHA at the federal level, the California Division of Occupational Safety and Health (CalOSHA) is the State-level agency responsible for ensuring workplace safety. CalOSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. If a work site is contaminated, a site safety plan must be crafted and implemented to protect the safety of workers. Site safety plans establish policies, practices, and procedures to prevent the exposure of workers and members of the public to hazardous materials originating from the contaminated site or building.

California Governor's Office of Emergency Services

The California Office of Emergency Services (Cal OES) was established as part of the Governor's Office on January 1, 2009. It was created pursuant to Assembly Bill 38, which merged the duties, powers, purposes, and responsibilities of the former Governor's Emergency Management Agency with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, man-made, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

California Department of Transportation

Caltrans has the responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. Caltrans manages more than 50,000 miles of California's highways and freeways, provides intercity rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on highways, freeways, and intercity rail lines. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the State.

California Highway Patrol

The CHP also has the responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. The CHP enforces hazardous materials and hazardous waste labeling and packing regulations designed to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to ensure regulatory compliance.

Common carriers are licensed by the CHP, pursuant to Section 32000 of the California Vehicle Code. This section requires licensing every motor (common) carrier who transports, for a fee, more than 500 pounds of hazardous materials at one time and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business in the delivery of hazardous materials.

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is in CCR Title 24, Part 2. The CBC is based on the International Building Code but has been modified for California conditions. It is updated every three years, most recently in July 2025 with an effective date of January 1, 2026. The CBC, as adopted by local cities or counties, may be further modified based on local conditions. Typical fire safety

requirements of the CBC include the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

California Fire Code

The California Fire Code (CFC) is in CCR Title 24, Part 9. It is also updated every three years, most recently in July 2025 with an effective date of January 1, 2026. The CFC is based on the International Fire Code but has been modified for California conditions. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

Hazardous Waste Control

HSC Division 20, Chapter 6.5, and CCR Title 22, Division 4.5, address and provide an effective process for hazardous waste management planning at the local level to ensure adequate handling, storing, transporting, treating, and disposing of hazardous materials.

Hazardous Materials Management Act

The Hazardous Materials Management Act (CCR Title 22) requires that businesses and public entities handling or storing certain amounts of hazardous materials prepare a hazardous materials business plan that includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program. Businesses that use, store, or handle 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas at standard temperature and pressure require a hazardous materials business plan. Plans must be prepared prior to facility operation and are reviewed/updated biennially (or within 30 days of a change).

California Health and Safety Code

HSC Chapter 6.95 and CCR Title 19, Section 2729 set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled above certain quantities.

California Accidental Release Prevention Program

The CalARP Program includes the Federal Accidental Release Prevention Program with certain additions specific to California and pursuant to HSC Article 2, Chapter 6.95. The purpose of this program is to prevent accidental release of regulated substances. Businesses using regulated substances exceeding a threshold quantity are evaluated under this program to determine the potential for and impacts of accidental releases. Depending on the potential hazards, business owners may be required to develop and submit a risk management plan.

Regulations for Hazardous Materials in Structures

Asbestos is regulated as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of federal OSHA. CalOSHA considers asbestos-containing materials (ACM) a hazardous substance when a bulk sample contains more than 0.1 percent asbestos by weight and requires a qualified contractor licensed to handle asbestos. Any activity that involves cutting, grinding, or drilling during building renovation or demolition or relocation of underground utilities could release friable asbestos fibers unless proper precautions are taken. Lead is regulated as a hazardous material, and inorganic lead is regulated as a toxic air contaminant. Lead-containing paints, according to CalOSHA, are defined as paints reported with any detectable levels of lead by paint chip analysis (CCR Title 8, Section 1532.1[d]). When disturbed for construction purposes, these surfaces are subject to CalOSHA exposure assessment requirements. Several regulations and guidelines pertain to abatement of and protection from exposure to ACM and lead-based paint, as follows:

- Asbestos
  - CCR Title 8, Subchapter 4, Section 1529
  - CFR Title 29, Section 1926, Subpart Z
  - CFR Title 40, Section 61, Subpart M
- Lead-based paint
  - CCR Title 8, Subchapter 4, Section 1532.1
  - CFR Title 29, Section 1926, Subpart D

These rules and regulations provide exposure limits, exposure monitoring, respiratory protection, and good working practice for workers exposed to lead and ACM. In California, ACM and lead-based paint abatement must be performed and monitored by contractors with appropriate certification from the California Department of Health Services. HSC Sections 17920.10 and 105255 require lead to be contained during demolition activities.

PCBs were commonly used in the small capacitor in fluorescent light ballasts through 1979. PCB regulations are included in CFR Title 40, Section 761, which requires the material to be incinerated. The entire lighting fixture does not need special handling and disposal as long as the ballast (electrical box) is not leaking. The nonleaking ballasts can be removed and recycled or disposed of properly.

Government Code Section 65962.5 (Cortese List)

California Government Code Section 65962.5 requires CalEPA to compile, maintain, and update specified lists of hazardous material release sites. CEQA requires the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a project and any alternatives are identified (PRC Section 21092.6). The required lists of hazardous material release sites are commonly referred to as the "Cortese List" named after the legislator who authored the legislation. Because the statute was enacted more than 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented, and in some cases, the information required in the Cortese List does not exist. Those requesting a copy of the Cortese Lists are now referred directly to the appropriate information resources contained on internet websites hosted by the boards or departments referenced in the statute, including DTSC's online EnviroStor database and the State Water Resources Control Board's (SWRCB) online GeoTracker database. These two databases include hazardous material release sites, along with other categories of sites or facilities specific to each agency's jurisdiction. Additionally, CalEPA provides the following Cortese List Data Resources (CalEPA 2025):

- List of Hazardous Waste and Substances sites from DTSC EnviroStor database
- List of Leaking Underground Storage Tank Sites from SWRCB's GeoTracker
- List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB
- List of hazardous waste facilities subject to corrective action pursuant to HSC Section 25187.5, identified by DTSC

REGIONAL

Tri-Valley Local Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The Tri-Valley LHMP was adopted in March 2024 for the purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events (City of Livermore 2024). The LHMP includes an assessment of hazards and vulnerabilities but does not include any mitigation actions related to hazardous materials for the EIR Study Area.

Alameda County Department of Environmental Health

The Alameda County Department of Environmental Health (ACDEH) is the Certified Unified Program Agency (CUPA) with jurisdiction in the EIR Study Area and coordinates and enforces numerous local, State, and federal hazardous materials management and environmental protection programs, including the following (ACDEH 2025):

- Hazardous Materials Business Plan
- Hazardous Waste Generator
- Underground Storage Tank
- Aboveground Petroleum Storage Act
- CalARP

Livermore Municipal Airport Land Use Compatibility Plan

The Livermore Municipal Airport Land Use Compatibility Plan (ALUCP) was adopted by the Alameda County Airport Land Use Commission (ALUC) in 2012 (Alameda County ALUC 2012). The creation of the ALUC and the preparation of the ALUCP are requirements of the California State Aeronautics Act (Public Utilities Code Section 21670 et seq.). Provisions for creation of ALUCs were first established under State law in 1967 and the fundamental purpose of ALUCs to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses has remained unchanged. The ALUCP evaluates all surrounding land within the airport influence area (AIA), defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP requires that any project, specific plan, general plan, zoning ordinance, or building regulation proposed in the AIA is reviewed by the ALUC to ensure consistency with the ALUCP.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse hazards and hazardous materials impacts. The LMC is organized by title, chapter, section, and in some cases, articles. Most provisions related to hazards and hazardous materials are in Title 11, *Airport*; Title 15, *Buildings and Construction*; and Title 16, *Environment*, as follows:

- **Chapter 11.04, *Airport Improvements and Revenue Financing*,** includes provisions for the financing and implementation of capital improvements to the Livermore Municipal Airport.
- **Chapter 11.08, *Airport Rules and Regulations*,** set policies to manage the Livermore Municipal Airport.
- **Chapter 15.02, *Building Code*,** adopts the International Building Code, as amended and set forth in the California Building Standards Code, CCR Title 24.
- **Chapter 15.06, *Fire Code*,** adopts the International Fire Code, as amended and set forth in CCR Title 24, Part 9.

- **Chapter 16.04, *Hazardous Materials Release and Response Plans*,** authorizes the City of Livermore (City) to implement HSC Division 20, Chapter 6.95 related to hazardous materials release plans and inventory. It relinquishes the County from that task for the City to do so; the Livermore Pleasanton Fire Department is the designated administering agency to implement this chapter of the HSC.
- **Chapter 16.06, *Underground Storage Tanks and Hazardous Waste*,** authorizes the City to assume enforcement responsibility related to the regulation of underground storage of hazardous materials. The Livermore Pleasanton Fire Department administers this program.

Livermore Development Code

The City regulates land use and design through the Livermore Development Code (LDC), an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds on community character. The LDC provides development standards similar to typical zoning ordinances such as heights, setbacks, and site regulations for all zones. LDC Chapter 6.02.040, *Hazardous Materials,* sets standards for use of hazardous materials including avoiding any substantial adverse impact on public facilities or services on the environment. This section also includes disclosure and notification standards for uses of hazardous materials.

Livermore Emergency Operations Plan

The Livermore Emergency Management Division is responsible for coordinating agency response to disasters or other large-scale emergencies. The Livermore Emergency Operations Plan (EOP) establishes policy direction for emergency planning, mitigation, response, and recovery activities in the county (City of Livermore 2018). The EOP addresses interagency coordination, procedures to maintain communications with regional and State emergency response teams, and methods to assess the extent of damage and management of volunteers, as well as identifies the location of Emergency Operations Centers. The EOP uses the Standardized Emergency Management System, as required by California Government Code Section 8607(a) for managing responses to multiagency and multi-jurisdictional emergencies in California, including those related to hazardous materials.

Livermore-Pleasanton Fire Department

Fire services are provided by the Livermore-Pleasanton Fire Department (LPFD). In 1996, the cities of Livermore and Pleasanton entered into a Joint-Powers Authority agreement, consolidating each City's fire department into the LPFD. The LPFD provides contract and automatic aid outside the cities of Livermore and Pleasanton within Alameda County and adjacent areas. The LPFD provides core services to approximately 89,000 Livermore residents over an area of 26 square miles. These services include all-risk emergency response such as fire, emergency medical services, automobile accidents, hazardous materials, and county and statewide mutual aid. Additionally, LPFD provides mandated emergency readiness training, fire

prevention plan checks and inspections, community education, and Community Emergency Response Team instruction and coordination. The LPFD also supports law enforcement to implement evacuation orders. LPFD has worked to adopt AC Alert and Genasys Protect (formally Zonehaven AWARE), a community emergency and evacuation interface tool, to facilitate successful emergency preparation and evacuation (LPFD 2025b).

The LPFD is organized into three branches: Administration, Fire Prevention, and Emergency Operations. The Fire Prevention branch focuses on risk reduction to the community through a performance-based approach and application of the codes and laws pertaining to fire, hazardous materials, and use of buildings and facilities. The Emergency Operation team prepares for, responds to, and provides all services related to emergency fire suppression; emergency medical service; traffic collisions; specialized rescue; and emergency hazardous materials response and property losses (i.e., water leaks, fallen trees, and downed wires). Additionally, Emergency Operations conducts fire safety inspections for businesses and conducts public education outreach.

LPFD has 128 full-time-equivalent employees and four half-time employees, is headquartered in Pleasanton at 3560 Nevada Street, and operates and maintains five fire stations in the EIR Study Area (LPFD 2025a). Additional details about fire protection services are provided in Section 3.15, *Public Services, Parks, and Recreation.*

3.9.2 Existing Conditions

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; schools; and households (e.g., cleaners, solvents, paints, and pesticides). Accidental releases of hazardous materials can occur from a variety of causes, including traffic accidents, shipping accidents, and industrial/warehouse incidents.

HAZARDOUS MATERIALS SITES

Hazardous materials sites are documented on the DTSC's online EnviroStor and the SWRCB's online GeoTracker databases. Each site is identified by name, address, site type, and status. There are two primary types of hazardous material sites: permitted sites and cleanup sites.

A site that is used to operate a business which must, by nature of the business, store, treat, or dispose of hazardous materials, must obtain a permit or a grant of authorization from the DTSC. Such sites in the State are regulated through a five-tiered permitting program that enforces regulatory requirements imposed upon each category of hazardous material site. The permit ensures that any business that handles hazardous materials does so in compliance with the

federal RCRA and the State-adopted regulations to ensure hazardous materials are not released into the environment.

In cases where the storage, treatment, or disposal of hazardous materials has resulted in those hazardous materials being released into the environment, extensive investigation and cleanup actions are required. The USEPA, DTSC, SWRCB, and any other applicable agency actively conduct investigations into hazardous material sites to monitor the potential release of hazardous materials into the environment. When a release is identified, these agencies direct and supervise cleanup activities to ensure the hazardous materials are satisfactorily removed from the site and no longer pose a danger to the public or the environment.

The listing of status types is the mechanism by which the DTSC and the SWRCB identify their involvement at each site, status of cleanup activities, and whether the cleanup is active or complete. Status types are also an important tool for jurisdictions to understand where there are sites actively undergoing cleanup of a hazardous material that may pose a hazard to the public or the environment. The following status types identify active and ongoing cleanup activities:

- **Active:** Identifies that an investigation and/or remediation is currently in progress and that DTSC is actively involved.
- **Certified O&M – Land Use Restriction Only:** Identifies sites where a remedy is implemented which results in hazardous substances remaining at the site at concentrations above those acceptable.
- **Inactive – Needs Evaluation:** Identifies non-active sites where DTSC has determined an evaluation is required.
- **Open:** Active site with the Regional Water Quality Control Board (RWQCB) and the property/owner may upload data/files to GeoTracker. Sites that are open may have multiple investigations. A site is closed when data can no longer be uploaded since investigation/cleanup is done, and there is no more regulatory oversight.
- **Open – Operating:** An active clean up that may still be operation with a permit.
- **Open – Eligible for Closure:** A request for closure has been requested, meaning the extent of contamination has been defined, source areas, exposure pathways have been identified, cleanup has occurred if needed, post cleanup confirmation sampling, and a closure report submitted.
- **Open – Site Assessment:** The extent of soil and groundwater contamination being defined.
- **Open – Assessment and Interim Remedial Action:** An interim remedial action is occurring at the site simultaneously with other activities such as site characterization, investigation, risk evaluation, or site conceptual model development.
- **Open – Inactive:** Means no regulatory oversight activities are being conducted.

- **Open – Remediation – Land Use Restrictions:** Identifies sites for which approved remedies have been selected and that the remedies have been started and includes remedies that are both passive and active.
- **Open – Verification Monitoring:** Refers to sites where the remediation phases are essentially complete, and a monitoring/sampling program is occurring to confirm successful completion of the cleanup activities.
- **Refer:** Identifies sites that DTSC referred to other agencies for investigation, which often includes the RWQCB or local jurisdictions.

A search of the online databases on February 4, 2026, identified approximately 150 hazardous materials sites in the EIR Study Area (DTSC 2025; SWRCB 2025). Of the approximately 150 sites, 30 are designated as active or open, and the remaining approximately 120 are designated as "closed" or "completed – case closed." The list and location of the open hazardous materials sites are shown in Table 3.9-1, *Hazardous Materials Sites in the EIR Study Area*.

Table 3.9-1 Hazardous Materials Sites in the EIR Study Area

Site Name	Address	Site Type	Oversight Agency	Cleanup Status
217 North N Street	217 North N Street	Clean Program Site	RWQCB	Open – Remediation
2617 South Vasco	2617 South Vasco	Cleanup Program Site	RWQCB	Open – Inactive
Cal Water LIV15 Facility	787 H Street	Clean Program Site	RWQCB	Open – Site Assessment
Chestnut Square	1651 and 1665 Chestnut Street	Clean Program Site	RWQCB	Open – Verification Monitoring
Chestnut Street (Livermore)	1625 and 1635 Chestnut Street	Clean Program Site	Livermore-Pleasanton	Open – Verification Monitoring
CFN Cardlock Facility*	533 Exchange Court	LUST Cleanup Site	RWQCB	Open – Site Assessment
GIG Facility Soil Cleanup	8467 Patterson Pass Road	Clean Program Site	ACDEH	Open – Verification Monitoring
Growth Brothers Chevrolet	57–59 South L Street	Clean Program Site	RWQCB	Open – Long-Term Management
Hexcel Corporation	10 Trevarno Road	State Response	RWQCB	Open
Industrial Ladder	115 North Mines Road	Cleanup Program Site	RWQCB	Open – Inactive
Intel Fab 3	250 North Mines Road	Clean Program Site	RWQCB	Open – Long-Term Management/ Land Use Restrictions

Table 3.9-1 Hazardous Materials Sites in the EIR Study Area

Site Name	Address	Site Type	Oversight Agency	Cleanup Status
J Cleaners	2093 Railroad Avenue	Clean Program Site	RWQCB	Open – Assessment and Interim Remedial Action
Lawrence Livermore National Lab	7000 East Avenue	Federal Superfund/HAZ WASTE – RCRA	DTSC	Active – Operating Permit
Livermore Arcade Site	First Street and South P Street	Clean Program Site	RWQCB	Open – Remediation
Livermore Municipal Airport (LVK)	680 Terminal Circle	Clean Program Site	RWQCB	Open – Site Assessment
Livermore-Pleasanton Fire Station No. 10	330 Airway Blvd	Clean Program Site	RWQCB	Open – Site Assessment
Livermore Senior Housing	East of Murrieta Boulevard	Voluntary Cleanup	DTSC	Open – Certified / Operation and Maintenance (Land Use Restrictions)
Old Train Depot	2009 to 2073 Railroad Ave	Clean Program Site	RWQCB	Open – Assessment and Interim Remedial Action
Pacific Avenue Cleaners	3018 Pacific Avenue	Clean Program Site	RWQCB	Open – Assessment and Interim Remedial Action
Paul's Sparkle Cleaners	1332 Railroad Avenue	Cleanup Program Site	RWQCB	Open – Inactive
Persiva/Metro Valley Cleaners	224 Rickenbacker Circle	Clean Program Site	RWQCB	Open – Assessment and Interim Remedial Action
Quality Cleaners	2048 First Street	Clean Program Site	RWQCB	Open – Assessment and Interim Remedial Action
NICA Metals	6491 Southfront Road	Cleanup Program Site	RWQCB	Open – Inactive
Salinas Reinforcing	355 South Vasco Road	Cleanup Program Site	RWQCB	Open – Site Assessment
Sandia National Laboratories	7011 East Avenue	HAZ WASTE – RCRA	DTSC	Active – Operating Permit
Sparklizing Cleaners	855 Rincon Avenue	Cleanup Program Site	RWQCB	Open – Inactive
TDW Construction	101 Greenville	Cleanup Program Site	RWQCB	Open – Inactive

Table 3.9-1 Hazardous Materials Sites in the EIR Study Area

Site Name	Address	Site Type	Oversight Agency	Cleanup Status
Uptown, Long-Term Management	217 North N Street	Clean Program Site	RWQCB	Open – Long-Term Management
Vasco 76 Gas and Food*	115 South Vasco Road	LUST Cleanup Site	RWQCB	Open – Site Assessment
Vasco Property LLC	355 South Vasco Road	Cleanup Program Site	RWQCB	Open – Site Assessment

Source: CalEPA 2025; DTSC 2025; SWRCB 2025.

Notes: ACDEH = Alameda County Department of Environmental Health; DTSC = Department of Toxic Substances; LUST = Leaking Underground Storage Tank; RCRA = Resources Conservation and Recovery Act; RWQCB = Regional Water Quality Control Board.

* Site is included on the Cortese List (California Government Code Section 65962.5).

Oil and Natural Gas Fields

The Livermore Oil Field is in the eastern portion of the EIR Study Area, east of Greenville Road and south of Interstate 580 (I-580), and the abandoned Hospital Nose Gas Field is located along the southern edge of the EIR Study Area between Wetmore Road and Arroyo Road. According to the California Geologic Energy Management Division website, there currently are no active oil wells within the Livermore Oil Field (CalGEM 2025).

The Livermore Oil Field is listed in Table 3.9-1 as "GIG Facility Soil Cleanup." The Local Oversight Program/Voluntary Remedial Action Program group within the ACDEH is responsible for regulatory oversight of site investigation and cleanup activities for the Livermore Oil Field. ACDEH has worked with E&B Natural Resources, the owners of the facility, to create a work plan to monitor the site. The Livermore Oil Field contained an oil storage tank that leaked. Soil contamination with petroleum hydrocarbon to approximately 15 feet below ground surface (bgs) was observed via soil sampling. The observed soil contamination compounds were not detected at concentrations above the reporting limit in soil samples collected below a depth of 15 feet bgs. E&B Natural Resources excavated approximately 1,340 cubic yards of impacted soil in November and December 2015. In 2016, E&B Natural Resources also installed three monitoring wells, and all analyzed groundwater samples were non-detect, indicating that the groundwater has not been impacted from the crude oil stock tank release. ACDEH concurs that the release from the stock tank does not pose a threat to water supply wells or groundwater resources in the area, and the site is undergoing closure (SWRCB 2025).

In addition, research indicates some oil wells are a major source of methane emissions. Though there has been no investigation for methane in shallow soil in this area, it is important to note this possible source of contamination from abandoned wells for future development.

Information on the Hospital Nose Gas Field is much more limited; the SWRCB determined that groundwater contamination from the field is unlikely to occur (City of Livermore 2022).

SCHOOLS

Because sensitive population groups include children, CEQA requires an evaluation of hazardous emissions or handling hazardous materials, substances, or waste within 0.25 mile (1,320 feet) of an existing or proposed private or public school. As discussed in detail in Section 3.15, *Public Services, Parks, and Recreation*, Livermore Valley Joint Unified School District, Las Positas College, and private education facilities are located throughout the EIR Study Area. There are currently no known proposals for new schools in the EIR Study Area.

AIRPORT HAZARDS

The 643-acre Livermore Municipal Airport is owned and operated by the City of Livermore. The Livermore Municipal Airport is classified as a General Aviation Reliever Airport, which means it serves private, business, and corporate tenants and customers. The Livermore Municipal Airport primarily serves the Tri-Valley region with a population of over 300,000 residents.

Land uses surrounding the Livermore Municipal Airport include Las Positas Golf Course to the west; commercial uses to the north; office, industrial, and residential uses to the east; and industrial uses to the south. As shown in Figure 3-9.1, *Livermore Municipal Airport Boundaries*, the Livermore Municipal Airport has an AIA that covers the northwestern portion of the EIR Study Area. Per the Livermore Municipal ALUCP, land uses that could conflict with airport operations include those with occupants that have reduced mobility or are unable to respond to emergency situations (Alameda County ALUC 2012). These land uses include children's schools, daycare centers, hospitals, nursing homes, and other uses in which most occupants are children, elderly, the ill or infirm, and/or handicapped. The land uses surrounding the Livermore Municipal Airport are generally consistent with airport operations (City of Livermore 2022).

EMERGENCY RESPONSE AND EVACUATION

As described in Section 3.9.1, *Regulatory Framework*, the EIR Study Area is in the planning area of the Livermore EOP and the Tri-Valley LHMP. There are several evacuation routes crossing the EIR Study Area. Evacuation routes are designated roadways that allow many people to quickly leave an area due to a potential or imminent disaster. These routes should have sufficient capacity to accommodate the needs of the community, be safely and easily accessible, and allow people to travel far enough away to be safe from emergency conditions.

The primary evacuation route in the EIR Study Area with capacity to transport the largest number of vehicles is I-580. Smaller potential routes include Holmes Street/Vallecitos Road, Concannon Boulevard, First Street, East Avenue, Vasco Road, Las Positas Road, Murrieta Boulevard, Railroad Avenue/Stanley Boulevard, Portola Avenue, East Airway Boulevard, and

Livermore Avenue/Tesla Road. During emergencies, the LPFD coordinates evacuation warnings and orders. Evacuations are also coordinated through the Alameda County AC Alerts and Genasys Protect.

As described in Section 3.18, *Wildfire*, several neighborhoods in the EIR Study Area have evacuation constraints. Figure 3.18-3, *Evacuation-Constrained Residential Areas*, shows identified evacuation-constrained residential areas throughout the EIR Study Area. Evacuation-constrained residential areas in the EIR Study Area are north of I-580 in the northeast portion of the EIR Study Area, scattered neighborhoods throughout the central portion of the EIR Study Area, and generally south of Stanley Boulevard, College Avenue, and East Avenue.

3.9.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to hazards and hazardous materials if it would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.

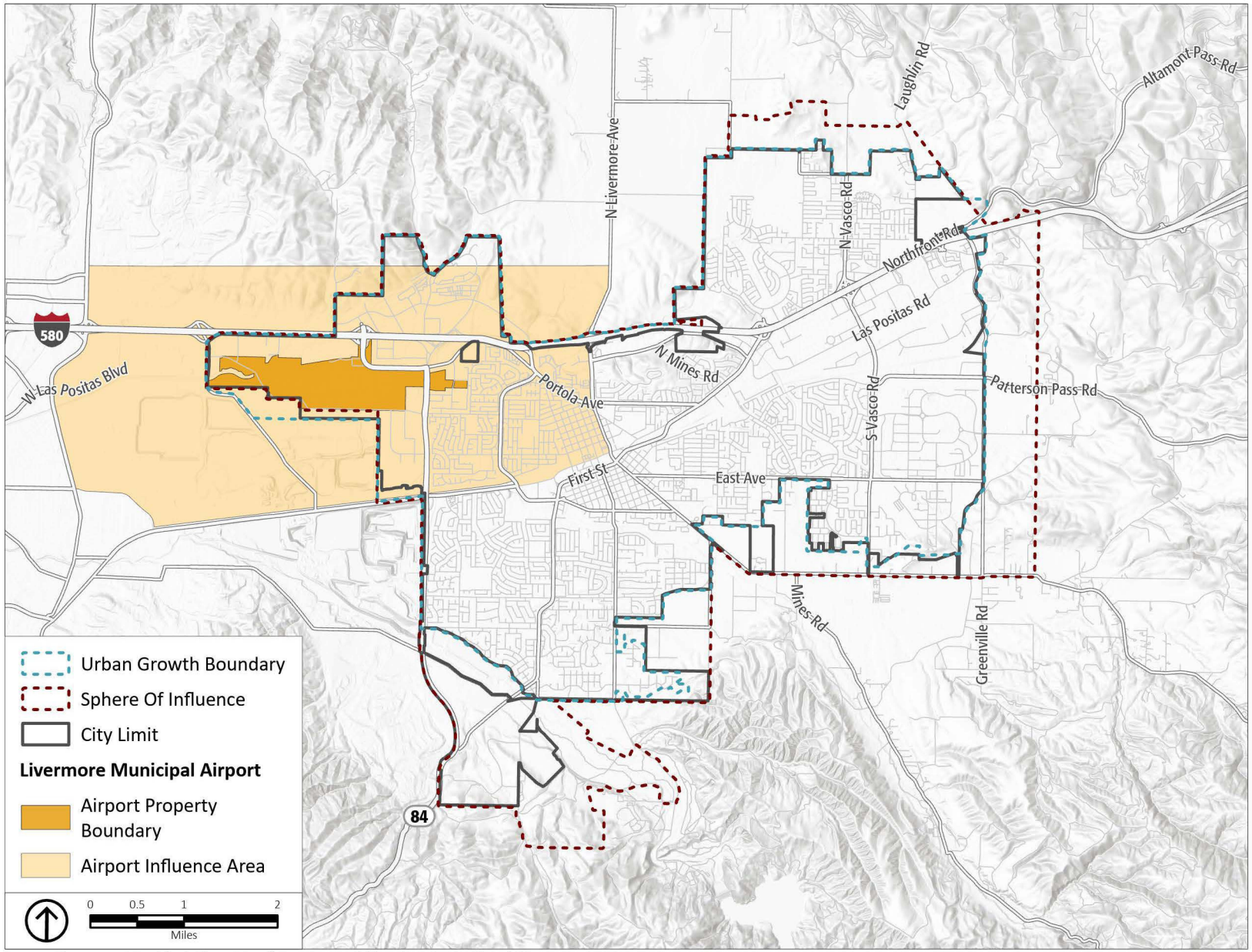
d) Be located on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

e) For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impacts related to wildland fires and wildfire evacuation are fully discussed in Section 3.18, *Wildfire*. Therefore, the following standard is not discussed in this section:

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.



Source: Livermore Municipal Airport Land Use Compatibility Plan, 2012; City of Livermore, 2022.

Figure 3.9-1
Livermore Municipal Airport Boundaries

3.9.4 Project Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant. Future residential land uses could use common cleaning products, building maintenance products, paints and solvents, fertilizers and pesticides used in landscaping and yard care, along with other similar items. In general, these potentially hazardous materials would not be of the type to occur in sufficient quantities to pose a significant hazard to public health and safety or to the environment.

Future commercial or industrial uses could use, store, or generate hazardous materials for research, manufacturing, cleaning, or other commercial uses. The proposed Project would include agricultural uses within the EIR Study Area that may also use or transport hazardous materials such as pesticides. These commercial, industrial, and agricultural activities are subject to a variety of federal, State, regional, and local regulations, as described in Section 3.9.1, *Regulatory Framework*. Any handling, transport, use, or disposal of hazardous materials would comply with applicable laws, policies, and programs set by various federal, State, and local agencies and regulations, including the EPA, RCRA, Caltrans, the LHMP, Title 22 and 26 of the California Code of Regulations governing hazardous materials transport. All hazardous materials to be transported must also be in compliance with USDOT regulations pertaining to the packaging, labeling, routing, and transporting of hazardous materials, spill response procedures, and trained transporters. Additionally, future development in the EIR Study Area would be subject to regulatory programs such as those overseen by DTSC, SWRCB, and ACDEH that regulate hazardous materials handling and management in accordance with applicable State and local regulations.

Nonresidential development that would require the use of hazardous materials regulated by federal, State, regional, and local agencies would issue permits for the use of the hazardous materials, which would be monitored and routinely updated by the responsible agency depending on the type of material. These agencies also require applicants for development of potentially contaminated properties to perform investigation and cleanup if the site is found to be contaminated with hazardous substances.

In addition to existing regulations, the Safety (S) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to ensure safe transport, use, and disposal of hazardous materials:

- **Goal S-2:** Integrate Hazard Risk, Vulnerability Information, and Climate Adaptation into Land Use Planning and Development Decisions.
  - **Policy S-2.1: Hazard Information and Risk Reduction for New Development**. Provide natural and human-made hazard information to project applicants and recommend ways to reduce risks and inform design, siting, or construction measures to reduce risks and protect public health, safety, property, and the environment.
- **Goal S-11.** Minimize Livermore residents' exposure to the harmful effects of hazardous materials and waste.
  - **Policy S-11.1: Residual Repositories**. Prohibit residual repositories in city limits. This includes facilities used for the long-term storage or disposal of residual waste materials such as industrial byproducts, contaminated soils, or treated sludge.
  - **Policy S-11.2: Hazardous Waste Management Facility Location.** Permit hazardous waste management facilities only in areas with a land use designation of High Intensity Industrial, and only if other siting criteria can be met and potential environmental impacts are mitigated as part of conditional approval.
  - **Policy S-11.3: Hazardous Materials Transport**. Promote the safe transport of hazardous materials in Livermore through implementation of the following measures:
    a. Maintain formally designated hazardous material carrier routes to direct hazardous materials away from populated and sensitive areas;
    b. Prohibit parking of vehicles transporting hazardous materials on city streets;
    c. Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the greatest extent possible.
  - **Policy S-11.4: Hazardous Material Transportation Coordination**. Work with other Tri-Valley jurisdictions to coordinate transportation of hazardous materials and hazardous materials release response across jurisdictional boundaries.
  - **Policy S-11.7: Hazardous Waste Reduction**. Continue to encourage the reduction of solid and hazardous waste generated in the city, in accordance with countywide plans.
  - **Policy S-11.9: Reuse and Recycling Post-Disaster**. Encourage reuse and/or recycling of debris following a disaster, in accordance with all applicable regulations.
  - **Policy S-11.10: Hazardous Material Processing and Siting**. Continue to implement processing procedures and local siting criteria to implement relevant and applicable provisions consistent with the hazardous materials and waste management plans for Alameda County.
  - **Policy S-11.11: Hazardous Waste Disposal**. Ensure convenient access for Livermore citizens for the disposal of household hazardous waste.

Specifically, proposed Policy S-11.3 requires measures that promote the safe transport of hazardous materials, and Policy S-11.4 requires coordination with nearby jurisdictions for the transportation of hazardous materials and hazardous materials release response across

jurisdictional boundaries. Proposed Policies S-11.7 and S-11.11 would promote the reduction of hazardous waste production and provide convenient access for disposal, which would reduce hazardous waste entering the waste stream. Proposed Policy 11.2 would ensure hazardous waste is only managed in areas with a land use designation of High Intensity Industrial, which would ensure it is managed in places where it would not expose residents or sensitive populations to hazardous waste. Policy S-11.10 would implement processing procedures and local siting criteria consistent with the Alameda County hazardous materials and waste management plans.

Future development that would introduce hazardous materials to a site, or that would generate or result in the transportation of hazardous waste, would be regulated pursuant to federal, State, regional, and local laws, including the proposed General Plan 2045 goals and policies. Compliance with these regulations would minimize the potential for a significant adverse effect on the environment due to the routine use, transport, and disposal of hazardous materials. Therefore, impacts would be **less than significant**.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant. As indicated in Table 3.9-1, there are hazardous material sites in the EIR Study Area that are contaminated and inactive, undergoing evaluation, and/or undergoing corrective action. Furthermore, the EIR Study Area consists of older structures built prior to the regulation of hazardous building materials (e.g., asbestos, lead paint).

Compliance with existing regulations (see "Regulations for Hazardous Materials in Structure" subheading in Section 3.9.2, *Existing Conditions*) would ensure that construction workers and the public are not exposed to risks related to hazardous materials during demolition and construction. Construction safety and exposure standards for lead and asbestos are set in Title 8 of the California Code of Regulations, which establishes Cal/OSHA requirements related to public and worker protection. Future projects would be required to comply with CalOSHA regulations concerning the use of hazardous materials, including requirements for safety training, exposure warnings, availability of safety equipment, and preparation of emergency action/prevention plans. All contaminated waste must be collected and disposed of at an appropriately licensed disposal or treatment facility. Compliance with regulations for hazardous materials in structures would ensure identification, disclosure, controlled handling, and licensed abatement in older structures to prevent exposure and release during demolition, renovation, and occupancy. Topics addressed include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. The local CUPA is responsible for ensuring that the California Code of Regulations and all other programs related to hazardous materials are implemented during construction activities.

Future development would be required to comply with the existing federal, State, and local regulations, including those pertaining to hazardous materials business plans, CalARP, and regulations for hazardous materials in structures, as detailed in Section 3.9.1, *Regulatory Framework.* A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a hazardous materials business plan to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. Businesses using regulated substances exceeding a threshold quantity are evaluated under CalARP to determine the potential for, and impacts of, accidental releases and may be required to develop and submit a risk management plan depending on potential hazards.

As described under impact discussion (a), commercial or industrial uses could also use, store, or generate hazardous materials for research, manufacturing, cleaning, or other commercial uses. Agricultural uses within the EIR Study Area may also use or transport hazardous materials such as pesticides. These commercial, industrial, and agricultural activities are subject to a variety of federal, State, regional, and local regulations, as described in Section 3.9.1, *Regulatory Framework*. All hazardous materials to be transported must remain in compliance with USDOT regulations pertaining to the packaging, labeling, routing, and transporting of hazardous materials, spill response procedures, and trained transporters. Future development in the EIR Study Area would be subject to regulatory programs such as those overseen by DTSC, SWRCB, and ACDEH that regulate hazardous materials handling and management in accordance with applicable State and local regulations. Nonresidential development that use of hazardous materials regulated by federal, State, regional, and local agencies would be required to obtain permits for the use of the hazardous materials, which would be monitored and routinely updated by the responsible agency depending on the type of material. These agencies also require applicants for development of potentially contaminated properties to perform investigation and cleanup if the site is found to be contaminated with hazardous substances. As described in Section 3.10, *Hydrology and Water Quality*, future development that disturbs one acre or more of soil, or that is part of a common plan of development that disturbs one acre or more of soil, must obtain permit coverage under the Construction General Permit by filing a Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) with the RWQCB prior to commencement of construction. The SWPPP must describe the site, facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion, maintenance responsibilities, and non-stormwater management controls. The best management practices in the SWPPP include measures to prevent spills and require on-site materials for cleanup.

Additionally, the proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goal and policies from the Safety (S) Element, are designed to avoid release of hazardous materials in the environment through reasonably foreseeable upset and accident conditions:

- **Goal S-11.** Minimize Livermore residents' exposure to the harmful effects of hazardous materials and waste.
  - **Policy S-11.5: Hazardous Waste Emergency Response Plan**. Require facilities subject to the City's hazardous materials regulations to submit an emergency response plan as part of any discretionary application. This includes businesses required to prepare a Hazardous Materials Business Plan under California Health and Safety Code Chapter 6.95 and Livermore Development Code 6.02.040, *Hazardous Materials*. The requirement applies to large generators of hazardous waste, defined as businesses that handle hazardous materials in reportable quantities of 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas.
  - **Policy S-11.6 Environmental Investigation.** When reviewing applications for new development in areas historically used for commercial or industrial uses, require environmental investigation, and remediation, as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users.
  - **Policy S-11.8: Hazardous Material Release Investigation**. Ensure that new development and redevelopment protect public health and safety through environmental investigations, such as a Phase I investigation pursuant to ASTM standards (E1527-05). Require recommendations from the investigation pursuant to State and Alameda County regulations, relating to potential hazardous material releases from prior uses and lead and asbestos present in building materials.

Specifically, proposed Policy S-11.5 would require facilities subject to the City's hazardous materials regulations to submit an emergency response plan. Proposed Policies S-11.6 and S-11.8 require investigations and remediation to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users, consistent with State and Alameda County regulations.

Compliance with the federal, State, regional, and local laws, as well as implementation of the proposed General Plan 2045 goals and policies, would ensure future development would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; therefore, impacts would be **less than significant**.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school?

Less than significant. There are public schools and private schools dispersed throughout the EIR Study Area. Accordingly, it is possible that future development could emit or handle hazardous materials, either through construction or operation of new development, within 0.25 mile of an existing or proposed school. As described in impact discussions (a) and (b), while some future development could be reasonably expected to handle hazardous materials or generate hazardous emissions, the storage, use, and handling of these materials would be subject to existing federal, State, and local regulations as described in Section 3.9.1, *Regulatory Framework.* Compliance with existing applicable local, State, and federal regulatory requirements related to the handling and storage of hazardous materials would minimize the potential release of hazardous materials associated with development.

In addition to protections afforded by State and local regulations, the same proposed General Plan 2045 goals and policies from the Safety (S) Element identified under impact discussions (a) and (b) would also serve to minimize impacts related to the emission and handling of hazardous materials near schools. Specifically, proposed Policies S-11.2 and S-11.10 would consider the siting of hazardous waste management facilities and implement processing procedure and local siting criteria consistent with the Alameda County hazardous materials and waste management plans. Proposed Policies S-11.6 and S-11.8 require investigations and remediation to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future users, such as a school, consistent with State and Alameda County regulations.

Compliance with existing applicable local, State, and federal regulatory requirements and proposed General Plan 2045 goals and policies would ensure potential impacts related to emitting hazardous emissions or handling hazardous or acutely hazardous materials proximate to a school would be **less than significant**.

d) Would the project be located on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

Less than significant. As discussed in Section 3.9.2, *Existing Conditions*, at the time of preparation of the Draft EIR, the EIR Study Area contains 30 hazardous materials sites that have not been fully remediated or had their cases closed, two of which are on the Cortese List compiled pursuant to Government Code Section 65962.5. The complete list and location of active cleanup sites in the EIR Study Area is shown in Table 3.9-1. The cleanup of a leaking

storage tank at the E&B Resources oil field site has been completed, and the site is in the process of undergoing closure with ACDEH.

For development projects on such a site, further site characterization and/or remediation work would be conducted in accordance with the regulations and policies of the agency assigned to the site (e.g., DTSC, RWQCB, and ACDEH). Site-specific Environmental Site Management Plans (ESMPs) for locations with known contamination would summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations. The ESMP would include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP would include the following:

- Provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation and dewatering activities, respectively
- Describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations
- Designate personnel responsible for implementation of the ESMP

For sites with potential residual contamination in soil or groundwater that are planned for redevelopment with an overlying occupied building, a soil vapor intrusion assessment would indicate the potential for significant vapor intrusion into an occupied building. Project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor barriers, passive venting, and/or active venting.

In addition, the same proposed General Plan 2045 goals and policies from the Safety (S) Element identified under impact discussions (a) and (b) would also serve to minimize impacts related to the development on hazardous materials sites. Specifically, proposed Policy S-11.6 requires investigations and remediation to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users.

Compliance, with applicable federal, State, and local laws and regulations regarding cleanup and reuse of a listed hazardous materials site, as well as proposed General Plan 2045 goals and policies, would ensure future development would not create a significant hazard to the public or the environment. Therefore, impacts would be **less than significant.**

e) For a project within 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 result in a safety hazard or excessive noise for people residing or working in the project area?

Less than significant. As shown in Figure 3.9-1, the Livermore Municipal AIA covers the northwestern portion of the EIR Study Area. All development projects within the AIA must be reviewed by the Alameda County ALUC to ensure consistency with the ACLUP. The ACLUP establishes height and use restrictions for structures within the parts of the EIR Study Area that extend into the AIA. As discussed in Section 3.11, *Land Use and Planning*, the proposed General Plan 2045 is consistent with the ALUCP and does not include development that would result in safety hazards.

In addition, the Safety (S) Element and Noise (N) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to avoid safety hazard or excessive noise within ALUCP boundaries:

- **Goal S-12:** Facilitate safe and efficient aircraft operations at the Livermore Municipal Airport.
  - **Policy S-12.1: Airport Safety Zones.** Define, maintain, and enforce airport safety zones consistent with adopted risk-based criteria to protect public safety and minimize potential hazards associated with airport operations in addition to Federal Aviation Administration, State, and local regulations.
  - **Policy S-12.2: Safety of Surrounding Development**. Prohibit noise-sensitive or safety-sensitive uses in airport influence areas, as defined in the Airport Land Use Compatibility Plan.
  - **Policy S-12.3: Airport Layout Plan.** Prepare, maintain, and periodically update the Airport Layout Plan to identify existing and planned facilities needed to support the safe and efficient operation of the Livermore Municipal Airport.
  - **Policy S-12.4: Traffic Patterns and Airspace Management.** Coordinate with the Federal Aviation Administration to establish and monitor aircraft traffic pattern altitudes, turning movements, and airspace limitations, including radar coverage constraints, to ensure safe and consistent flight operations.
  - **Policy S-12.5: Taxiing and Ground Operations.** Make pilots and airport users aware of established ground movement protocols, including holding short of runways at designated taxiways, obtaining landing clearance, storing aircraft with designated spaces, and avoiding obstruction of adjacent taxiways and operations areas.
  - **Policy S-12.6: Minimization of Navigational Hazards.** Coordinate with surrounding jurisdictions and developers to prevent or reduce potential navigational hazards, including electrical interference, glare, or other obstructions that may affect safe aircraft operation.

- **Goal N-1:** Minimize the exposure of community residents to excessive noise.
  - **Policy N-1.3: Airport Noise Contours.** Within the 2030 Airport Community Noise Equivalent Level Noise Contours illustrated in Figure N-4 (of the General Plan), apply the Noise Compatibility contained in Section 3.3.1 et seq. of the Livermore Airport Land Use Compatibility Plan, dated August 2012, in conjunction with citywide General Plan Noise Element policies. Evaluate potential noise impacts and recommend mitigation measures through discretionary review procedures such as environmental review, design review, and evaluation of use permits.
- **Goal N-4:** Adopt design standards and identify effective noise attenuation measures to prevent noise or reduce noise to acceptable levels.
  - **Policy N-4.5: Airport Voluntary Noise Abatement.** Encourage voluntary compliance with noise abatement procedures, including the avoidance of nighttime operations between 10 p.m. and 6 a.m., particularly by jet aircraft.

Specifically, proposed Policy S-12.1 would define, maintain, and enforce airport safety zones to minimize potential hazards associated with airport operations, and Policy S-12.2 would prohibit noise-sensitive or safety-sensitive uses in AIAs. Proposed Policy N-1.3 would require evaluation of potential noise impacts and recommend mitigation measures for development within the 2030 Airport Community Noise Equivalent Level Noise Contours, and Policy N-4.5 would encourage voluntary compliance with noise abatement procedures.

Compliance with the requirements of the Alameda County ALUC as well as the proposed General Plan 2045 goals and policies would ensure that future development would not result in a safety hazard or excessive noise for people residing or working in the project area. Therefore, impacts would be **less than significant**.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant. The proposed General Plan 2045 is the primary planning document for Livermore and is intended to ensure the safety of the residents and visitors of Livermore. The proposed Project has been prepared in coordination with the City's Emergency Manager, who is responsible for coordinating agency response to disasters or other large-scale emergencies and the LPFD. The LPFD provides all-risk emergency response such as fire, emergency medical services, automobile accidents, hazardous materials, and county and statewide mutual aid.

Additionally, the Safety (S) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to ensure adequate evacuation and emergency response:

- **Goal S-1:** Strengthen community preparedness, response, and resilience to hazards.
  - **Policy S-1.1: Integrated Emergency Planning and Coordination.** Regularly update, test, and incorporate the adopted *Tri-Valley Local Hazard Mitigation Plan* into this Safety Element by reference, as permitted by California Government Code Section 65302.6. Coordinate with regional partners and conduct periodic mock exercises to ensure effective emergency preparedness and response.
  - **Policy S-1.2: Emergency Communications and Alerts.** Expand and maintain reliable emergency communication systems that provide timely warnings and updates. Ensure communications are accessible to people in multiple languages and formats, and for people with access and functional needs. Participate in regional and State emergency alert systems as appropriate.
  - **Policy S-1.3: Evacuation Route Management.** Maintain and improve designated evacuation routes within the city, including roadway repairs and vegetation management. Coordinate with regional transportation agencies to ensure the safety and integrity of State-owned evacuation routes, such as Interstate 580 and State Route 84.
  - **Policy S-1.6: Community Emergency Response Team.** Continue to support and expand the Livermore-Pleasanton Community Emergency Response Team (CERT) to strengthen the City's volunteer emergency response capacity and community resilience.
  - **Policy S-1.7: Community Education and Preparedness.** Improve public safety through education, outreach, and training programs that engage residents, businesses, and community groups, especially those with access and functional needs. Activities may include emergency drills, first-aid training, hazard retrofits, and encouraging residents to maintain emergency supplies. Provide clear information on hazard risks and encourage participation in emergency alert systems.
- **Goal S-2:** Integrate hazard risk, vulnerability information, and climate adaptation into land use planning and development decisions.
  - **Policy S-2.4: Two Evacuation Routes.** Require that new major residential and nonresidential developments have access to at least two points of ingress and egress.

Specifically, proposed Policy S-1.1 would require coordination with regional partners to conduct periodic mock exercises to ensure effective emergency preparedness and response, and Policy S-1.2 would support reliable emergency communication systems that provide timely warnings and updates to facilitate efficient evacuation during an emergency. Proposed Policy S-1.3 and S-2.4 would ensure adequate evacuation routes are provided for new development and throughout the EIR Study Area. Proposed Actions S-A-1.2 through S-A-1.4 would further support these policies by working with other agencies to increase access to and participation in emergency response systems, conducting an evaluation study to identify evacuation routes and constraints, and coordinating with transit providers to develop evacuation plans for those with special access or functional needs.

Compliance with applicable federal, State, and local laws and regulations regarding emergency response or emergency evacuation, as described in Section 3.9.1, *Regulatory Framework*, and proposed General Plan 2045 goals and policies would ensure future development would not interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be **less than significant.**

3.9.5 Cumulative Impact Analysis

The geographic context for impacts resulting from hazards and hazardous materials tend to be site specific rather than cumulative in nature, because each project site has a different set of hazards considerations that would be subject to uniform site development and construction standards and unique standards depending on the outcome of a project-specific hazards materials investigation. The following discussion considers how buildout of the EIR Study Area and the region has the potential to result in a cumulative impact related to hazards and hazardous materials in the eastern Alameda County region.

Would the project have a cumulative effect related to hazards and hazardous materials?

Less than significant. As discussed previously, potential future development would not result in significant impacts from the increased use of hazardous materials. In addition, potential project-level impacts associated with the transport, use, or disposal and release of hazards and hazardous materials would be reduced through compliance with existing local, regional, State, and federal regulations as well as the proposed General Plan 2045 goals and policies. While impacts resulting from hazardous materials tend to be site specific rather that cumulative in nature, other future projects in the eastern Alameda County region would be required to comply with federal, State, and local laws and policies, including the Tri-Valley LHMP, and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts related to hazards and hazardous materials Environmental review of specific development proposals, as applicable, would serve to reduce potential impacts. Accordingly, the less-than-significant impacts within the EIR Study Area from the proposed Project would not contribute to a cumulative increase in hazards in the immediate vicinity of the EIR Study Area or throughout the region.

The proposed General Plan 2045 includes goals and policies that support emergency preparedness, evacuation planning, and coordination with local and regional emergency service providers. These efforts align with and build upon the Tri-Valley LHMP, which establishes regional strategies for emergency response coordination and evacuation planning across participating jurisdictions. Other jurisdictions in the region are responsible for maintaining and updating their own emergency response and evacuation plans consistent with the LHMP framework, and future development would be required to comply with these plans. As a result,

the proposed Project would not contribute to cumulative impacts related to emergency response or evacuation plans.

Similarly, the proposed Project would not contribute to cumulative airport safety or noise hazards. Only properties within designated airport influence areas are subject to airport land use compatibility requirements, and development within these areas must comply with the Alameda County ALUC. Other jurisdictions in the region are subject to the same regulatory framework. Because the proposed General Plan 2045 land use map does not designate land uses that would conflict with airport safety zones or introduce new hazards for aircraft operations, the proposed Project would not contribute to cumulative airport-related safety or noise impacts.

For these reasons, the proposed Project's incremental contribution to cumulative hazard-related impacts would be **less than significant**.

3.9.6 References

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3.10 HYDROLOGY AND WATER QUALITY

This section evaluates the potential hydrology and water quality impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential hydrology and water quality impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts. Groundwater supply and management is discussed in Section 3.17, *Utilities and Service Systems*.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022b). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to hydrology and water quality were received during the EIR scoping period.

3.10.1 Regulatory Framework

FEDERAL

Clean Water Act

The United States Environmental Protection Agency (USEPA) is the lead federal agency responsible for water quality management. The Clean Water Act of 1972 (CWA; 33 United States Code Sections 1251 to 1376) is the primary federal law that governs and authorizes water quality control activities by the USEPA, as well as the states. Various elements of the CWA, which address water quality, are discussed as follows.

Permits to dredge or fill waters of the United States are administered by the United States Army Corps of Engineers (USACE) under Section 404 of the CWA. “Waters of the United States” are defined as territorial seas and traditional navigable waters, perennial and intermittent tributaries to those waters, lakes and ponds and impoundments of jurisdictional waters, and wetlands adjacent to jurisdictional waters. The regulatory branch of the USACE is responsible for implementing and enforcing Section 404 of the CWA and issuing permits. Any activity that discharges fill material and/or requires excavation in waters of the United States must obtain a Section 404 permit. Before issuing the permit, the USACE requires that an analysis be conducted to demonstrate that a proposed project is the least environmentally damaging practicable alternative. Also, the USACE is required to comply with the National Environmental Policy Act before it may issue an individual Section 404 permit.

Under Section 401 of the CWA, every applicant for a Section 404 permit that may result in a discharge to a water body must first obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. Certifications are issued in conjunction with USACE Section 404 permits for dredge and fill discharges. In addition, an application for Individual Water Quality Certification and/or Waste Discharge Requirements must be submitted for any activity that would result in the placement of dredged or fill material in waters of the State that are not jurisdictional to the USACE, such as isolated wetlands, to ensure that the proposed activity complies with State water quality standards. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to its nine Regional Water Quality Control Boards (RWQCBs). The EIR Study Area lies in the jurisdiction of San Francisco Bay RWQCB (Region 2).

Under federal law, the USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the USEPA has delegated authority to the SWRCB and its RWQCBs to identify beneficial uses and adopt applicable water quality objectives.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as “impaired”. Once a water body has been designated as impaired, a total maximum daily load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants in the discharge; prohibitions on discharges not specifically

allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES Program, all facilities that discharge pollutants into waters of the United States are required to obtain a NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The EIR Study Area lies in the jurisdiction of San Francisco Bay RWQCB (Region 2) and is subject to the waste discharge requirements for the Municipal Regional Permit (Order No. R2-2022-0018, NPDES Permit No. CAS612008, issued in May 2022).

Under Section C.3 of the NPDES Permit, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is accomplished primarily through the implementation of low-impact development (LID) techniques. In addition, projects that create and/or replace one acre or more of impervious surfaces and are in a susceptible area must comply with the hydromodification requirements specified in the C.3.g provisions of the NPDES Permit. This requires that stormwater discharges shall not cause an increase in the erosion potential of the receiving stream as compared to pre-existing conditions. This typically requires flow duration control to ensure that post-project runoff does not exceed 10 percent of the pre-project flow rate for the 2-year up to the 10-year storm event. The EIR Study Area is in the hydromodification susceptibility zone.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

As required by the FEMA regulations, all development in the Special Flood Hazard Zone (as delineated on the FIRM) must be constructed so that the lowest floor is at or above the base flood elevation level. The term "development" is defined by FEMA as any human-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. Pursuant to these regulations, if development in these areas occurs, a hydrologic and hydraulic analysis must be performed prior to the start of development and

must demonstrate that the development does not cause any rise in base flood elevation levels, because no rise is permitted in regulatory floodways. Upon completion of any development that changes existing Special Flood Hazard Area boundaries, the National Flood Insurance Program directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision, as soon as practicable, but not later than six months after such data becomes available.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act provides the basic authority for the United States Fish and Wildlife Service (USFWS) to evaluate impacts to fish and wildlife from proposed water resource development projects. This act requires that all federal agencies consult with the USFWS, the National Marine Fisheries Service, and State wildlife agencies (i.e., the California Department of Fish and Wildlife [CDFW]) for activities that affect, control, or modify waters of any stream or bodies of water. Under this act, the USFWS has responsibility for reviewing and commenting on all water resources projects. For example, it would provide consultation to the USACE prior to issuance of a Section 404 permit.

If a project may result in the "incidental take" of a listed species, an incidental take permit is required. An incidental take permit allows a developer to proceed with an activity that is legal in all other respects but that results in the incidental taking of a listed species. A habitat conservation plan must also accompany an application for an incidental take permit. The purpose of a habitat conservation plan is to ensure that the effects of the permitted action or listed species are adequately minimized and mitigated.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. This act established the SWRCB and divided the State into nine regional basins, each under the jurisdiction of an RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. As stated previously, the EIR Study Area is in the jurisdiction of the San Francisco Bay RWQCB (Region 2).

The Porter-Cologne Act also authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services for drinking water regulations, the CDFW, and the Office of Environmental Health and Hazard Assessment.

Construction General Permit

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA.

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (CGP) (Order WQ 2022-0057-DWQ). Under the terms of the permit, applicants must file Permit Registration Documents (PRD) with the SWRCB before the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Stormwater Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP containing a site map that shows the construction site perimeter; existing and proposed buildings, lots, roadways, stormwater collection and discharge points; general topography both before and after construction and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a sampling program to ensure compliance with water quality standards, and on-site collection of samples and inspection of BMPs during a qualifying precipitation event.

Industrial General Permit

The Statewide General Permit for Stormwater Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ and amended by 2015-0122-DWQ (2018), implements the federally required stormwater regulations in California for stormwater associated with industrial activities that discharge to waters of the United States. This regulation covers facilities that are required by federal regulations or by the RWQCBs to obtain an NPDES permit. Dischargers are required to eliminate non-stormwater discharges, develop SWPPPs that include BMPs, conduct monitoring of stormwater runoff, and submit all compliance documents via the SWRCB's SMARTS program.

California Fish and Game Code

The CDFW protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Sections 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the CDFW, incorporating necessary mitigation, and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation.

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act includes the State of California's Model Water Efficient Landscape Ordinance (MWELO), which requires cities and counties to adopt landscape water conservation ordinances. The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and build resiliency for future droughts. State law requires all land use agencies, which includes cities and counties, to adopt a WELO that is at least as efficient as the MWELO prepared by the California Department of Water Resources (DWR). The 2015 revisions to the MWELO improve water conservation in the landscaping sector by promoting efficient landscapes in new developments and retrofitted landscapes. The revisions increase water efficiency by requiring more efficient irrigation systems, incentives for grey water usage, improvements in on-site stormwater capture, and limiting the portion of landscapes that can be covered in high-water-use plants and turf. New development projects that include landscape areas of 500 square feet or more are subject to the MWELO. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects ranged from 2,500 square feet to 5,000 square feet (DWR 2025). The size threshold for rehabilitated landscapes has not changed and remains at 2,500 square feet.

California Building Code: CALGreen

The California Building Standards Commission adopted the nation's first green building standards in July 2008, the California Green Building Standards Code, also known as CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California. The code establishes planning and design standards for sustainable site development, including source control measures and water efficiency and conservation measures that typically reduce water consumption by 20 percent.

CALGreen is updated every three years to allow for consideration and possible incorporation of new low flow plumbing fixtures and water efficient appliances. The mandatory provisions of CALGreen became effective January 1, 2011, and the latest version, the 2025 California Green Building Standards Code, became effective on January 1, 2026. The building efficiency standards are enforced through the local building permit process.

California Plumbing Code

The latest version of the California Plumbing Code was issued in 2025 and became effective on January 1, 2026. The California Plumbing Code is updated on a three-year cycle. It specifies technical standards for the design, materials, workmanship, and maintenance of plumbing systems. One of the purposes of the plumbing code is to prevent conflicting plumbing codes within local jurisdictions. Water fixtures, potable and non-potable water systems, and recycled water systems are among many topics covered in the code.

Sustainable Groundwater Management Act

The historic passage of the Sustainable Groundwater Management Act (SGMA) in 2014 outlined a statewide framework to help protect groundwater resources over the long term. SGMA consists of a three-bill legislative package, including Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319, and subsequent statewide regulations. The Governor's signing message states that "groundwater management in California is best accomplished locally." Under SGMA, in groundwater basins that are designated as medium and high priority, local public agencies and groundwater sustainability agencies (GSAs) must assess conditions in their local groundwater basins and then prepare groundwater sustainability plans (GSPs) or alternatives to GSPs to avoid undesirable results and mitigate overdraft in 20 years. DWR serves two roles to support local SGMA implementation, 1) regulatory oversight through the evaluation and assessment of GSPs and 2) providing ongoing assistance to locals through the development of BMPs and guidance, planning assistance, technical assistance, and financial assistance.

Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency) is the exclusive GSA for the Livermore Valley Groundwater Basin. Zone 7 Water Agency was designated as the GSA and has managed the basin for over 50 years. On June 27, 2024, DWR announced that it approved the update to Zone 7 Water Agency's groundwater management plan (Alternative GSP). DWR determined that Livermore Valley Groundwater basin continues to be managed sustainably to meet the requirements of SGMA (Zone 7 Water Agency 2025).

REGIONAL

San Francisco Bay Regional Water Quality Control Board Basin Plan

The EIR Study Area is in the jurisdiction of the San Francisco Bay RWQCB (Region 2). The San Francisco Bay RWQCB addresses regionwide water quality issues through the creation and triennial update of the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). The Basin Plan was adopted in 1995 and most recently amended on July 22, 2024. This Basin Plan designates beneficial uses of the State waters in Region 2; describes the water quality that must be maintained to support such uses; and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan (San Francisco Bay RWQCB

2025). The San Francisco Bay RWQCB also administers the Municipal Regional Permit for the municipalities in Alameda County, including the EIR Study Area. Additional information regarding this permit was outlined previously under the "National Pollutant Discharge Elimination System" subheading.

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program (ACCWP) provides technical assistance to member agencies and the public to ensure compliance with the federal CWA and also coordinates its activities with other programs, such as wastewater treatment, hazardous waste disposal, and water recycling (ACCWP 2025). The City of Livermore (City) is a co-permittee under the ACCWP with 17 other cities and local agencies. As a part of the program, the City implements an inspection program requiring local businesses to implement BMPs to minimize stormwater pollution (City of Livermore 2019).

The ACCWP monitors pollutants in surface waters (i.e., creeks, lakes, and San Francisco Bay) and implements an outreach and education program. The ACCWP C.3 Stormwater Technical Guidance Manual provides post-construction requirements and resources, including BMPs for stormwater pollution prevention, erosion control, low impact development (LID) treatment measures, and hydromodification requirements. Site design measures are required for small construction projects that create or replace between 2,500 and 5,000 square feet of impervious surface or individual single-family home projects that create and/or replace between 2,500 to less than 10,000 square feet of impervious area. Also, regulated projects that create or replace 5,000 square feet or more of impervious surface would be required to implement site design, source control, and stormwater treatment and runoff measures using specific numeric sizing criteria based on the volume and flow rate of stormwater that is generated. Additional resources are provided at ACCWP's website, including post-construction stormwater requirements, sizing calculations for drainage management areas, and general water quality information (ACCWP 2024).

Zone 7 Water Agency

Zone 7 Water Agency provides regional flood protection for 427 square miles of eastern Alameda County and currently owns and maintains approximately 37 miles of natural streams and flood control channels (City of Livermore 2019). Additionally, Zone 7 Water Agency is a wholesale water purveyor and is the designated GSA for the Livermore-Amador Valley Groundwater Basin. Zone 7 Water Agency collaborates with the DWR in their role to provide State Water Project water supplies to the region and to manage Lake Del Valle for water storage, flood control, and recreational uses.

Zone 7 Water Agency maintains approximately one-third of the creeks in the Livermore-Amador Valley. This includes portions of the Arroyo Las Positas, relocated Arroyo Las Positas, Altamont Creek, a portion of Arroyo Mocho, Arroyo Seco, and Collier Canyon Creek.

Tri-Valley Local Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The *Tri-Valley Local Hazard Mitigation Plan* (LHMP) was adopted in March 2024 for the purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events (City of Livermore 2024). The LHMP includes an assessment of hazards and vulnerabilities and a set of mitigation actions for the Tri-Valley area, including the EIR Study Area. In the context of an LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including flooding and dam failure.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to hydrology and water quality. The LMC is organized by title, chapter, section, and in some cases, articles. Most provisions related to hydrology and water quality are in Title 13, *Public Services*; and Title 16, *Environment*, as follows:

- **Chapter 13.25, *Water Efficient Landscape*,** enacted under the State Model Water Efficient Landscape Ordinance, is a "water efficient landscape ordinance" adopted to establish standards for designing, installing, and maintaining water efficient landscapes that avoid runoff and other water waste in landscape projects.
- **Chapter 13.26, *Water Conservation*,** establishes voluntary and mandatory water conservation measures, BMPs, and use penalties to encourage wise water use and to minimize the effect of shortages on the City's customers.
- **Chapter 13.44, *Storm Drainage Facilities*,** establishes stormwater drainage fees and credits and construction requirements for storm drainage facilities.
- **Chapter 13.45, *Stormwater Management and Control Program*,** is intended to protect and enhance the water quality of watercourses, water bodies and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act.
- **Chapter 13.46, *Stormwater System Enterprise Fund*,** provides funding for stormwater management and discharge control program.
- **Chapter 16.08, *Watercourses*,** prohibits obstructing watercourses or degrading water quality of water flowing through watercourses not within right-of-way under Zone 7 Water Agency and City of Livermore ownership.
- **Chapter 16.12, *Flood Control Regulations*,** includes regulations to minimize public and private losses due to flood conditions in specific areas.

Livermore Storm Drain Master Plan

The Storm Drain Master Plan (SDMP) includes priority rankings for future improvement projects to be implemented through the current Capital Improvement Program (CIP) (City of Livermore 2022a). The SDMP 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 in the City Limit.

Livermore Stream Maintenance Program

In 2015, the City developed a programmatic Stream Maintenance Program for routine creek and channel maintenance in coordination with the RWQCB, CDFW, USACE, and USFWS. The Stream Maintenance Program serves as a permitting framework for routine maintenance work in and around channels. It also defines BMPs to minimize the impacts of routine maintenance to listed species and sensitive habitat and to mitigate for these impacts (City of Livermore 2023).

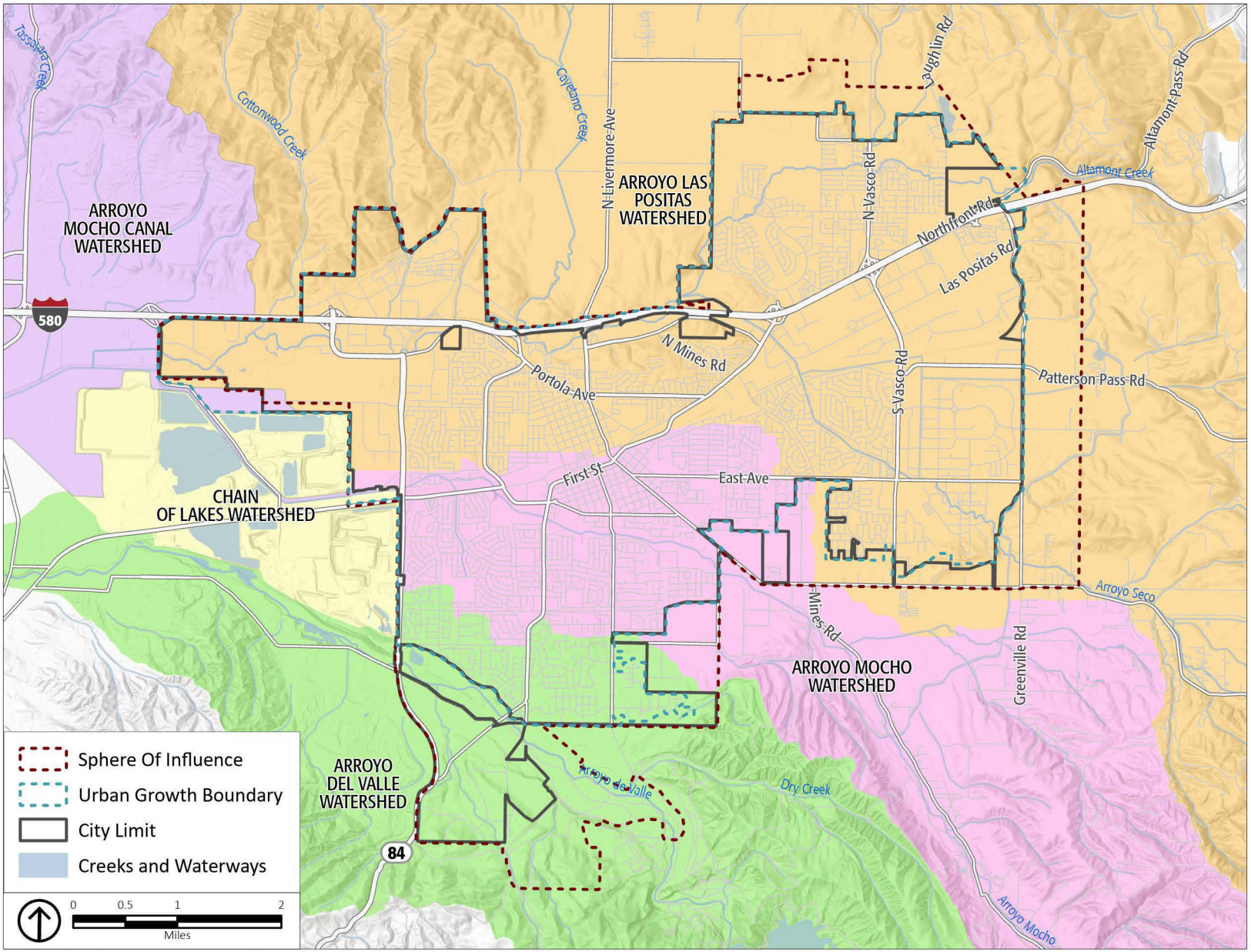
3.10.2 Existing Conditions

CLIMATE AND TOPOGRAPHY

Climate in the EIR Study Area is characterized as Mediterranean, with mild to cool winters and hot, dry summers. However, it is close to being characterized as a semi-arid climate due to its relatively low annual precipitation of 15 inches per year. Most of the rainfall occurs between November and April. The average maximum temperature of 89 degrees Fahrenheit (°F) occurs in August, and the average minimum temperature of 36°F occurs in January. The EIR Study Area is in the Livermore Valley in eastern Alameda County, which is bordered to the north, south, and east by rolling hills. The central portion of the EIR Study Area, including the downtown area, is relatively flat with elevations ranging from 350 feet above mean sea level (msl) in the west to about 600 feet above msl in the east. The upland areas of the EIR Study Area consist of moderate to steeply sloping hills with elevations ranging from approximately 500 feet to more than 1,200 feet above msl (City of Livermore 2022b).

REGIONAL HYDROLOGY

Approximately two-thirds of the East Bay is in the 660-square-mile Alameda Creek Watershed, which is broken into sections and subwatersheds. The EIR Study Area is in four subwatersheds of the Upper Alameda Creek Watershed: Arroyo Mocho Subwatershed, Arroyo Las Positas Subwatershed, Arroyo Del Valle Subwatershed, and Chains of Lakes Subwatershed, as depicted on Figure 3.10-1, *Regional Subwatersheds*. Overall, the EIR Study Area subwatersheds flow in a westerly direction to Arroyo de la Laguna, which drains to Alameda Creek near Sunol (City of Livermore 2022b). The four subwatersheds are described herein:



Source: Alameda County Flood Control & Water Conservation District, 2021; City of Livermore, 2022.

Figure 3.10-1
Regional Subwatersheds

- **Arroyo Mocho Subwatershed.** The Arroyo Mocho Subwatershed encompasses 54 square miles and drains a narrow-rugged canyon that extends approximately 20 miles southeast of the EIR Study Area, to its headwaters in northern Santa Clara County. The Arroyo Mocho flows northwest along Mines Road in the EIR Study Area, through Pleasanton, and eventually joins Alamo Canal to become Arroyo de la Laguna, which flows into Alameda Creek. Arroyo Mocho flows through the southern portion of the EIR Study Area. Much of Livermore's Downtown area drains into the Arroyo Mocho. The subwatershed includes Arroyo Mocho Creek, Tunnel Creek, and Mendenhall Springs.
- **Arroyo Las Positas Subwatershed.** Arroyo Las Positas encompasses 81 square miles and drains the Altamont pass and areas just north and east of the EIR Study Area. Arroyo Las Positas is a 7.4-mile-long westward-flowing watercourse that originates from the east of the EIR Study Area and empties into Arroyo Mocho in the EIR Study Area. It is mostly composed of intermittent creeks, with some perennial water, and sparse riparian cover. The subwatershed includes Altamont Creek, Arroyo Seco, Cayetano Creek, Collier Canyon Creek, Cottonwood Creek, and Frick Lake.
- **Arroyo Del Valle Subwatershed.** Arroyo Del Valle Subwatershed encompasses 168 square miles and begins in the rugged mountains of the Diablo Range and flows northwest toward Livermore Valley. Before reaching the valley, it is impounded to create Lake Del Valle. Arroyo Del Valle flows through the southwestern portion of the EIR Study Area, with peak flows controlled by releases from Lake Del Valle. The subwatershed includes Arroyo Del Valle, Dry Creek, Shafer Creek, Trout Creek, Sycamore Creek, Colorado Creek, Arroyo Bayo, San Antonio Creek, Jumpoff Creek, Sulphur Springs Creek, Sweetwater Creek, Beauregard Creek, and Lake Del Valle.
- **Chain of Lakes Subwatershed.** Chain of Lakes is a 4.6-square-mile subwatershed that is a series of former quarry lakes, including Cope Lake and Shadow Cliffs Lake. The lakes were created by excavating sands and gravels that make up the groundwater aquifers. After mining was complete, the former quarry pits fill with groundwater. Because they are connected to the groundwater aquifer, surface water added to the lakes drains into the ground, slowly filling the aquifers of the Livermore-Amador Valley groundwater basin.

LOCAL HYDROLOGY

Zone 7 Water Agency owns and maintains approximately one-third of the creeks and channels in the Livermore-Amador Valley, including portions of Arroyo Las Positas, relocated Arroyo Las Positas, Altamont Creek, a portion of Arroyo Mocho, Arroyo Seco, and Collier Creek. The City of Livermore owns approximately seven miles of channels and creeks and maintains approximately 13 miles channels and creeks in the City Limit. Of the City-maintained creeks, approximately one third are improved concrete-lined or engineered earth channels with little or no vegetation. The remaining City-maintained creeks are natural arroyos with shallow banks and dense vegetation or are incised, sparsely vegetated with steep banks.

The City's Water Resource Division operates and maintains the storm drain system in the City Limit. The storm drain system covers an area of approximately 26 square miles and contains over 207 miles of pipe and three pump stations. The storm drain piping is generally concrete, with some corrugated metal pipes. The average age of the storm drain pipelines is around 40 years compared to an estimated service life of 100 years. There are several ditches or open channels in the existing developed areas, such as the Granada Channel, which flow to Arroyo Mocho. The City also has an ongoing maintenance program for storm drainpipes and inlets, which includes catch basin cleaning, line repairs, and maintenance of the two pump stations. Improvements to the storm drain system listed in the SDMP are implemented through the City's CIP and include projects designed to upsize storm drains adjacent to streets in the City Limit and the installation of new pump stations to mitigate flooding at street intersections (City of Livermore 2022b).

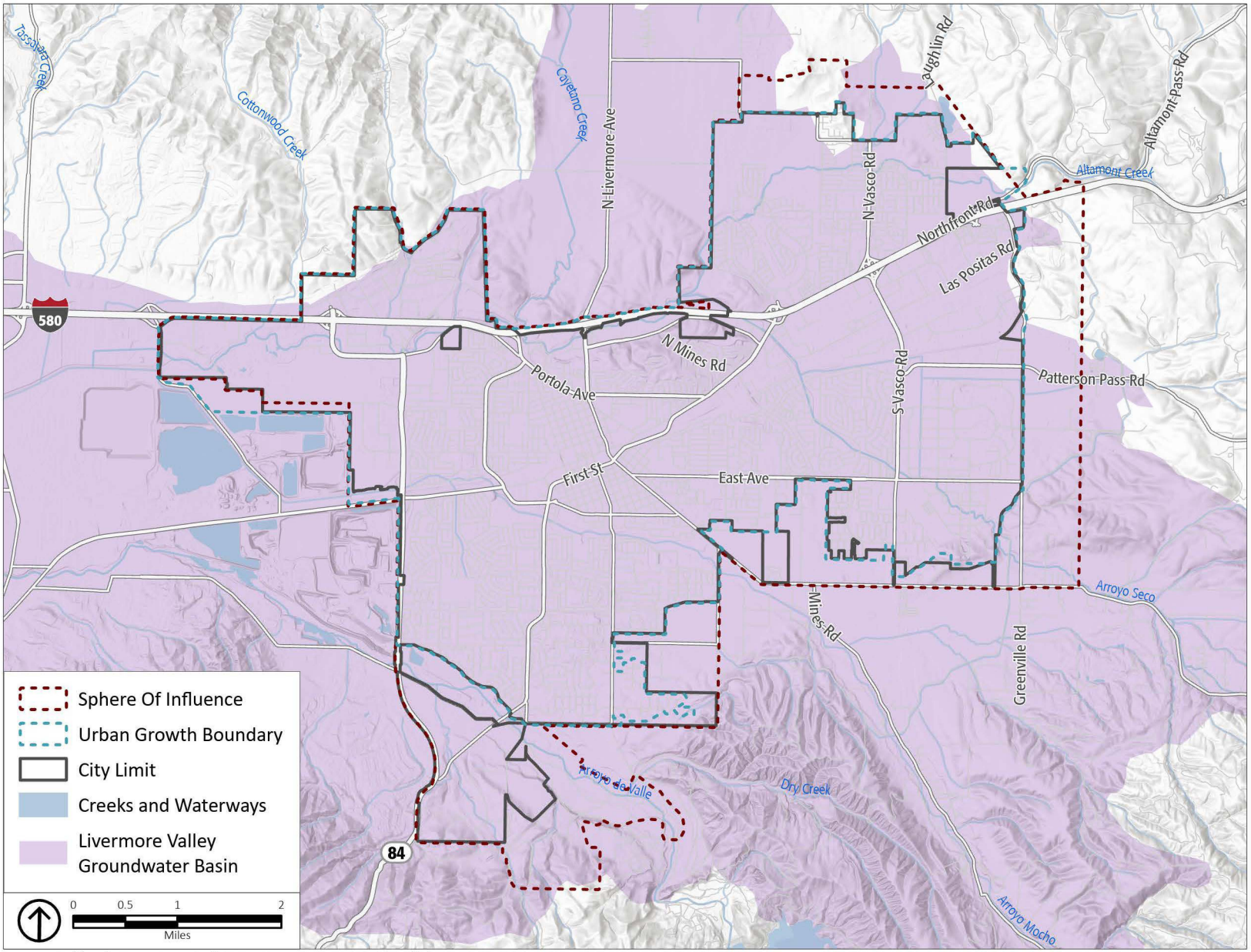
GROUNDWATER

The Livermore Valley Groundwater Basin is an important water supply source for Zone 7 Water Agency. The basin is shown on Figure 3.10-2, *Groundwater Basin*, and is replenished by natural and artificial recharge. Zone 7 Water Agency, the City of Pleasanton, and the California Water Service Company (Cal Water) own wells that extract groundwater to supplement their surface water supplies. Zone 7 Water Agency currently has seven production wells in Pleasanton and three wells near the Chain of Lakes. The peak total capacity of these production wells is approximately 42 million gallons per day, and the normal operating capacity of these wells is approximately 32 million gallons per day. Although the basin groundwater meets the State water quality standards, Zone 7 Water Agency operates the Mocho Groundwater Demineralization Plant to remove salts from the groundwater basin and improve delivered water quality.

Shallow groundwater is present beneath the EIR Study Area, ranging in depths from 4 feet to 60 feet below ground surface. Shallow groundwater depths vary with large rainfall events and periods of drought and are at the highest levels (i.e., closest to the ground surface) during the rainy season and decreasing during the drier months.

WATER QUALITY

Surface water quality is affected by point-source and nonpoint-source pollutants. Point-source pollutants are emitted at a specific point, such as a pipe, and nonpoint-source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point-source pollutants are controlled with pollutant discharge regulations or water discharge requirements. Nonpoint-source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.



Source: California Department of Water Resources, 2016; City of Livermore, 2022.

Figure 3.10-2
Groundwater Basin

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, the amount and frequency of rainfall, and irrigation practices. Runoff in developed areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the "first flush," when early rainfall flushes out pollutants that have accumulated on hardscape surfaces during the preceding dry months.

The San Francisco Bay RWQCB monitors surface water quality through implementation of the Basin Plan and designates beneficial uses for surface water bodies and groundwater in Alameda County and Livermore. The beneficial uses for surface water bodies and groundwater in the EIR Study Area are listed in Table 3.10-1, *Designated Beneficial Uses of Water Bodies*.

Table 3.10-1 Designated Beneficial Uses of Water Bodies

Waterbody	Designated Beneficial Uses
Surface Water	
Arroyo Del Valle	MUN, GWR, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2
Shadow Cliffs Reservoir	GWR, COMM, COLD, SPWN, WARM, WILD, REC-1, REC-2
Del Valle Reservoir	MUN, COMM, COLD, SPWN, WARM, WILD, REC-1, REC-2
Arroyo Mocho	GWR, COLD, MIGR, SPWN, WARM, WILD, REC-1, REC-2
Tassajara Creek	GWR, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2
Arroyo Las Positas	GWR, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2
Cottonwood Creek	RARE, WARM, WILD, REC-1, REC-2
Collier Canyon Creek	RARE, WARM, WILD, REC-1, REC-2
Cayetano Creek	RARE, WARM, WILD, REC-1, REC-2
Arroyo Seco	GWR, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2
Altamont Creek	GWR, COLD, RARE, WARM, WILD, REC-1, REC-2
Groundwater	
Livermore Valley	MUN, PROC, IND, AGR

Source: San Francisco Bay RWQCB 2025.

Notes: MUN = Municipal and Domestic Water Supply; GWR = Groundwater Recharge; COLD = Cold Freshwater Habitat; MIGR = Fish Migration; RARE = Preservation of Rare and Endangered Species; SPWN = Fish Spawning; WARM = Warm Freshwater Habitat; WILD = Wildlife Habitat; REC-1 = Water Contact Recreation; REC-2 = Noncontact Water Recreation; PRC = Industrial Process Water Supply; IND = Industrial Service Water Supply; AGR = Agricultural Supply.

In addition to the establishment of beneficial uses and water quality objectives, another approach to improve water quality is a watershed-based methodology that focuses on all potential pollution sources and not just those associated with point sources. If a body of water does not meet established water quality standards under traditional point-source controls, it is listed as an impaired water body under Section 303(d) of the CWA. For Section 303(d) listed water bodies, a limit is established that defines the maximum amount of pollutants that can be received by that water body. Impaired water bodies in the EIR Study Area and their associated pollutants of concern are presented as follows (SWRCB 2025):

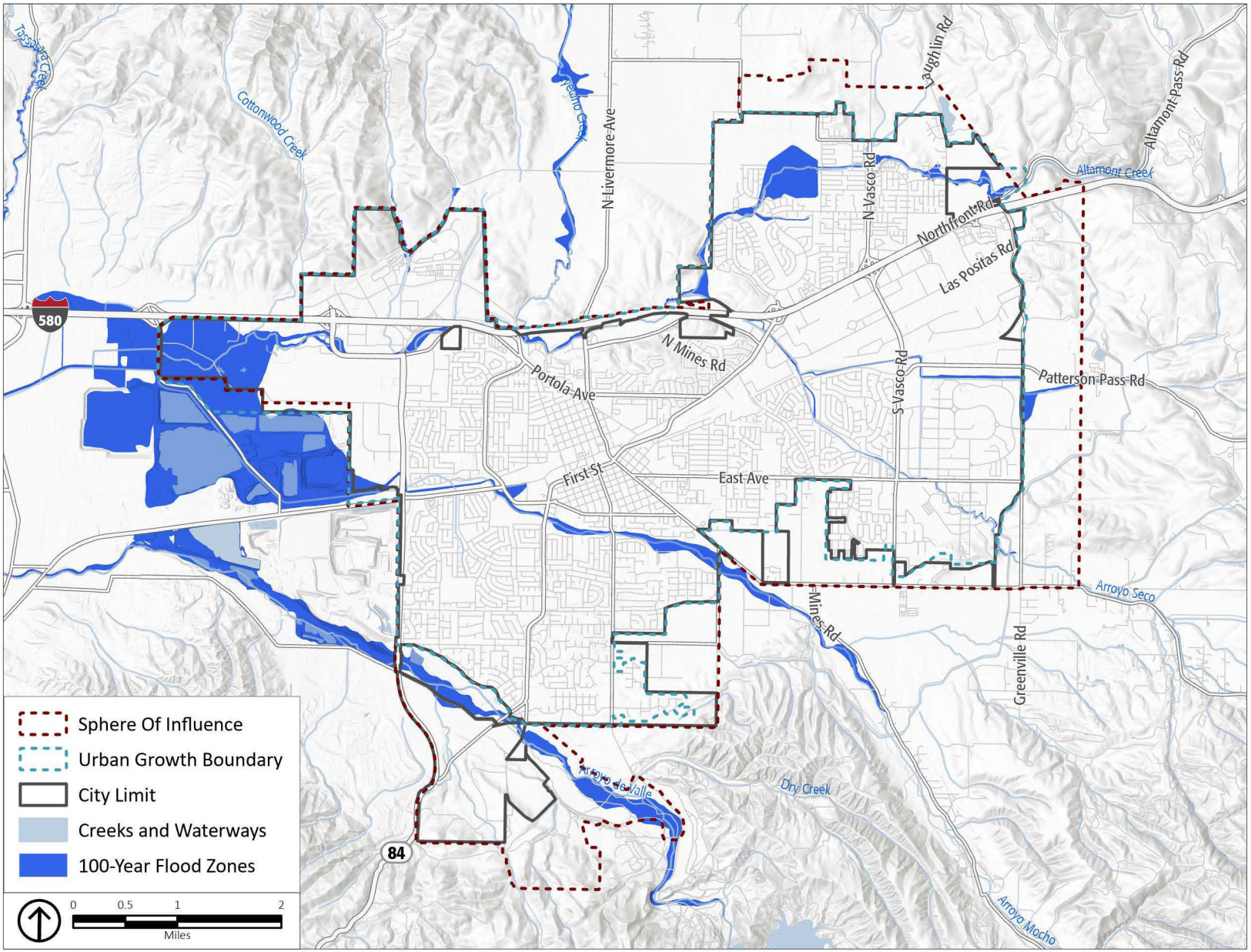
- Arroyo Del Valle: diazinon (pesticide)
- Arroyo Mocho: diazinon, pH, toxicity, eutrophication
- Arroyo Las Positas: diazinon, chloride, pH, ammonia, eutrophication

Once a water body has been placed on the Section 303(d) list of impaired waters, the State is required to develop a TMDL threshold to address each pollutant causing impairment. A TMDL defines how much of a pollutant a water body can tolerate and still meet water quality standards. A TMDL has been approved by the USEPA for diazinon in Arroyo Del Valle, Arroyo Mocho, and Arroyo Las Positas in 2007 (SWRCB 2026a, 2026b, 2026c). No other TMDLs have been approved for the other pollutants.

FLOOD ZONES

FEMA determines floodplain zones to assist mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction in a 100-year floodplain. The 100-year floodplain is defined as an area that has a 1 percent chance of being inundated during a 12-month period. FEMA also prepares maps for 500-year floods, which means that in any given year, the risk of flooding in the designated area is 0.2 percent. The portions of the EIR Study Area that are in the 100-year floodplain are shown on Figure 3.10-3, *Flood Zones*.

In some locations, FEMA also provides measurements of base flood elevations for the 100-year flood, which is the minimum height of the flood waters during a 100-year event. Base flood elevation is reported in feet above sea level. Depth of flooding is determined by subtracting the land's height above sea level from the base flood elevation. Areas in the 100-year flood hazard area that are financed by federally backed mortgages are subject to mandatory federal insurance requirements and building standards to reduce flood damage.



Source: Federal Emergency Management Agency, 2021; City of Livermore, 2022.

Figure 3.10-3
Flood Zones

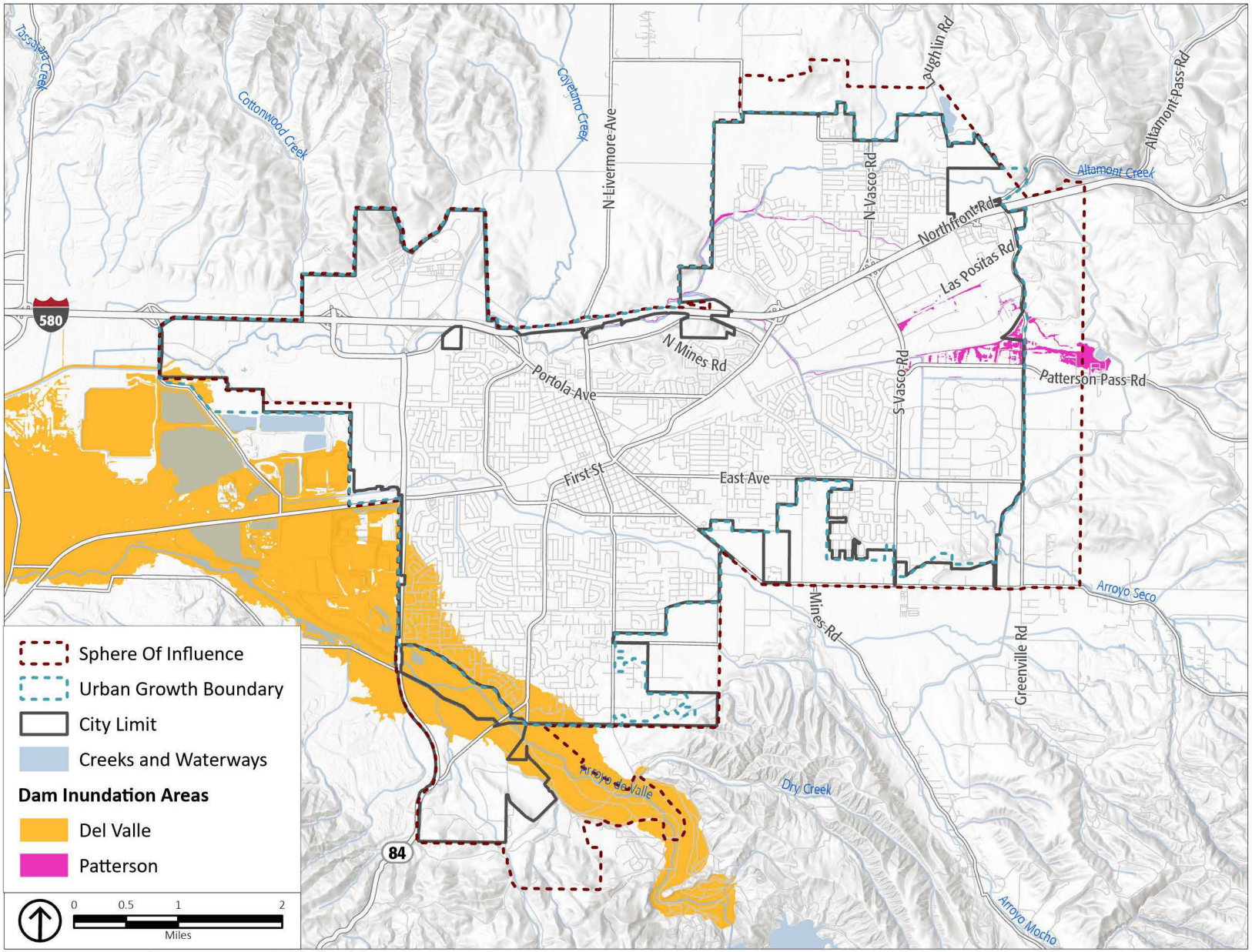
On the current digital FIRM for the EIR Study Area, large portions of the EIR Study Area are labeled Zone X (unshaded) – outside the 500-year floodplain, and only small portions are in the 100-year floodplain. According to the effective 2009 FEMA Flood Insurance Study for Alameda County, the principal flooding problems in the EIR Study Area occur during the winter (FEMA 2018). Storm runoff is concentrated rapidly by the network of tributaries that discharge through the hills into the major streams. The tributaries have carved well-defined courses through the hills, but upon reaching the flat Livermore Valley, the channels become shallow and inadequate at various stream reaches for containing the flow from infrequent but high-volume storms. Constriction of Arroyo Seco flows at the Western Pacific and Southern Pacific Railroad crossing of the creek forces lower-frequency flood flows to spread out from these points. Another constricting hydraulic factor is a length of the channel along Arroyo Las Positas downstream from Airway Boulevard. Rapid runoff rates, inadequate channels, and constricting structures combined with the development in some floodplain areas, make the EIR Study Area susceptible to damage when large rainstorms occur (City of Livermore 2022b).

DAM INUNDATION ZONES

Some areas of the EIR Study Area are in the dam inundation zones for Del Valle Dam and Patterson Dam. The dam inundation zones are shown on Figure 3.10-4, *Dam Inundation Areas*. Patterson Dam is east of Greenville Road and north of Patterson Pass Road. The Del Valle Dam is approximately 2.5 miles south of the EIR Study Area. Both dams are owned and operated by DWR and used for water storage. The dams are regulated by DWR's Division of Safety of Dams (DSOD). Del Valle Dam is classified as an extremely high hazard dam due to the DSOD Downstream Hazard Classification guidelines (DWR 2021). Patterson Dam is classified as a high hazard dam, which is expected to cause loss of at least one human life. There are no State or local restrictions for development in dam inundation zones. However, each dam owner is required to prepare an Emergency Action Plan (EAP) and coordinate its response to a dam break with local authorities. The EAP is required to include warning and notification procedures that typically involve the Standard Emergency Management System, the Alameda County Sheriff's Office, county, and Livermore's Emergency Operations Center (City of Livermore 2022b).

TSUNAMI AND SEICHES

A tsunami is a series of traveling ocean waves generated by a rare, catastrophic event, including earthquakes, submarine landslides, and submarine or shoreline volcanic eruptions. Tsunamis can travel over the ocean surface at speeds of 400 to 500 miles per hour or more, and wave heights at the shore can range from inches to 50 feet. Factors influencing the size and speed of a tsunami include the source and magnitude of the triggering event, as well as off-shore and on-shore topography. The EIR Study Area is approximately 18 miles from San Francisco Bay and is not susceptible to inundation by tsunamis or other coastal hazards such as sea level rise.



Source: Department of Water Resources, 2021; City of Livermore, 2022.

Figure 3.10-4
Dam Inundation Areas

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water such as bays, harbors, reservoirs, ponds, and swimming pools can experience seiche waves up to several feet in height during a strong earthquake. There are no large bodies of water in the EIR Study Area that could trigger a seiche. Seismic activity at either Patterson Reservoir or Del Valle Reservoir could result in a wave that overtops the dams without causing dam failure. However, it is unlikely that flooding resulting from a seiche at either dam would reach the EIR Study Area (City of Livermore 2022b).

3.10.3 Standards for Analysis

Significance Criteria

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to hydrology if it would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) 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:
   i) Result in a substantial erosion or siltation on- or off-site.
   ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
   iii) 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.
   iv) Impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.4 Project Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than significant. Future activities would be required to comply with the SWRCB CGP (Order WQ-2022-0057-DWQ). The SWRCB mandates that projects that disturb one or more acres of land must obtain coverage under the CGP. The CGP also requires that prior to the start of construction activities, the project applicant must file PRDs with the SWRCB, which includes notice of intent, risk assessment, site map, annual fee, signed certification statement, and SWPPP. A SWPPP requires the incorporation of BMPs to control sediment, erosion, and hazardous materials contamination of runoff during construction and prevent contaminants from reaching receiving water bodies. The construction contractor is always required to maintain a copy of the SWPPP at the site and implement all construction BMPs identified in the SWPPP during construction activities. Prior to the issuance of a grading permit, the project applicant is required to provide proof of filing of the PRDs with the SWRCB, which includes preparation of a SWPPP. Categories of potential BMPs that would be implemented are described in Table 3.10-2, *Construction Best Management Practices to Prevent Erosion*.

Table 3.10-2 Construction Best Management Practices to Prevent Erosion

Category	Purpose	Examples
Erosion Controls and Wind Controls	▪ Use project scheduling and planning to reduce soil or vegetation disturbance (particularly during the rainy season) ▪ Prevent or reduce erosion potential by diverting or controlling drainage ▪ Prepare and stabilize disturbed soil areas	Scheduling, preservation of existing vegetation, hydraulic mulch, hydroseeding, soil binders, straw mulch, geotextile and mats, wood mulching, earth dikes and drainage swales, velocity dissipation devices, slope drains, streambank stabilization, compost blankets, soil preparation/roughening, and non-vegetative stabilization
Sediment Controls	▪ Filter out soil particles that have been detached and transported in water	Silt fence, sediment basin, sediment trap, check dam, fiber rolls, gravel bag berm, street sweeping and vacuuming, sandbag barrier, straw bale barrier, storm drain inlet protection, manufactured linear sediment controls, compost socks and berms, and biofilter bags

Table 3.10-2 Construction Best Management Practices to Prevent Erosion

Category	Purpose	Examples
Wind Erosion Controls	▪ Apply water or other dust palliatives to prevent or minimize dust nuisance	Dust control soil binders, chemical dust suppressants, covering stockpiles, permanent vegetation, mulching, watering, temporary gravel construction, synthetic covers, and minimization of disturbed area
Tracking Controls	▪ Minimize the tracking of soil off site by vehicles	Stabilized construction roadways and construction entrances/exits, and entrance/outlet tire wash
Non-Stormwater Management Controls	▪ Prohibit discharge of materials other than stormwater such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment ▪ Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges	Water conservation practices, temporary stream crossings, clear water diversions, illicit connection/discharge, potable and irrigation water management, and the proper management of the following operations: paving and grinding, dewatering, vehicle and equipment cleaning, fueling and maintenance, pile driving, concrete curing, concrete finishing, demolition adjacent to water, material over water, and temporary batch plants
Waste Management and Controls (i.e., good housekeeping practices)	▪ Manage materials and wastes to avoid contamination of stormwater	Stockpile management, spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste management, liquid waste management, and management of material delivery storage and use

Source: Compiled by PlaceWorks from information provided in the California Stormwater Quality Association's Construction Best Management Practices Handbook.

Submittal of the PRDs and implementation of the SWPPP throughout the construction phase of development would reduce pollutants of concern from construction activities from entering waterbodies.

The ACCWP C.3 Stormwater Technical Guidance Manual provides guidance to applicants for new development and redevelopment projects to ensure compliance with stormwater management regulations established by the State of California and the San Francisco Bay RWQCB and includes post-construction requirements and resources, including BMPs for stormwater pollution prevention, erosion control, LID treatment measures, and hydromodification requirements. Future projects would be subject to the City's inspection program, as part of ACCWP, to ensure local businesses implement BMPs to minimize stormwater pollution. BMPs consist of simple, cost-effective operational and maintenance measures designed to reduce pollutants such as litter, grease, oil, and sediment from entering the storm drain system (City of Livermore 2025). All businesses can adopt routine practices to minimize runoff contamination, while certain industries require tailored approaches. Automotive and industrial facilities must properly handle waste and may be subject to the State's Industrial General Permit. Mobile businesses, such as car detailers and carpet cleaners, must ensure that wash water is properly contained and not discharged into storm drains, and schools can help protect water quality by implementing BMPs for cleaning, landscaping, and construction activities and by avoiding car wash fundraisers that allow dirty wash water to enter storm drains. In addition, CALGreen requires source controls for outdoor material storage areas, outdoor trash storage/waste handling areas, outdoor loading/unloading dock areas, and building materials areas to improve water quality. Source controls would also include storm drain messages and signage and beneficial landscape irrigation practices. Collectively, these practices help reduce pollutants that flow into waterbodies.

Future projects would also be required to comply with the provisions of LMC Chapter 13.45, which prohibits pollutants from entering storm drains, regulates activities that can cause pollution, and requires adherence to State and federal regulations. Key aspects include prohibitions on dumping refuse; a requirement for construction sites to have a SWPPP; and an emphasis on pollution prevention through source control, site design, and public education. The program is part of California's broader efforts to comply with federal and State mandates to protect water quality through the NPDES. Compliance with NPDES and MS4 permits for future development, as well as successful implementation of site-specific SWPPP features, would reduce the potential for pollution from incidental spills of vehicle oils and other chemicals that can be conveyed by storm and landscape irrigation flows during operation. LMC Section 13.45.090, *Construction*, states that any construction contractor performing work in the city shall provide filter materials at the catch basin to retain any debris and dirt flowing into the City's storm sewer system. The City Engineer and/or Water Resources Manager may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants.

Furthermore, the Infrastructure (INF) Element, Open Space and Conservation (OS) Element, and Implementation Plan of the proposed General Plan 2045 contain the following goals and policies that are designed to protect water quality:

- **Goal INF-4:** Collect and convey stormwater in ways that are safe, sanitary, environmentally acceptable, and financially sustainable.
  - **Policy INF-4.2: Storm Drainage Studies.** Require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems. Projects must include plans for detention and drainage facilities to prevent increased flood risk.
  - **Policy INF-4.3: Impervious Surfaces.** Minimize impervious surfaces in new development and integrate green infrastructure to assist in stormwater management.
  - **Policy INF-4.4: Green Stormwater Infrastructure on City Property.** Install green infrastructure and other natural stormwater management infrastructure on City property and at City facilities, as appropriate.
- **Goal OS-3:** Protect Livermore's groundwater resources, waterways, tributaries, and associated riparian habitats.
  - **Policy OS-3.1: Water Quality.** Maintain and improve the quality and quantity of Livermore's surface water, groundwater, and groundwater recharge areas.
  - **Policy OS-3.2: Waterway Maintenance and Improvement.** Maintain and enhance Livermore's creeks, arroyos, and wetlands in as natural a state as possible to reduce erosion, improve water quality, preserve habitat, and increase resilience to climate change. Coordinate with Zone 7 Water Agency and other partners to implement nature-based solutions that support flood protection and stormwater management, ecological function, and public safety.
  - **Policy OS-3.3: Runoff Regulation.** Regulate runoff from urban uses to protect the quality of surface water and groundwater.
  - **Policy OS-3.4: Groundwater Management and Protection.** Continue to work with the Zone 7 Water Agency and other regional partners to support the sustainable management, protection, and recharge of the Livermore Valley Groundwater Basin, addressing aquifer nutrient loading, monitoring groundwater quality, and contributing to the implementation of regional groundwater management.

Specifically, proposed Policies INF-4.3 and INF-4.4 encourage minimizing impervious surfaces and installation of green stormwater infrastructure and other natural stormwater management infrastructure. Proposed Policies OS-3.1 and OS-3.3 would require the City to maintain and improve water quality by regulating runoff from urban uses. Proposed Actions INF-A-4.1 and OS-A-3.1 would further support these policies by installing green stormwater infrastructure to reduce runoff and improve water quality and coordinating with other agencies to study areas potentially suitable for groundwater recharge.

Compliance with State and local regulations, including the SWRCB CGP, the City's BMPs, CALGreen, the LMC, and the proposed General Plan 2045 goals and policies would ensure that future development does not violate water quality standards or waste discharge requirements.

Implementation of a SWPPP and construction BMPs would minimize pollutant discharges from soil disturbance and construction activities, while operational BMPs would reduce long-term pollutant loading from urban runoff. As such, the proposed project would result in a **less-than-significant** impact relative to water quality.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than significant. As described in Section 3.10.2, *Existing Conditions*, the EIR Study Area uses groundwater from the Livermore Valley Groundwater Basin for its public water supply. As detailed in Section 3.17, *Utilities and Service Systems*, there are sufficient water supplies available to meet all future demands, including the projected buildout allowed under the proposed Project. Additional information on water demand and supply is provided in Section 3.17, *Utilities and Service Systems*.

Should construction dewatering be required during the excavation or grading phases of future development, the extracted groundwater can be reused on site for dust control, soil compaction, or irrigation, or it can be retained on site in a temporary sediment pond for infiltration and evaporation. If dewatering wells are required, a permit must be obtained from the Zone 7 Water Agency. Discharge of extracted groundwater to the sanitary sewer would require a permit from the City's Water Resources Division (Sewer Section) and may require sampling and monitoring. Discharge of the extracted groundwater to the storm drain may require a site-specific NPDES permit from the San Francisco Bay RWQCB or it may be covered under the general NPDES permit. However, both the discharged groundwater and receiving water body would require sampling and monitoring with the results routinely reported to the RWQCB (City of Livermore 2022b).

Pursuant to the regional MS4 Permit, future development would be required to comply with stormwater permit requirements under Provision C.3, which regulates the use of infiltration-based stormwater treatment systems to maintain appropriate groundwater recharge without causing adverse effects. These measures would minimize the impact of impervious areas and increase the potential for groundwater recharge by including pervious pavements and drainage to landscaped areas and retention/detention areas in new development projects.

Future development would be required to comply with LMC Chapter 13.25 and implement the water-efficient requirements specified in the CALGreen and California Plumbing Codes and the MWELO requirements for water-efficient landscaping outlined in LMC Chapter 13.25. Residential, commercial, and industrial water usage can be expected to decrease in the future because of the implementation of water conservation practices through the extensive programs offered by the local water agencies. Future development that meets the criteria under California Water Code Section 10912 would be required to prepare a Water Supply Assessment that

demonstrates that project water demands would not exceed water supplies, which would include an evaluation of potential impacts to groundwater supplies, as applicable.

Additionally, the same proposed General Plan 2045 goals and policies from the Open Space and Conservation (OS) Element identified under impact discussion (a) would also serve to maximize infiltration and rainwater retention and minimize impacts to groundwater recharge. Specifically, proposed Policy OS-3.1 would require the City to maintain and improve the quality and quantity of groundwater and groundwater recharge areas. Proposed Policy OS-3.4 would require the City to coordinate with relevant agencies to support the sustainable management, protection, and recharge of the Livermore Valley Groundwater Basin and study areas potentially suitable for groundwater recharge to inform planning and land use development decisions.

In summary, the proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that it may impede sustainable groundwater management of the basin. Compliance with the LMC, requirements for new construction and water-efficient landscaping, and the proposed General Plan 2045 goals and policies would result in a **less-than-significant** impact on groundwater recharge.

c) Would the project 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: i) result in a substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) 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 iv) impede or redirect flood flows.

Less than significant.

Erosion and Siltation

Future development would be required to implement construction- and post-construction BMPs consistent with the SWRCB CGP and the regional MS4 Permit. Projects that disturb one acre or more would be required to prepare and implement a SWPPP that identifies erosion control and pollution prevention measures to protect water quality. The implementation of the BMPs during the construction phase would include the following measures to minimize erosion and siltation:

- Minimize disturbed areas of the site.
- Install on-site sediment basins to prevent off-site migration of erodible materials.
- Implement dust control measures such as silt fences and regular watering of open areas.
- Stabilize construction entrances/exits.

- Install storm drain inlet protection measures.
- Install sediment control measures around the site, including silt fences or gravel bag barriers.

LMC Chapter 13.45 includes additional provisions to minimize erosion and maintain the integrity of watercourses. Section 13.45.120, *Watercourse Protection*, requires property owners to maintain watercourses in a manner that prevents erosion, blockages, and loss of flow capacity. Activities that could alter natural flows, modify channels, or introduce materials near banks are prohibited without written authorization from the Water Resources Manager. In addition, LMC Section 13.45.090 requires contractors to install filter materials at catch basins to prevent debris and sediment from entering the storm drain system and authorizes the City Engineer or Water Resources Manager to establish controls on stormwater runoff volume and rate as necessary to minimize pollutant discharges.

Furthermore, the proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goal and policies from the Safety (S) Element, are designed to reduce erosion and siltation:

- **Goal S-6:** Reduce impacts from geologic and seismic hazards.
  - **Policy S-6.7: Erosion and Slope Failure.** Prohibit construction in areas with severe erosion (slopes over 10 percent), as mapped by the US Department of Agriculture's Natural Resources Conservation Service, and in areas susceptible to slope failure, unless it can be clearly demonstrated through geotechnical engineering analysis that the project will not contribute to increased erosion, sedimentation, or runoff.
  - **Policy S-6.8: Erosion Prevention.** Require developers to implement control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible.
  - **Policy S-6.9: Development on Expansive Soils.** Require geotechnical evaluations for development in areas with expansive soils. Where such soils are present, require appropriate mitigation measures, such as specialized site grading, foundation design, and construction techniques (erosion and sediment-control best management practices [BMPs]) to minimize risk of structural damage. In foothill areas, require additional site-specific design measures to address topographic and soil movement concerns.

Specifically, proposed Policy S-6.8 would require developers to implement control site preparation procedures and construction phasing that would reduce erosion and exposure of soils to the maximum extent possible. Proposed Policy S-6.7 and S-6.9 would require geotechnical engineering analysis to ensure that projects in areas with severe erosion or expansive soils would not contribute to increased erosion, sedimentation, or runoff.

Flooding On or Off Site

Future development would be required to comply with the requirements of the regional MS4 Permit. Specifically, future development would be required to implement LID BMPs and site design BMPs in accordance with ACCWP C.3 Stormwater Technical Guidance Manual. These measures would effectively minimize imperviousness, retain or detain stormwater on site, decrease surface water flows, and slow runoff rates. Future development would also be subject to LMC Chapter 16.12, which minimizes public and private losses due to flood conditions in specific areas, and LMC Chapters 13.25 and 13.26, which establishes water efficient design standards and water conservation measures. By incorporating these measures, the proposed Project would not substantially alter existing drainage patterns or increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. Projects that create and/or replace one acre of impervious surface must also adhere to the hydromodification requirements of the MS4 Permit and the ACCWP document to ensure that post-project runoff does not exceed pre-project runoff for 10 percent of the 2-year to 10-year peak flow rates. Adherence to these regulatory requirements would minimize the amount of stormwater runoff from new development and redevelopment in the EIR Study Area.

Furthermore, the proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goal and policies from the Infrastructure (INF) Element, are designed to minimize stormwater runoff:

- **Goal INF-4:** Collect and convey stormwater in ways that are safe, sanitary, environmentally acceptable, and financially sustainable.
  - **Policy INF-4.1: Storm Drainage Design.** Design public storm drainage improvements to carry appropriate design-year flows to accommodate large storm events, including those exacerbated by climate change, and plan for future buildout.
  - **Policy INF-4.5: Stream Modification.** Allow stream modifications when necessary to contain flood flows. Modifications shall enhance and/or restore creek natural habitat while providing stormwater management.
  - **Policy INF-4.6: Regional Flood Protection and Stormwater Maintenance Coordination.** Collaborate with Zone 7 and other responsible agencies to maintain and improve the regional flood protection system, including the upkeep of creeks, arroyos, and other stormwater infrastructure under their jurisdiction.

Specifically, proposed Policy INF-4.1 and INF-4.6 requires the City to design public storm drainage improvements to carry appropriate design-year flows and coordinate with Zone 7 and other responsible agencies to maintain and improve the regional flood protection system. Proposed Policies INF-4.3 and INF-4.4 encourage minimizing impervious surfaces and installation of green stormwater infrastructure to reduce runoff. Proposed Policy INF-4.2 would require future development to evaluate how stormwater runoff would affect local and regional

flood systems and requires projects to include plans for detention and drainage facilities to prevent increased flood risk.

Stormwater Drainage System Capacity

Future development that includes the creation and/or replacement of 2,500 square feet or more of impervious surfaces would trigger the implementation of site design measures to reduce stormwater runoff, pursuant to the regional MS4 Permit requirements. Further, as previously stated, future development would be required to incorporate ACCWP's LID measures and hydromodification requirements, which would minimize the amount of stormwater runoff from new development and redevelopment sites in the EIR Study Area. During the construction phase, projects would be required to prepare SWPPPs, thus limiting the discharge of pollutants from the site. During operation, projects would implement BMPs and LID measures that would minimize the amount of stormwater runoff and associated pollutants.

In addition, LMC Chapter 13.46 establishes a dedicated fund to support the City's stormwater management and discharge control program, including system operation, maintenance, NPDES compliance, and capital improvements. The fund is financed through grants, reimbursements, and service charges assessed to property owners based on parcel size, land use, and runoff potential, with exemptions for parcels generating no runoff. Charges are collected by Alameda County, with penalties and interest applied to delinquent payments, ensuring stable funding for ongoing stormwater management and flood control activities. This would minimize the amount of stormwater runoff from new development and redevelopment sites in the EIR Study Area.

Furthermore, the same proposed General Plan 2045 goals and policies from the Infrastructure (INF) Element, Open Space and Conservation (OS) Element, and Implementation Plan identified under impact discussion (a) and previously in this impact discussion would ensure adequate stormwater management avoiding exceedances of the drainage system capacity by maximizing the on-site infiltration capacity for new development and minimizing off-site water runoff. Specifically, proposed Policy INF-4.2 would require future development to evaluate how stormwater runoff will affect local and regional drainage systems. Proposed Policies INF-4.3 and INF-4.4 encourage minimizing impervious surfaces and installation of green stormwater infrastructure to reduce runoff.

Redirecting Flood Flows

As shown in Figure 3.10-3, there are areas of the EIR Study Area that are in 100-year flood zones. The previous discussion regarding on- and off-site flooding is also applicable to the analysis of impeding or redirecting flood flows. Because new development projects are required to comply with existing regulations, including the provisions of the regional MS4 Permit, which requires the retention of stormwater on site via the use of retention/detention facilities, peak stormwater flow rates would be attenuated, which would minimize the potential for flooding

impacts. Impact discussion (d) describes the potential for impeding or redirecting flood flows related to development in areas in the 100-year floodplain and/or dam inundation zone.

Summary

Through compliance with existing State and local regulations and BMPs, as well as implementation of the proposed General Plan 2045 goals and policies, development would not result in substantial erosion, siltation, or flooding on or off site; create or contribute runoff water which would exceed capacity of stormwater drainage systems; or impede or redirect flood flows. Therefore, this impact would be **less than significant.**

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less than significant.

Tsunami and Seiche Zones

The EIR Study Area is approximately 18 miles from San Francisco Bay and is not susceptible to inundation by tsunamis or other coastal hazards such as sea level rise. There are no large bodies of water with the EIR Study Area that could trigger a seiche. Seismic activity at either Patterson Reservoir or Del Valle Reservoir could result in a wave that overtops the dams without causing dam failure. However, it is unlikely that flooding resulting from a seiche at either dam would reach the EIR Study Area (City of Livermore 2022b).

Flood Hazard Zones

As shown in Figure 3.10-3, a small portion of the western portion of the EIR Study Area is in the 100-year floodplain. There are also other areas throughout the EIR Study Area in the 100-year floodplain that have land use designations, which could result in future construction and new buildings in these areas.

Future development in 100-year flood zones would be subject to the floodplain requirements listed in LMC Chapter 16.12, which minimizes public and private losses due to flood conditions in specific areas. Section 16.12.090, *Development permit – Required*, states that a development permit shall be required and shall be obtained before construction or development begins in any area of special flood hazard. In addition, it shall be the responsibility of the developer to apply for and receive all necessary approvals from FEMA and any other agency to remove a project from a floodway or special flood hazard area. The developer shall pay all fees and undertake all the necessary studies to satisfy FEMA requirements. The City will consider the developer's obligations complete when the City has received a revised map or letter from FEMA. The City shall not issue any permit or occupancy certificate until such obligations are complete. Compliance with LMC requirements would reduce potential flood hazards and ensure

that pollutants are not released during flood inundation. Additionally, the Tri-Valley LHMP includes hazard mitigation alternatives to help reduce the risk of damage or injury from floods. These actions include building new homes above base flood elevation, providing floodproofing when new critical infrastructure must be located in floodplains, and hardening infrastructure and a bridge replacement program.

In addition to compliance with existing regulations, the Safety (S) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to address potential impacts related to flood hazards:

- **Goal S-7:** Minimize flood risks to people, property, and critical infrastructure.
  - **Policy S-7.1: Climate Resilience to Flooding.** Strengthen community resilience to flooding by integrating climate adaptation strategies into stormwater management, land use planning, infrastructure investment, and emergency preparedness to reduce risks to people, property, and infrastructure.
  - **Policy S-7.2: Floodway Protection.** Limit modifications to designated floodways for the purpose of accommodating new development unless modification restores creek capacity, stabilizes banks, or improves habitat and water quality.
  - **Policy S-7.3: Development in Flood Zones.** New development in the 100-year flood zone must avoid obstructing flood flows, increasing erosion, flood risks, pollutant loads, or degrading water quality. Design development to improve community safety, flood protection, and stormwater management, ensuring clear and reliable emergency access, and minimizing public costs associated with emergency response and infrastructure maintenance.
  - **Policy S-7.4: Critical Facilities in Flood Zones.** Prohibit the construction of new critical facilities in the 100-year flood zone, except for flood-control infrastructure.
  - **Policy S-7.5: Flood-Resilient Infrastructure.** Require new public and private service facilities in flood zones to be floodproofed to or above the base flood elevation, including required freeboard, as determined on a project-specific basis.
  - **Policy S-7.6: Essential Facility Integrity.** Ensure essential public facilities maintain structural and operational integrity during and after flood events.
  - **Policy S-7.7: Climate Informed Design.** Incorporate the best-available climate science into flood risk assessments, infrastructure design, and land use decisions such as projections for increased rainfall, storm frequency, floodplain shifts, and long-term impacts on erosion and groundwater.
  - **Policy S-7.8: Regional Flood Coordination.** Coordinate with Alameda County and Tri-Valley jurisdictions to identify regional flood risks, implement mitigation strategies, and expand participation in programs such as Living Arroyos.
  - **Policy S-7.9: Emergency Flood Preparedness.** Collaborate with regional partners to coordinate shelter logistics, emergency supplies, and post-flood recovery resources.

- **Policy S-7.10: Storm Drain Risk Mitigation.** Consider the risk of storm drain blockage when reviewing development proposals in flood-prone areas.
- **Policy S-7.11: Creek Restoration.** Pursue opportunities for creek restoration and flood resilience projects to support long-term risk reduction and ecosystem health.

Specifically, proposed Policy S-7.3 would require new development in the 100-year flood zone to avoid obstructing flood flows, increasing erosion, flood risks, pollutant loads, or degrading water quality, and proposed Policy S-7.2 would limit modifications to designated floodways for the purpose of accommodating new development. Proposed Policies S-7.4 and S-7.5 would prohibit the construction of new critical facilities in the 100-year flood zone and require new public and private service facilities in flood zones to be floodproofed to or above the base flood elevation. Proposed Policies S-7.8 and S-7.9 would require collaboration with regional partners to identify and mitigate regional flood risks and coordination for post-flood recovery resources.

Dam Inundation Zones

The inundation zones for the Del Valle Dam and Patterson Dam include a small portion of the EIR Study area to the southwest and scattered areas in the northeast of the EIR Study Area. Del Valle Dam is classified as an extremely high hazard dam due to the DSOD Downstream Hazard Classification guidelines (DWR 2021). Patterson Dam is classified as a high hazard dam, which is expected to cause loss of at least one human life. However, dam owners are required to maintain EAPs that include procedures for damage assessment and emergency warnings. An EAP identifies potential emergency conditions at a dam and specifies preplanned actions to help minimize property damage and loss of life should those conditions occur. EAPs contain procedures and information that instruct dam owners to issue early warning and notification messages to downstream emergency management authorities such as the Livermore Emergency Management and local fire departments. The County's emergency notification procedures are included in the Tri-Valley LHMP. The Tri-Valley LHMP also includes hazard mitigation alternatives to help reduce the risk of damage or injury from dam failure hazards. These actions include elevating homes to appropriate levels, flood-proofing facilities in dam failure inundation areas, and retrofitting critical facilities in dam failure inundation areas.

In addition to compliance with existing regulations, the Safety (S) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to address potential impacts related to dam inundation hazards:

- **Goal S-8:** Minimize risks associated with potential failure of Del Valle and Patterson Dams.
  - **Policy S-8.1: Evacuation Plan for Inundation Areas.** Review the evacuation plan for dam inundation areas in the local hazard mitigation plan and emergency operations plan, as periodically amended, to ensure it is accurate and up to date.

- **Policy S-8.2: Funding for Dam Inspections.** Work with the California Department of Water Resources to ensure that adequate funding is allocated for inspections of Del Valle and Patterson Dams, and that inspections and required maintenance are being carried out.
- **Policy S-8.3: Disaster Relief for Inundation.** Partner with Alameda County to prepare and maintain a disaster relief plan that addresses potential flood inundation from dam failure in the areas below the Del Valle Reservoir and the Patterson Dam (shown on Figure S-9 [of the General Plan]).

Specifically, proposed Policy S-8.1 would ensure that the evacuation plan or dam inundation areas are accurate and up to date. Proposed Policy S-8.2 would ensure there is adequate funding for the inspections of Del Valle and Patterson dams and ensure that required maintenance is being carried out.

Summary

Future development would be subject to the requirements of the LMC and the Tri-Valley LHMP, among other existing, applicable regulations, which would reduce the risks of inundation. Furthermore, as previously described, in coordination with the city, DWR is responsible for maintaining flood protection features in the EIR Study Area. Additionally, all future development would be evaluated on a project-by-project basis to assess impacts related to risk of pollutant release associated with flooding and inundation and would be required to address those impacts through compliance with applicable regulations. Furthermore, future projects would be required to comply with the proposed General Plan 2045 policies described previously. Therefore, the risk of release of pollutants during inundation would be **less than significant.**

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than significant. Groundwater in the EIR Study Area is primarily sourced from the Livermore Valley Groundwater Basin. On June 27, 2024, DWR announced that it approved the update to Zone 7 Water Agency's groundwater management plan (Alternative GSP). DWR determined that Livermore Valley Groundwater basin continues to be managed sustainably to meet the requirements of SGMA.

Section 3.17, *Utilities and Service Systems*, evaluates the increase in water demand associated with implementation of the proposed Project and determines that there are sufficient water supplies available to meet all current and future demands. Therefore, the proposed Project would not conflict with or obstruct the groundwater management plans.

Adherence to existing regulatory frameworks, including the SWRCB CGP, regional MS4 Permit, and LMC, would ensure that both surface and groundwater quality are protected during construction and ongoing development of future projects. The CGP requires preparation of a SWPPP, which incorporates BMPs to control sediment, erosion, and hazardous materials contamination of runoff during construction. Pursuant to the regional MS4 Permit, future development would be required to comply with stormwater permit requirements under Provision C.3, which regulates the use of infiltration-based stormwater treatment systems to maintain appropriate groundwater recharge without causing adverse effects. Future development would be required to comply with LMC Chapter 13.25 and implement the water-efficient requirements specified in the CALGreen and California Plumbing Codes and the MWELO requirements for water-efficient landscaping outlined in LMC Chapter 13.25.

In addition, the same proposed General Plan 2045 goals and policies from Open Space and Conservation (OS) Element identified under impact discussion (a) would also support sustainable groundwater management and water quality protection. Specifically, proposed Policy OS-3.1 would require the City to maintain and improve the quality and quantity of groundwater and groundwater recharge areas. Proposed Policy OS-3.4 would require the City to coordinate with relevant agencies to support the sustainable management, protection, and recharge of the Livermore Valley Groundwater Basin and study areas potentially suitable for groundwater recharge to inform planning and land use development decisions.

As such, implementation of the proposed Project is consistent with and supports the objectives of both the San Francisco Bay RWQCB Basin Plan and the Alternative GSP. Therefore, the proposed Project would not obstruct or conflict with applicable water quality plans or GSPs, and impacts would be **less than significant.**

3.10.5 Cumulative Impact Analysis

The following discussion considers the proposed Project's potential cumulative impacts to the regional watersheds, including the Arroyo Las Positas Watershed, Arroyo Mocho Watershed, Arroyo del Valle Watershed, and Chain of Lakes Watershed (see Figure 3.10-1).

Would the project have a cumulative effect related to hydrology and water quality?

Less than significant.

Surface and Groundwater Quality

Like the proposed Project, all projects in the regional watersheds would be required to comply with local, State, and federal permit requirements and would be required to comply with City and County ordinances and policies, as well as numerous water quality regulations that control construction-related and operational discharge of pollutants into stormwater. Water quality

regulations implemented by the San Francisco Bay RWQCB take a basin-wide approach and consider water quality impairment in a regional context. For example, the SWRCB CGP establishes requirements to receiving water limitations and Basin Plan objectives, whereas the regional MS4 Permit requires all the surrounding municipalities to manage stormwater systems and be collectively protective of water quality. Future development would be required to comply with the CGP and prepare and implement a SWPPP, adhere to the regional MS4 permit, and implement appropriate BMPs. In addition, local ordinances, such as the LMC, would prohibit the discharge of pollutants from entering storm drains and regulate activities that could degrade water quality. Compliance with these overlapping regulatory requirements would minimize the potential for cumulative degradation of surface and groundwater quality.

Groundwater Recharge and Sustainable Groundwater Management

Stormwater permit requirements under Provision C.3 of the regional MS4 Permit are intended to promote groundwater recharge and limit adverse effects from increased impervious surfaces through LID design features such as infiltration measures and pervious pavements. In addition, future development would be required to comply with CALGreen and California Plumbing Code requirements, which promote water conservation and reduced potable water demand. Collectively, these measures would reduce long-term demands on groundwater resources and support sustainable groundwater management objectives.

Drainage Patterns, Runoff, and Flooding

Projects in the regional watersheds would implement structural and nonstructural source-control BMPs that reduce the potential for pollutants to enter runoff, and treatment control BMPs that would remove pollutants from stormwater. In addition, erosion and sedimentation would be minimized through implementation of construction BMPs, including grading controls, sediment basins and dust control practices. Compliance with these requirements would reduce the potential for cumulative changes in drainage patterns, increased runoff rates, erosion, or downstream flooding.

Flood Hazard, Tsunami, and Seiche Zones

Projects in the regional watersheds that may be constructed in 100-year flood zones or dam inundation zones would be mandated to comply with FEMA's National Flood Insurance Program requirements. In addition, other jurisdictions in these subwatersheds regulate development in flood zones in compliance with FEMA standards to limit cumulative flood hazard impacts. With respect to tsunami hazards, the regional watersheds are located inland and outside of mapped coastal tsunami inundation zones. Seiche hazards are typically associated with enclosed or semi-enclosed water bodies and are driven by seismic events rather than land development. Future development would not modify water bodies in a manner that would increase the potential for seiche occurrence or related impacts, and compliance with applicable building and seismic codes would further reduce risk.

Water Quality Control Plan or Sustainable Groundwater Management Plan

Implementation of the proposed Project, along with other foreseeable development in the EIR Study Area and surrounding areas in the regional watersheds, would occur under the same established regulatory framework, as these areas are subject to similar federal, State, regional, and local water quality and groundwater management requirements. This framework includes compliance with the SWRCB CGP, the regional MS4 Permit, and applicable local ordinances (e.g., the LMC), which are designed to protect surface water and groundwater quality during both construction and long-term operation.

The CGP requires preparation and implementation of a SWPPP to control erosion, sedimentation, and potential pollutant discharges during construction. The regional MS4 Permit, including Provision C.3, regulates stormwater treatment and infiltration to protect water quality and support groundwater recharge. In addition, local regulations, CALGreen standards, California Plumbing Code provisions, and MWELO requirements promote water conservation and efficient landscape design.

Summary

Because future development in both the EIR Study Area and regional watersheds would be required to comply with similar regulatory requirements, cumulative development would be consistent with and support the objectives of the San Francisco Bay RWQCB Basin Plan and the applicable GSP. Accordingly, cumulative impacts related to hydrology and water quality would be **less than significant** and not cumulatively considerable.

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3.11 LAND USE AND PLANNING

This section evaluates the potential land use and planning impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential land use and planning impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As summarized in Chapter 3, *Environmental Analysis,* no concerns related to land use and planning were received during the EIR scoping period.

3.11.1 Regulatory Framework

STATE

California Housing Element Law

California Housing Element Law (California Government Code Sections 65580-65589.8) includes provisions related to the requirements for Housing Elements of local government General Plans. Among these requirements, some of the necessary parts include an assessment of housing needs and an inventory of resources and constraints relevant to meeting these needs. Additionally, to ensure that counties and cities recognize their responsibilities in contributing to the attainment of the State's housing goals, Housing Element Law calls for local jurisdictions to plan for and allow the construction of a share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA). The City of Livermore 2023-2031 Housing Element was adopted in March 2023 and is incorporated into the General Plan by reference (City of Livermore 2023).

Alameda County Local Agency Formation Commission

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 establishes a Local Agency Formation Commission (LAFCO) in each county in California and authorizes these commissions to review, approve, or deny proposals for boundary changes and incorporations for cities, counties, and special districts. The LAFCO establishes a sphere of influence (SOI) for cities within their jurisdiction that describes the city's probable future physical boundaries and service area. Livermore's SOI is regulated by the Alameda County LAFCO. The Alameda County LAFCO has a responsibility to exercise their independent judgement while making decisions

concerning appropriate local governmental boundaries and service providers. As a regulatory agency, LAFCO is charged by the legislature with "discouraging urban sprawl and encouraging the orderly formation and development of local agencies" based on "local circumstances and conditions."

REGIONAL

Plan Bay Area

The Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021). Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related greenhouse gas (GHG) reduction goals of the Sustainable Communities and Climate Protection Act (Senate Bill 375). The current Plan Bay Area projects growth and development patterns through 2050.

Plan Bay Area designates Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) throughout the region. PDAs are areas along transportation corridors that are served by public transit that allow opportunities for development of transit-oriented, infill development within existing communities that are expected to host most future development. TPAs are similar in that they are formed within 0.5 miles around a major transit stop, such as a transit center or rail line. The three PDAs in the EIR Study Area are discussed in Section 3.14.2, *Existing Conditions,* in Section 3.14, *Population and Housing*.

Plan Bay Area 2050 distributes future growth across the San Francisco Bay Area region to meet its GHG emissions reduction, housing, and other performance targets, but it is not intended to override local land use control. Cities and counties, not ABAG/MTC, are ultimately responsible for the manner in which their local communities continue to be built out in the future. For this reason, cities and counties are not required to revise their land use policies and regulations, including General Plans, to be consistent with the regional transportation plan or an alternative planning strategy. Rather than increase regional land use control, Plan Bay Area 2050 facilitates implementation by expanding incentives and opportunities available to local jurisdictions to support growth in PDAs. In addition to funding transportation and planning projects in PDAs, Plan Bay Area 2050 sets the stage for cities and counties to increase the efficiency of the development process, if they choose, for projects consistent with Plan Bay Area and other State legislation.

Plan Bay Area 2050 is currently undergoing an update, which is called Plan Bay Area 2050+. Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong

economy, and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

Alameda County East County Area Plan

The East County Area Plan (ECAP) outlines goals, policies, and programs to conserve natural resources for the eastern portion of Alameda County while ensuring adequate development to accommodate the growing population (Alameda County 2000). The ECAP covers the area surrounding the EIR Study Area and the EIR Study Area is within the ECAP. First adopted in 1994 as a component of the Alameda County General Plan, the passage of Measure D in November 2000 initiated amendments to the ECAP that were subsequently included by adoption in November 2000 with the passage of the Measure D ballot measure. The amendment to the ECAP in November 2000 revised the ECAP to include the Urban Growth Boundary (UGB) and to provide specific direction to preserve viticulture and other cultivated agricultural land surrounding the City Limit.

Livermore Municipal Airport Land Use Compatibility Plan

The Livermore Municipal Airport Land Use Compatibility Plan (ALUCP) was adopted by the Alameda County Airport Land Use Commission (ALUC) in 2012 (Alameda County ALUC 2012). The creation of the ALUC and the preparation of the ALUCP are requirements of the California State Aeronautics Act (Public Utilities Code Section 21670 et seq.). Provisions for creation of ALUCs were first established under State law in 1967 and the fundamental purpose of ALUCs to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses has remained unchanged. The ALUCP evaluates all surrounding land within the airport influence area, defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP requires that any project, specific plan, general plan, zoning ordinance, or building regulation proposed in the airport influence area is reviewed by the ALUC to ensure consistency with the ALUCP.

LOCAL

While the City of Livermore has other local regulations that regulate land use and guide land use decisions, all specific plans, master plans, and zoning must be consistent with the General Plan. The General Plan is the community's overarching policy document that defines a vision for future change and sets the "ground rules" for locating and designing new projects that enhance the character of the community, expanding the local economy, conserving and preserving

environmental resources, improving public services and safety, minimizing hazards, and fostering community health. The General Plan, which includes a vision, guiding principles, goals, policies, and actions, functions as the City's primary land use regulatory tool. It provides a basis for judging whether specific development proposals and public projects are in harmony with General Plan policies. It is the constitution for future change in Livermore. The General Plan must be used as the basis for all planning-related decisions made by City staff, the Planning Commission, and the City Council. Other decision-making bodies that rely on the General Plan to guide future decisions include, but are not limited to, the Airport Commission, Beautification Committee, Commission for the Arts, Historic Preservation Commission, Housing Authority, Human Services Commission, Library Boards of Trustees, Community Development Department, and Public Works Department.

3.11.2 Existing Conditions

This section describes existing land uses in the EIR Study Area, meaning what exists on the ground (City of Livermore 2022). The existing land use of a property does not carry any regulatory significance and may or may not be consistent with the current General Plan designation or zoning. In some cases, existing land uses were established prior to adoption of the current Livermore General Plan and zoning map.

- **Rural**. Rural land uses include largely undeveloped parcels at the periphery of the City Limit with limited large-lot, single-family residential and commercial uses. This category also includes agricultural land, including the surrounding vineyards and grazing land. Rural land uses account for approximately 24 percent of land in the EIR Study Area.
- **Single-family residential**. Single-family land uses are distributed throughout the EIR Study Area. Single-family uses mostly include a single unit on a parcel, but it could also include single-family homes with accessory dwelling units. Single-family uses account for approximately 25 percent of land in the EIR Study Area.
- **Multifamily residential**. Multifamily residential land uses, including medium-, medium-high, and mobile home park residential that account for approximately 3 percent of the land in the EIR Study Area.
- **Commercial**. Commercial uses are scattered throughout the EIR Study Area but tend to be concentrated along major roadways and along the frontages of Interstate (I-) 580. Commercial uses range from the regional San Francisco Premium Outlet Shopping Center, local downtown businesses, and shopping centers often anchored by large-format retail, such as a grocery store and surrounded by smaller neighborhood-serving retail uses. Commercial uses account for approximately 5 percent of land in the EIR Study Area.
- **Industrial**. Industrial uses account for approximately 10 percent of land in the EIR Study Area and are concentrated along I-580 in the northeastern portion of the EIR Study Area but can be found throughout the EIR Study Area. Examples of industrial uses include warehouses, manufacturing, self-storage businesses, equipment rental, and storage yards.

- **Institutional**. Institutional uses are dispersed throughout the EIR Study Area and include things like schools, City Hall, police and fire stations, libraries, the Livermore Municipal Airport, Las Positas College, Lawrence Livermore National Laboratory, and Sandia National Laboratory. Institutional uses account for approximately 13 percent of land in the EIR Study Area.
- **Parks**. Park land is found throughout the EIR Study Area and includes Livermore Area Recreation and Park District parks, golf courses, and open space areas. Park land accounts for approximately 8 percent of land in the EIR Study Area.
- **Railway/right-of-way (ROW)**. This includes rail and other utility ROWs and is about 3 percent of land in the EIR Study Area.
- **Land that is exempt, not assessed by the County, and/or mobile homes and tracts**. This category refers to how the County Assessor tracks the land for tax purposes. Approximately 1 percent of land in the EIR Study Area is in this category.
- **Vacant**. This category includes land that does not include any buildings or structures. Approximately 7 percent of land in the EIR Study Area is in this category.

3.11.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to land use if it would:

a) Physically divide an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.11.4 Project Impact Analysis

a) Would the project physically divide an established community?

Less than Significant. The physical division of an established community refers to the construction of a physical feature or the removal of a means of access that would impair mobility within an existing community or between a community and outlying areas. Implementation of the proposed Project would not result in a change in land use or zoning that would cause the construction or removal of any physical features or means of access throughout the EIR Study Area or the region. The proposed Project promotes infill development and encourages higher density in already-developed areas. Additionally, the proposed Project would maintain the existing roadway patterns and would not include any new major roadways or other physical features through existing neighborhoods that would create new physical

barriers in the EIR Study Area. As identified in the Safety Element of the proposed General Plan 2045, any new roadways required as a result of responding to Senate Bill 99, which requires the identification of evacuation-constrained residential parcels, would improve connectivity, and would not create divisions amongst established communities. See Figure 3.18-3, *Evacuation-Constrained Residential Areas*, in Section 3.18, *Wildfire,* which is also shown on Figure S-2, *Evacuation-Constrained Parcels*, in the Safety Element of the proposed General Plan 2045. As identified in the Mobility Element of the proposed General Plan 2045, there are several key interchange and overpass improvements anticipated to support regional mobility, local access, and continued growth. These improvement projects would improve multimodal connectivity, safety, and traffic flow and would not create divisions amongst established communities.

As described in Chapter 2, *Project Description*, an objective of the proposed Project is to focus future housing and job growth within the UGB, emphasizing infill development over dispersed growth at lower densities. While the proposed General Plan 2045 does not prohibit development opportunities outside of infill locations, it does require the City to ensure that growth serves community needs and protects the environment. The Land Use (LU) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to promote orderly growth:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.4: Annexation Prior to Urbanization Development.** Annex land within the Urban Growth Boundary before urban development occurs to align with City standards and service delivery systems.
  - **Policy LU-1.5: Context-Sensitive Development.** New developments should be designed to reflect Livermore's local context, complement existing neighborhoods and districts, and respond thoughtfully to the surrounding natural environment and minimize environmental impacts.
  - **Policy LU-1.6: Climate-Responsive and Green Building Practices.** Promote environmentally responsive site and building design that reduces construction impacts and supports long-term climate resilience. Encourage the use of green building practices in both public and private development, consistent with CalGreen and Title 24 standards.
  - **Policy LU-1.7: Transit-Supportive Development.** Facilitate new development in major commercial and transit-supportive development areas, including the Downtown, Isabel Neighborhood, Brisa Neighborhood, Midtown area, and appropriate areas around Livermore Municipal Airport, to maximize the density and intensity specified in the Land Use Plan and to efficiently use land and infrastructure resources.
  - **Policy LU-1.8: Sustainable Land Use Practices.** Advance land use strategies that reduce greenhouse gas emissions and vehicle miles traveled, including compact development, walkable and, bikeable neighborhoods, and access to transit and services.

  - **Policy LU-1.9: Infill and Reinvestment.** Prioritize development for locations in or in close proximity to transit, nodes for active transportation, or major commercial sites or other activity centers. Update the Development Code and Specific and Neighborhood Plans accordingly.
- **Goal LU-2.** Establish a coherent and logical pattern of urban uses that protects and enhances open space and agricultural uses by providing a clear and permanent boundary for urban uses within the City's Planning Area. The provisions of the North Livermore Urban Growth Boundary Initiative, and as readopted by the South Livermore Urban Growth Boundary Initiative, shall be amended only by a vote of the people.
  - **Policy LU-2.1: Urban Growth Boundary.** Urban development and uses inconsistent with the city's General Plan land use designations shall not be permitted beyond the Urban Growth Boundary as described in Appendix A. Limit residential development to areas within the Urban Growth Boundary. Non-urban uses, such as agriculture, parks, and open space, and other uses consistent with the city's general plan land use designations may be permitted within and beyond the Urban Growth Boundary.
  - **Policy LU-2.2: Limit Urban Uses Outside Urban Growth Boundary.** Beyond the city limits, discourage and oppose any urban uses and other uses that are inconsistent with the City's General Plan land use designations.
  - **Policy LU-2.3: Urban Services and the Urban Growth Boundary.** Extend urban services only to areas within the Urban Growth Boundary, except as provided for in the South Livermore Urban Growth Boundary Initiative and North Livermore Urban Growth Boundary Initiative.

Specifically, proposed Policy LU-1.5 would require new development to be designed to complement existing surroundings. Proposed Policy LU-1.7 and 1.9 would promote infill development in major commercial and transit-supportive development area and efficient use of land and infrastructure resources.

Therefore, because no physical features or the removal of a means of access that would impair mobility within an existing community or between a community and outlying areas would occur with implementation of the proposed Project, the physical division of an established community would not occur. Impacts would be **less than significant**.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant.

Land Use Plans, Policies, and Regulations

The proposed General Plan 2045 is the primary planning document for the City of Livermore and the proposed Project is intended to ensure consistency between the General Plan, Zoning Ordinance, regional plans, and federal and State laws. For the purposes of this EIR, a "land use" plan is a policy or regulation that addresses how land is used. The following discusses the proposed Project and its relationship to the land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, as listed in Section 3.11.1, *Regulatory Framework*.

California Housing Element Law

The City of Livermore 2023-2031 Housing Element was adopted in March 2023 and is incorporated into the General Plan by reference. However, the residential development that could occur under the potential 7th RHNA Cycle (2031–2039), and most of the potential 8th RHNA Cycle (2039–2047), depending on the assigned RHNA which is unknown at this time, is incorporated into the residential development analyzed as part of this EIR.

As described in Section 3.14, *Population and Housing*, the proposed land use map, as shown in Figure 2-3, *Proposed General Plan 2045 Land Use Map*, in Chapter 2, *Project Description*, includes enough land designated for housing to fulfill the City's 2023–2031 RHNA cycle, as well as the potential 7th RHNA cycle, and most of the potential 8th RHNA cycle, which extends beyond the buildout horizon of the proposed Project.

Additionally, the Land Use (LU) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to promote adequate housing supply, consistent with State law:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.2: Housing Choices and Employment Opportunities.** Plan for a range of housing choices and employment space that meets the needs of all Livermore's residents and workforce. Promote a citywide balance between jobs and housing (1.25-1.75) to support economic vitality and reduce commute-related impacts.

- **Goal LU-3:** Create neighborhoods that include a mix of uses and a range of housing types to meet the needs of all residents.
  - **Policy LU-3.1: Range of Housing Types.** Provide a range of housing types, sizes, and affordability levels in all Livermore neighborhoods.
- **Goal LU-8:** Protect the City's investments in public property and preserve public lands for the use of the whole community.
  - **Policy LU-8.5: Public Uses.** Acquire property for public uses such as housing, open space, utilities and infrastructure, and cultural and civic facilities.
  - **Policy LU-8.6: Support for Housing.** Consider residential development on quasi-public sites such as schools, places of worship, philanthropic organizations, and other facilities, consistent with the mission of these organizations and considering compatibility with surrounding land uses.

Specifically, proposed Policies LU-1.2 and LU-3.1 would provide for a range of housing types, size, and affordability levels, as well as employment space, that would promote a citywide balance between jobs and housing.

Accordingly, because the proposed General Plan 2045 land use map would accommodate up to most of the potential 8th RHNA cycle and implementation of the proposed General Plan 2045 would promote adequate housing supply, the proposed Project would not conflict with or be inconsistent with the California Housing Element Law.

Alameda County Local Agency Formation Commission

The Livermore SOI is regulated by the Alameda County LAFCO and any proposed jurisdictional boundary changes, including annexations and detachments of territory to and/or from the city, is subject to the Alameda County LAFCO review and approval. The Alameda County LAFCO must also review any contractual service agreements and determine the SOI. Although the City does not propose to annex or de-annex any areas of the SOI as part of the proposed Project, annexation proposals could occur during the buildout horizon of the proposed General Plan 2045.

The proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goals and policies from the Land Use (LU) Element, are designed to support the purpose of the Alameda County LAFCo to encourage the orderly growth of local communities, discourage urban sprawl, and assure efficient local government service, which would reduce environmental impacts:

- **Goal LU-7:** Maintain agricultural lands within the Livermore Planning Area to support local food systems, sustain agricultural operations, and guide long-term land use planning.
  - **Policy LU-7.6: Land Uses in Alameda County.** Request that Alameda County limit land uses in the unincorporated part of the Planning Area to agricultural and open space uses and uses allowed in the City's Urban Growth Boundary policies.
  - **Policy LU-7.7: Rural Areas.** Collaborate with Alameda County and Alameda County Local Agency Formation Commission to protect existing land uses from development inappropriate for rural areas.
- **Goal LU-19:** Collaborate with other public agencies on regional and local land use issues.
  - **Policy LU-19.1: North of Interstate-580.** Coordinate land use planning for the area north of Interstate-580 between Livermore and Dublin with Alameda County and the City of Dublin to increase certainty over future land uses, reduce speculation, and enhance preservation of open space.
  - **Policy LU-19.2: South Livermore Valley.** Cooperate with Alameda County and Pleasanton to reach the goals and objectives of the South Livermore Valley through coordination of land use plans, use of pre-annexation, development, joint powers, tax-sharing, or other agreements, or other appropriate devices to coordinate future land uses and appropriate mitigation measures.
  - **Policy LU-19.6: Planning Area Applications.** Provide input to Alameda County and the Cities of Dublin and Pleasanton on land use planning, policy development, and applications in the Planning Area for discretionary land use approvals, both through the environmental review process and by commenting on referrals from the County or other cities. Ensure projects in the Planning Area align with City values, vision, and policy.

Specifically, proposed Policy LU-7.7 would require collaboration with Alameda County LAFCO to protect existing land uses from inappropriate development for rural areas. Proposed Policy LU-1.4 would require annexation of land within the UGB into the City Limit before development occurs.

The proposed General Plan 2045 acknowledges that the City actively engages with the Alameda County LAFCO and will follow adopted Alameda County LAFCO policies to review any proposed SOI changes and annexation requests. Accordingly, the proposed Project would not conflict with or be inconsistent with the Alameda LAFCO policies adopted for the purpose of avoiding or mitigating an environmental effect.

Plan Bay Area

While Plan Bay Area is not intended to override local land use control, it provides guidance to the local agencies that focuses on achieving the State's GHG reduction goals. This includes reducing vehicle-miles traveled (VMT) by constructing more infill development in downtowns and centers near jobs and services, which, in turn, reduces environmental impacts associated with development.

The proposed General Plan 2045 goals and policies identified under impact discussion (a) that support infill development and a range of housing types, in addition to the following proposed goal and policies from the Land Use (LU) Element, are designed to support the goals of the Plan Bay Area adopted for the purpose of avoiding or mitigating an environmental effect:

- **Goal LU-19:** Collaborate with other public agencies on regional and local land use issues.
  - **Policy LU-19.3: Regional Long-Range Plans.** Remain engaged in current and future long-range plans prepared by Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG), and other regional organizations to influence and be aware of projected growth assumptions for Livermore and regional priorities for transportation, infrastructure, and the economy that could affect the city.
  - **Policy LU-19.4: Plan Bay Area.** Consider implementation strategies outlined in Plan Bay Area 2050, especially within City-identified Priority Development Areas, Priority Conservation Areas, and Priority Production Areas and Transit-Oriented Community policies in local planning effort consistent with General Plan goals and policies.

Specifically, proposed Policy LU-19.3 would require the City to remain engaged in current and future long-range plans prepared by ABAG/MTC, including Plan Bay Area, and Policy LU-19.4 would require the City to consider the Implementation strategies of Plan Bay Area, such as maintaining UGBs and expanding commute trip reduction programs at major employers, clean vehicle initiatives, and transportation demand management initiatives, in local planning efforts.

In addition to the proposed General Plan 2045 goal and policies listed, see Section 3.3, *Air Quality*; Section 3.6, *Energy*; Section 3.8, *Greenhouse Gas Emissions*; and Section 3.16, *Transportation*, for complete lists of proposed goals and policies that would ensure consistency with Plan Bay Area for the purpose of avoiding or mitigating an environmental effect. Accordingly, the proposed Project would not conflict with or be inconsistent with Plan Bay Area goals or policies adopted for the purpose of avoiding or mitigating an environmental effect.

Alameda County East County Area Plan

The proposed General Plan 2045 maintains consistency with the ECAP through goals and policies that ensure land use planning decisions inside and adjacent to the City Limit do not conflict with one another. The same proposed General Plan 2045 goals and policies from the Land Use (LU) Element identified previously in this impact discussion under the "Alameda

County Local Agency Formation Commission" subheading would also ensure a collaborative process as future development outside the City Limit occurs. Specifically, proposed Policies LU-19.1, LU-19.2, or LU-19.6 would require coordination with Alameda County to ensure development is consistent with County land use plans. Because land outside the City Limit is currently subject to Alameda County land use regulations and would only come under Livermore's land use jurisdiction upon annexation, only one set of land use policies apply at a given time, and there cannot be a conflict between the City's General Plan and Alameda County ECAP. As a result, adoption and implementation of the proposed Project would not conflict with or be inconsistent with the ECAP, including goals and policies in the ECAP adopted for the purpose of avoiding or mitigating an environmental effect.

Livermore Municipal Airport Land Use Compatibility Plan

As shown in Figure 3.9-1, *Livermore Municipal Airport Protection Area*, in Section 3.9, *Hazards and Hazardous Materials*, the Livermore Municipal Airport Influence Area is within the EIR Study Area. Land use compatibility with the airport area is regulated by the Alameda County ALUC. Pursuant to the California Public Utilities Code Section 21676, development of land and changes in land use around the Livermore Municipal Airport must be consistent with the ALUCP.

The Land Use (LU) Element and Mobility (MO) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to ensure consistency with the Livermore Municipal ALUCP and would ensure development would not result in safety hazards:

- **Goal LU-9:** Ensure compatible land uses within the Livermore Municipal Airport Influence Area.
  - **Policy LU-9.1: Appropriate Airport Development.** Maintain land use designations within the immediate vicinity of the Livermore Municipal Airport for light industrial and transportation uses, provided noise standards, flight clearance requirements, and environmental impact mitigations are met. Prohibit land uses that would conflict with airport operations.
  - **Policy LU-9.2: Airport Land Use Compatibility Plan.** Require development in the Airport Influence Area to be in conformance with the Livermore Airport Land Use Compatibility Plan (ALUCP).
  - **Policy LU-9.3: Residential Near Airport.** Limit new residential land use designations and the intensification of existing residential land use designations within the Airport Protection Area (APA), except as permitted in the Isabel Neighborhood Specific Plan overlay (Figure LU-4). New residential development within the overlay must comply with airport-awareness measures outlined in the Isabel Neighborhood Specific Plan and its associated environmental documents.
  - **Policy LU-9.4: Airport Zoning Districts.** Establish and implement airport zoning districts to ensure land use compatibility with airport operations, evolving aviation needs, and economic development opportunities.

- **Goal MO-9:** Support the continued operation of the Livermore Municipal Airport as an integral component of the local and regional transportation system, enhancing connectivity for people and goods and coordinating with other transportation modes and infrastructure.
  - **Policy MO-9.1: Airport Connectivity**. Ensure efficient and reliable access to the airport for airport uses, freight, and service vehicles to support its role in the regional transportation system.
  - **Policy MO-9.2: Regional Transportation Integration**. Maintain Livermore Municipal Airport as a regional Federal Aviation Administration-designated reliever facility, while minimizing noise and air quality impacts on surrounding communities.

Specifically, proposed Policy LU-9.1 would require the City to maintain compatible land use designations within the vicinity of the Livermore Municipal Airport and Policy LU-9.2 would require development in the AIA to be in compliance with Livermore Municipal ALUCP regulations.

Implementation of the proposed General Plan 2045 goal and policies would ensure that future development near the Livermore Municipal Airport would be consistent with the Livermore Municipal ALUCP and would ensure development would not result in safety hazards. Therefore, adoption and implementation of the proposed Project would not conflict with the Livermore Municipal ALUCP and the goals and policies within the ALUCP adopted for the purpose of avoiding or mitigating an environmental effect.

Non-Land Use Plans, Policies, and Regulations

Plans, policies, and regulations concerning a wide range of topics can also have direct and indirect effects on land use decision-making. The proposed Project's potential to conflict with other applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect are discussed in detail in the other environmental topic sections included in Chapter 3, *Environmental Analysis*. Specifically, these discussions are in Section 3.3, *Air Quality*; Section 3.4, *Biological Resources*; Section 3.5, *Cultural and Tribal Cultural Resources*; Section 3.8, *Greenhouse Gas Emissions*; Section 3.9, *Hazards and Hazardous Materials*; Section 3.10, *Hydrology and Water Quality*; Section 3.13, *Noise*; Section 3.14, *Population and Housing*; Section 3.15, *Public Services, Parks, and Recreation*; Section 3.16, *Transportation*; Section 3.17, *Utilities and Service Systems*; and Section 3.18, *Wildfire*. Some of these key regulations include:

- **Air Quality.** The Bay Area Air District (Air District) has prepared several plans to attain the national ambient air quality standards (AAQS) and California AAQS. The air quality management plans (AQMPs) prepared by the Air District provide the framework for the San Francisco Bay Area Air Basin to achieve attainment of the State and federal AAQS.

- **Biological Resources.** The federal Endangered Species Act (ESA) and California ESA protect plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife. The Migratory Bird Treaty Act protects migratory birds, any of their parts, eggs, and nests. The Bald and Golden Eagle Protection Act of 1940, as amended, provides for the protection of bald eagles and golden eagles. The federal Clean Water Act (CWA) and State CWA protect habitat for animals and plants. The Native Plant Protection Act of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State."
- **Cultural and Tribal Cultural Resources.** The National Historic Preservation Act defines the responsibilities of federal agencies to protect and preserve Historic Properties. The American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act of 1990 protect Native American artifacts. California Government Code Section 65352.3-5, formerly known as Senate Bill 18, and Assembly Bill 52 are both intended to protect Native American resources as well.
- **Greenhouse Gas Emissions and Vehicle-Miles Traveled.** Plan Bay Area provides guidance to reduce VMT and thus reduce GHG emissions to meet the State's goals.
- **Hydrology and Water Quality.** The federal and State CWAs include regulations for protecting water quality. The City of Livermore is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The San Francisco Bay RWQCB addresses region-wide water quality issues through the creation and triennial update of the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan).
- **Hazards and Hazardous Materials.** To address natural hazards, the City of Livermore adopted the Tri-Valley Local Hazard Mitigation Plan (LHMP) in March 2024. The LHMP identifies the natural hazards faced by the city, assesses vulnerabilities to these hazards, and identifies mitigation strategies that can be taken to reduce or alleviate the loss of life, personal injury, and property damage that otherwise might result from natural hazards. Mitigation actions are suggested and carried out by various City departments. Federal, State and local programs regulate the transport, handling, use, and release of hazardous materials into the environment. This includes specific regulations and procedures for development on contaminated sites.
- **Population and Housing.** ABAG is the official comprehensive planning agency for the Alameda County area and is responsible for taking the overall RHNA provided by the State and preparing a formula for allocating that housing need by income level across its jurisdiction.
- **Utilities and Service Systems.** The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems.

For a complete list and description of the applicable non-land-use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, please see the individual sections of this Draft EIR listed previously.

Summary

The proposed General Plan 2045 is the primary planning document for the City of Livermore. The proposed Project is intended to ensure consistency between the General Plan, Development Code, regional plans, and federal and State laws and ensure there are no conflicts with these land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect that would result in a significant environmental impact. Because the proposed General Plan 2045 is the overriding planning document for the City, and because the proposed Project involves amending the current General Plan and Development Code, impacts would be **less than significant**.

3.11.5 Cumulative Impact Analysis

The discussion below considers the proposed Project's potential cumulative contribution to the division of an established community and conflict with the goals of the State housing law and regional housing needs, Alameda County LAFCO, Plan Bay Area, Alameda County ECAP, and the Livermore Municipal ALUCP adopted for the purpose of avoiding or mitigating an environmental effect.

Would the project have a cumulative effect related to land use?

Less than significant. As discussed under impact discussions (a) and (b), adoption and implementation of the proposed Project would not divide an established community in the EIR Study Area or conflict with established plans, policies, and regulations at statewide and regional levels, adopted for the purpose of avoiding or mitigating an environmental effect. Cumulative development is likely to continue to occur in the Alameda County region and it would generally take place in already urbanized areas as infill development. Cumulative development would be governed by the applicable plans, programs, policies, and land use planning regulations which would ensure logical and orderly development and require discretionary review to ensure that projects do not divide an established community or result in environmental impacts due to inconsistency with applicable land use planning regulations including, but not limited to, the applicable general plans or any applicable Specific Plans. Cumulative development would also adhere to applicable policies of the applicable municipal codes. Conformance with these land use planning regulations would be confirmed during project approval. For these reasons, cumulative projects would have a less than significant cumulative effect and the proposed Project would not result in a cumulatively considerable contribution. Cumulative impacts would be **less than significant**.

3.11.6 References

ABAG and MTC (Association of Bay Area Governments and Metropolitan Transportation Commission). 2021, October. *Plan Bay Area 2050*. https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed September 24, 2025.

Alameda County. 2000 (amended). *East County Area Plan*. https://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf, accessed September 25, 2025.

Alameda County ALUC (Airport Land Use Committee). 2012, August. *Livermore Executive Airport: Airport Land Use Compatibility Plan.* https://www.acgov.org/cda/planning/generalplans/documents/LVK_ALUCP_082012_FULL.pdf, accessed October 22, 2025.

Livermore, City of. 2022, March 7. *Livermore General Plan Update Existing Conditions Reports.* https://imaginelivermore2045.org/documents/, accessed September 25, 2025.

_____. 2023, March 13. *2023-2031 Housing Element*. https://www.livermoreca.gov/home/showpublisheddocument/10080/638156173818800000, accessed September 25, 2025.

3.12 MINERAL RESOURCES

This section evaluates the potential mineral resources impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential mineral resources impacts; and identifies the proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to mineral resources impacts of the proposed Project were received during the EIR scoping period.

3.12.1 Regulatory Framework

STATE

Surface Mining and Reclamation Act

The California Department of Conservation, Geological Survey (California Geological Survey) classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board (SMGB), as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975 (Public Resources Code Sections 2710 et seq.). Cities and counties are required to incorporate MRZs delineated by the State into their General Plans (Public Resources Code Section 2762(a)(1)). The MRZs identify whether known or inferred significant mineral resources are present in areas. MRZs are grouped by the State into four categories based on geologic factors, with MRZ-2 lands having the greatest importance. MRZ-2 sites are underlain by demonstrated mineral resources considered important to the region or the State as a whole. The other categories include MRZ-3, areas of undetermined mineral resource significance; MRZ-4, areas of unknown mineral resource potential; and MRZ-1, areas where geologic information indicates no significant mineral deposits are present. The SMGB also divides aggregate resources (MRZ-2) into regions and resource sectors.

REGIONAL

Alameda County East County Area Plan

The East County Area Plan (ECAP) outlines goals, policies, and programs to conserve natural resources for the eastern portion of Alameda County while ensuring adequate development to accommodate the growing population (Alameda County 2000). The ECAP covers the area surrounding Livermore; and the EIR Study Area is within the ECAP. Policy 52 of the ECAP requires the county to preserve open space areas for the protection of public health and safety, provision of recreational opportunities, production of natural resources (e.g., agriculture, wind

power, and mineral extraction), protection of sensitive viewsheds, preservation of biological resources, and the physical separation between neighboring communities.

3.12.2 Existing Conditions

The EIR Study Area is in the South San Francisco Bay Production-Consumption Region and consists of lands that have been assigned MRZ classifications by the California Geological Survey (DOC 1982). As shown on Figure 3.12-1, *Mineral Resource Zones*, most of the central and western portions of the EIR Study Area have been classified as MRZ-2, where the land is underlain by demonstrated mineral resources considered important to the region or the State as a whole. The southern portion of the EIR has been classified as MRZ-3, areas of undetermined mineral resource significance. A small portion of the northeastern and southeastern EIR Study Area have been classified as MRZ-4, areas of unknown mineral resource potential. The rest of the EIR Study Area has been classified as MRZ-1, areas where geologic information indicates no significant mineral deposits are present.

There are also three regionally significant construction aggregate resource areas in the vicinity of the EIR Study Area (DOC 1996). As shown on Figure 3.12-2, *Regionally Significant Construction Aggregate Resource Areas*, Sector A generally shares borders with the western boundary of the EIR Study Area, with portions of Sector A-2 falling within the EIR Study Area. Sector B is within the southern portion of the EIR Study Area, except for Sector B-1, which shares borders with the western boundary of the EIR Study Area. Sector C is south of the southeastern boundary of the EIR Study Area, with only Sector C-1 falling within the boundaries. Sector A consists of aggregate deposits and Sector B and Sector C consist of alluvial deposits. These sectors have been generally classified as MRZ-2. There are no active mines in the EIR Study Area (DOC 2025).

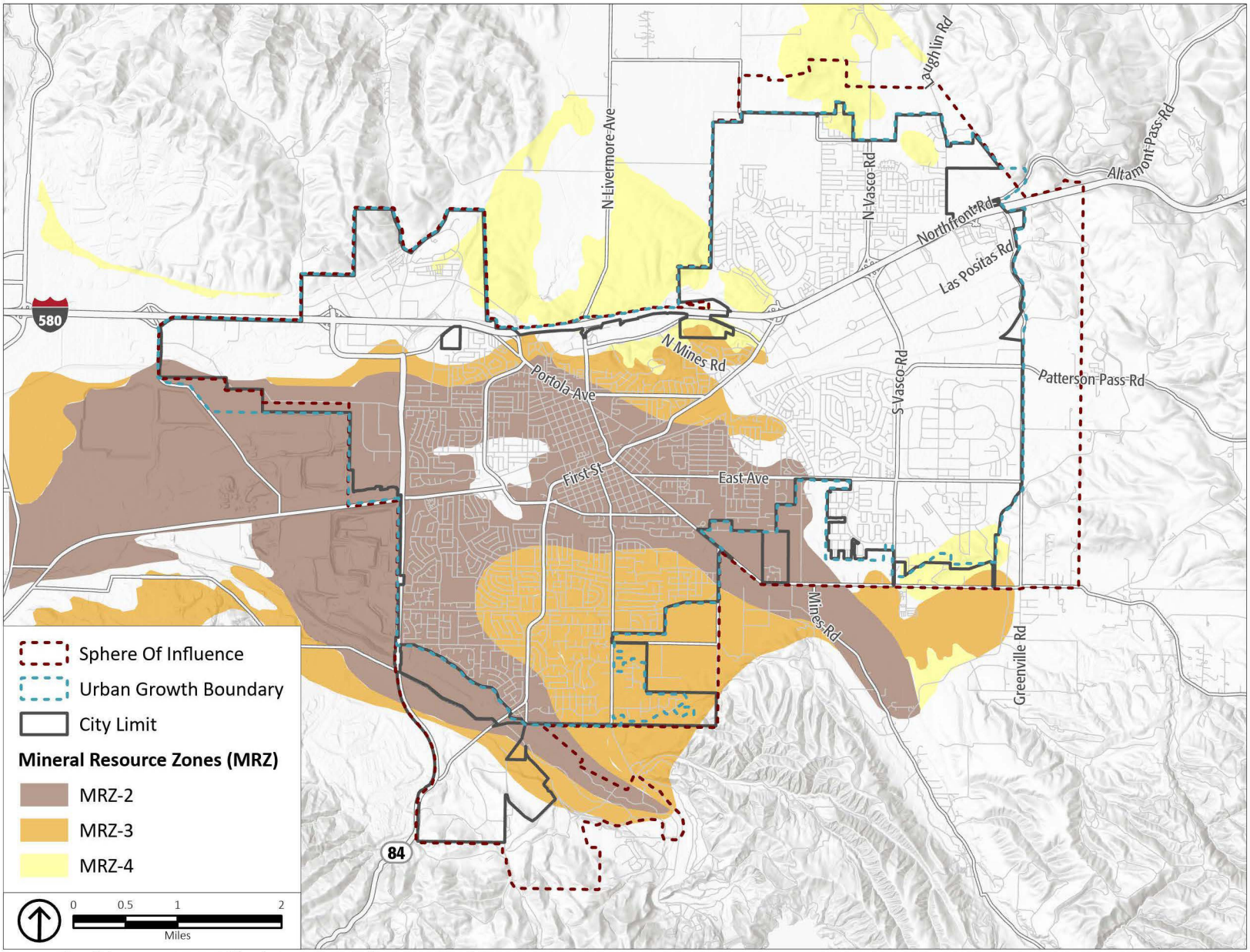
3.12.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to mineral resources if it would:

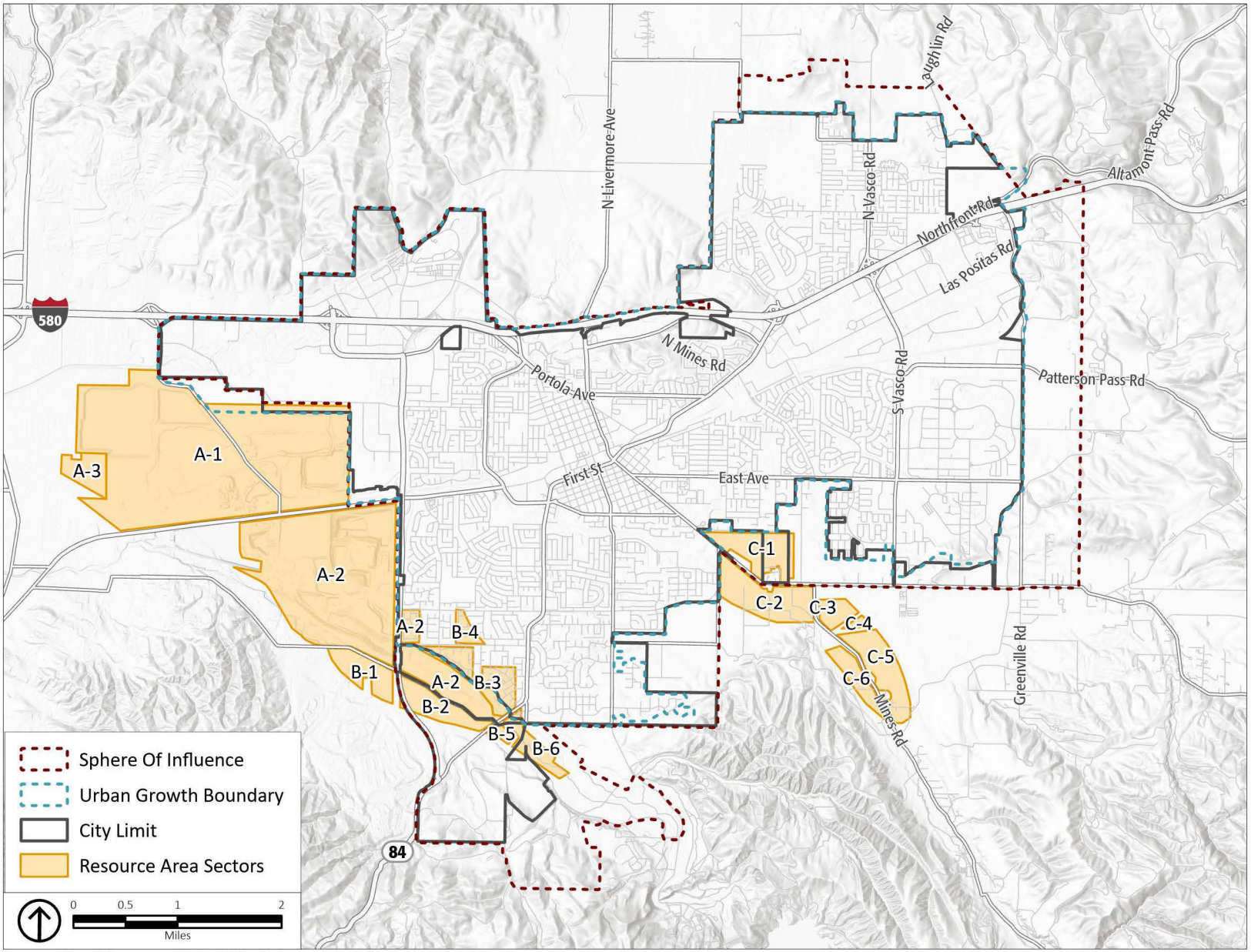
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.



Source: City of Livermore, 2022; California Department of Conservation, 1986.

Figure 3.12-1
Mineral Resource Zones



Source: City of Livermore, 2022; California Department of Conservation, 1996.

Figure 3.12-2
Regionally Significant Construction Aggregate Resource Areas

3.12.4 Project Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

Significant and Unavoidable. As shown on Figure 3.12-1, most of the central and western portions of the EIR Study Area, including existing developed neighborhoods and commercial areas, have been classified as MRZ-2, where the land is underlain by demonstrated mineral resources considered important to the region or the State. As shown on Figure 3.12-2, the southern portion of the EIR Study Area contains regionally significant construction aggregate resources where land has been classified as MRZ-2.

SMGB policy states that land uses that require a high public or private investment in structures, land improvements, and landscaping, or that would otherwise prevent mining (e.g., high-density residential development, public facilities, intensive industrial, and commercial uses) are inherently incompatible with the conservation and extraction of mineral resources. Those land uses that require a low public or private investment in structures, land improvements, and landscaping that would allow mining (e.g., extensive industrial, recreation, agricultural, and open space uses) could be compatible. The proposed General Plan 2045 land use map would designate lands classified as MRZ-2 as a mix of compatible and incompatible land uses, as defined by the SMGB policy. In much of the area classified as MRZ-2, the proposed General Plan 2045 land use designations reflect existing built development.

Future development would be required to comply with the SMARA, which aims to protect significant mineral resources from the intrusion of incompatible land uses. Additionally, development on lands classified as MRZ-2 and MRZ-3 would be subject to the provisions of SMARA Section 2762(e), which requires an evaluation of the site to ascertain the significance of the mineral deposit in the area. The results of the evaluation would be submitted to the State Geologist and the SMGB for review.

The Open Space and Conservation (OS) Element of the proposed General Plan 2045 contains the following goal and policy designed to minimize impacts related to the loss of mineral resources:

- **Goal OS-9:** Preserve and use mineral resources in the city and its Planning Area, while ensuring minimal adverse impacts on environmental resources and surrounding uses.
  - **Policy OS-9.1: Mineral Resources Consideration.** Consider potentially available mineral resources on the property or in the vicinity when considering land use proposals.

Proposed Policy OS-9.1 would require the City to consider potentially available mineral resources on a proposed development site; however, the land could still be developed with uses that are incompatible with mineral resource protection. As a result, undeveloped lands

classified as MRZ-2 could be converted to non-mineral uses, and this impact is *potentially significant.*

Impact MIN-1: Implementation of the proposed Project could result in the loss of availability of known mineral resources that would be of value to the region and the residents of the State.

The proposed General Plan 2045 contains a policy that requires the City to preserve mineral resources. Specifically, proposed Policy OS-9.1 requires the City to consider potentially available mineral resources on the property or in the vicinity when considering land use proposals. In addition, the provisions of the SMARA would reduce impacts to aggregate mineral resources to the extent possible by requiring site-specific evaluations to discover the presence of mineral resources. However, the only way to fully avoid the impact to mineral resources from implementation of the proposed Project is to not allow incompatible land uses in areas classified as MRZ-2, thereby eliminating the impact. There are undeveloped areas classified as MRZ-2 that may develop over the horizon of the proposed Project with incompatible uses. The City has a responsibility to meet other conflicting obligations, including increasing the number and types of jobs available in Livermore and reducing the need for residents to commute to high-quality jobs. These measures are critical to reducing single-occupant vehicle travel to and from Livermore and meeting State targets for greenhouse gas reduction. The City needs to continue to allow development within areas classified as MRZ-2 with incompatible uses, as appropriate, to promote future economic development and corresponding residential development, as required by State housing law, within its adopted urban growth boundary. Accordingly, there are no feasible mitigation measures and impacts would remain **significant and unavoidable**.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less than Significant. As shown on Figure 3.12-2, the EIR Study Area consists of regionally significant construction aggregate resource areas. The proposed General Plan 2045 Land Use Map retains the Open Space/Sand and Gravel (OSP/S&G) land use designation for most of the lands as designated in the existing General Plan and Resource Area Sector A-2. The lands designated Open Space/Sand and Gravel are defined as areas of statewide concern due to the demonstrated level of quality aggregate. The sand and gravel also have both local and regional significance; resources extracted at these sites are used in local and regional development and municipal construction projects. The primary use allowed in areas designated Open Space/Sand and Gravel is open space while sand and gravel extraction, processing, and related activities are secondary. Some of the Resources Area Sectors and land that was designated Open Space/Sand and Gravel (OSP/S&G) under the existing General Plan would be redesignated for agricultural,

industrial office, and open space and park uses under the proposed General Plan 2045 land use map. As described under impact discussion (a), land uses that require a low public or private investment in structures, such as land improvements, and landscaping that would allow mining (e.g., extensive industrial, recreation, agricultural, and open space uses) could be compatible. The proposed redesignations to agricultural, industrial office, and open space and park uses would be compatible uses that would not result in the loss of availability of a locally important mineral resource recovery site. Therefore, because there would be no permanent obstruction of the mineral resources designated as Open Space/Sand and Gravel (OSP/S&G), as shown on the proposed General Plan 2045 land use map, there would be no loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan impacts are **less than significant**.

3.12.5 Cumulative Impact Analysis

The following discussion considers the proposed Project's potential cumulative contribution to the loss of a known mineral resources that would be of value to the region or loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. For purposes of this cumulative analysis, the geographic scope encompasses the Eastern Alameda County region, including the EIR Study Area and adjacent unincorporated lands where MRZ-2 and regionally significant mineral resource sectors are located.

Would the project have a cumulative effect related to mineral resources?

Significant and unavoidable.

Loss of Availability of a Known Mineral Resource

Existing mineral extraction in Eastern Alameda County is mainly in unincorporated Alameda County to the west of the EIR Study Area and outside of the Pleasanton City Limit. This land is designated as MRZ-2 as shown in Figure 3.12-1 and as regionally significant construction aggregate resources areas, Sector A, as shown in Figure 3.12-2. Future development in the region would be subject to the applicable jurisdiction's mineral resources regulations, including applicable municipal codes, as well as the SMARA Section 2762(e), which requires an evaluation of the site to ascertain the significance of the mineral deposit in the area to be submitted to the State Geologist and the SMGB for review. Because this land is within unincorporated Alameda County and is designated by the Alameda County General Plan as Water Management (WM), Large Parcel Agriculture (LPA), and Industrial (I), it is not anticipated that these existing extraction sites would be redeveloped to noncompatible land uses.

As described in impact (a), within the EIR Study Area, there are undeveloped areas classified as MRZ-2 that may develop over the horizon of the proposed Project with incompatible uses. The proposed General Plan 2045 contains a policy that requires the City to preserve mineral resources. Specifically, proposed Policy OS-8.1 requires the City to consider potentially available mineral resources on the property or in the vicinity when considering land use proposals. In addition, the provisions of the SMARA would reduce impacts to aggregate mineral resources to the extent possible by requiring site-specific evaluations to discover the presence of mineral resources.

Loss of Locally Important Mineral Resources Recovery Site Delineated on Land Use Plan

As described in the previous section, areas in Eastern Alameda County in unincorporated Alameda County that currently allow mineral extraction under existing land use plans would continue to allow such extraction. As discussed under impact discussion (a), the proposed General Plan 2045 land use map retains the Open Space/Sand and Gravel (OSP/S&G) land use designation for most of the lands as designated in the existing General Plan and Resource Area Sector A-2. The primary use allowed in areas designated Open Space/Sand and Gravel is open space while sand and gravel extraction, processing, and related activities are secondary. Some of the Resources Area Sectors and land that was designated Open Space/Sand and Gravel (OSP/S&G) under the existing General Plan would be redesignated for agricultural, industrial office, and open space and park uses under the proposed General Plan 2045 land use map. As described under impact discussion (a), land uses that require a low public or private investment in structures, such as land improvements, and landscaping that would allow mining (e.g., extensive industrial, recreation, agricultural, and open space uses) could be compatible. The proposed redesignations to agricultural, industrial office, and open space and park uses would be compatible uses that would not result in the loss of availability of a locally important mineral resource recovery site.

Summary

Because there would be no permanent obstruction of the mineral resources designated as Open Space/Sand and Gravel (OSP/S&G), as shown on the proposed General Plan 2045 land use map, there would be no loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan impacts and impacts would not be cumulatively considerable. However, there are undeveloped areas classified as MRZ-2 that may develop over the horizon of the proposed Project with incompatible uses. The only way to fully avoid this impact is to not allow incompatible land uses in areas classified as MRZ-2, thereby eliminating the impact. Although existing regulations as previously described and the policies in the proposed General Plan 2045 would reduce and partially offset cumulative impacts, the proposed Project would contribute to the loss of significant mineral resources impact in the region, and this impact is cumulatively *potentially significant*.

Impact MIN-3: Implementation of the proposed Project could result in a significant cumulative impact with respect to the loss of availability of known mineral resources that are of value to the region and the residents of the State.

Implementation of the proposed Project could result in significant and unavoidable impacts related to the loss of availability of known mineral resources that are of value to the region and the residents of the State. Although the proposed General Plan 2045 goals and policies would reduce potential impacts, they would not reduce them to less than significant, and, as discussed previously, there are no feasible mitigation available to reduce potential impacts. The City has a responsibility to meet other conflicting obligations, including increasing the number and types of jobs available in Livermore and reducing the need for residents to commute to high-quality jobs. These measures are critical to reducing single-occupant vehicle travel to and from Livermore and meeting State targets for greenhouse gas reduction. The City needs to continue to allow development within areas classified as MRZ-2 with incompatible uses, as appropriate, to promote future economic development and corresponding residential development, as required by State housing law, within its adopted urban growth boundary. Therefore, this cumulative impact would remain **significant and unavoidable**.

3.12.6 References

Alameda County. 2000 (amended). *East County Area Plan*. https://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf, accessed on September 25, 2025.

DOC (Department of Conservation). 1982. *Mineral Land Classification Map*. https://maps.conservation.ca.gov/cgs/minerals/?page=Mineral-Land-Classification, accessed September 10, 2025.

———. 1996. *Designated Areas Update: Regionally Significant Construction Aggregate Resource Areas in the South San Francisco Bay Production-Consumption Region*. https://maps.conservation.ca.gov/cgs/minerals/?page=Mineral-Land-Classification, accessed September 10, 2025.

———. 2025, September 25 (accessed). Mines Online. https://maps.conservation.ca.gov/mol/index.html.

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3.13 NOISE

This section evaluates the potential noise impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential noise impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the information provided herein has been updated to reflect this.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to noise impacts of the proposed Project were received during the EIR scoping period.

Terminology

The following defines terminology commonly referred to in this analysis:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Lmax.** The instantaneous maximum noise level for a specified period.
- **Equivalent Continuous Noise Level (Leq); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level that, in a stated period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the Leq metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level (Ln).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L50 level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period), that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L10 level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often

known as the "intrusive sound level." The L90 is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Day-Night Sound Level (Ldn or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 p.m. to 10:00 p.m. and 10 dB from 10:00 p.m. to 7:00 a.m. For general community/environmental noise, CNEL and Ldn values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive, that is, higher than the Ldn value). As a matter of practice, Ldn and CNEL values are interchangeable and are treated as equivalent in this assessment.
- **Peak Particle Velocity (PPV).** The peak signal value of an oscillating vibration velocity waveform usually expressed in inches per second (in/sec).
- **Sensitive Receptor.** Sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Noise and Vibration Fundamentals

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in dB), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the dB. Changes of 1 to 3 dBA are detectable under quiet, controlled conditions, and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment, and a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is usually used to relate noise to human sensitivity. The dBA scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, dB is measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, while 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The dB system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their dB level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called Leq), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of

the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8, and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a City's noise ordinance, as discussed below. Other values typically noted during a noise survey are the Lmin and Lmax. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

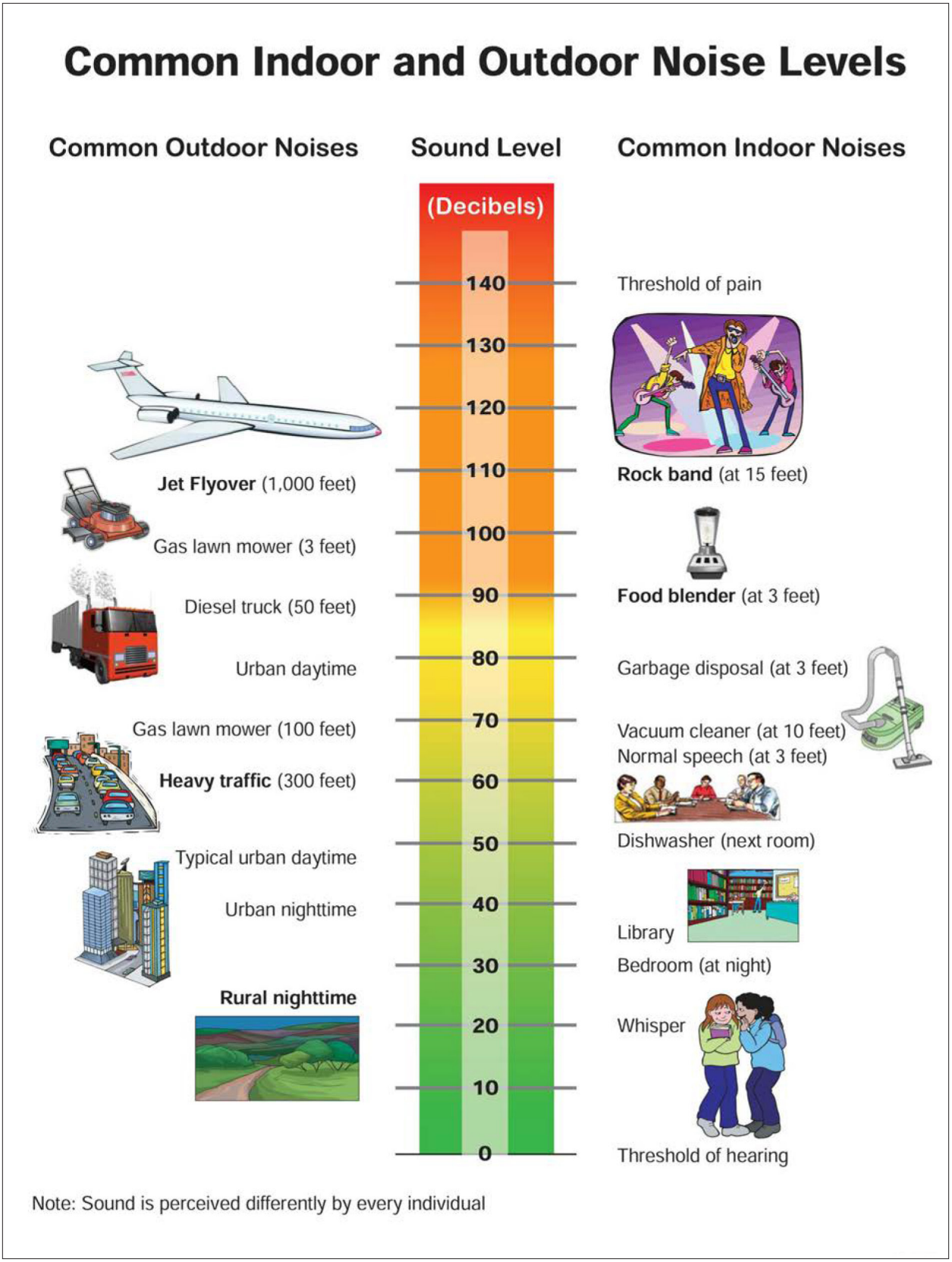
Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial dB increment is added to quiet-time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (Ldn). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 a.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The Ldn descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24-hour level with the CNEL being only slightly more restrictive (i.e., higher).

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receptor, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor with the specific purpose of reducing noise. A barrier that breaks the line of sight between a source and a receptor will typically result in at least 5 dBA of noise reduction. A very tall barrier may provide as much as 16 dBA of noise reduction.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure more than 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear. Figure 3.13-1, *Common Indoor and Outdoor Noise Levels*, shows typical noise levels from familiar noise sources at a specified distance.



Source: ADOT 2008.

Figure 3.13-1
Common Indoor and Outdoor Noise Levels

VIBRATION FUNDAMENTALS

Vibration is an oscillatory motion through a solid medium, such as the ground or a building. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers.

Amplitude

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal, and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage. The units for PPV are normally inches per second (in/sec). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

As with airborne sound, annoyance with vibrational energy is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons accustomed to elevated ambient vibration levels, such as in an urban environment, may tolerate higher vibration levels. Table 3.13-1, *Human Reaction to Typical Vibration Levels*, shows the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are heavy construction equipment (such as blasting and pile driving), steel-wheeled trains, and heavy trucks on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Table 3.13-1 Human Reaction to Typical Vibration Levels

Vibration Level (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwellings – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans 2020.

Notes: PPV = peak particle velocity; in/sec = inches per second.

3.13.1 Regulatory Framework

FEDERAL

Federal Highway Administration

Proposed federal or federal-aided highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes the horizontal or vertical alignment or increases the number of through-traffic lanes, require an assessment of noise and consideration of noise abatement (Title 23 Code of Federal Regulations Part 772). The Federal Highway Administration (FHWA) has adopted noise abatement criteria (NAC) for sensitive receivers—such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals—when "worst-hour" noise levels approach or exceed 67 dBA Leq. The California Department of Transportation (Caltrans) has further defined approaching the NAC to be 1 dBA below the NAC for noise-sensitive receivers identified as Category B activity areas (e.g., 66 dBA Leq is considered approaching the NAC) (Caltrans 2020).

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response and has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels are at or below 45 dBA. These levels are relevant to planning and design and useful for informational purposes, but they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community; therefore, they are not mandated.

The USEPA also set 55 dBA Ldn as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA Ldn, have settled on the 65 dBA Ldn level as their standard. At 65 dBA Ldn, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

United States Department of Housing and Urban Development

The United States Department of Housing and Urban Development (HUD) has set the goal of 65 dBA Ldn as a desirable maximum exterior standard for residential units developed under HUD funding. This level is also generally accepted within the State of California. Although HUD does not specify acceptable interior noise levels, standard construction of residential dwellings typically provides 20 dBA or more of attenuation with the windows closed. Based on this premise, the interior Ldn should not exceed 45 dBA Ldn.

Federal Transit Administration

The Federal Transit Administration (FTA) oversees safety measures related to noise and vibration. The FTA's Transit Noise and Vibration Impact Assessment manual indicates that 80 dBA equivalent sound level (Leq) is reasonable criteria for assessing construction noise levels at residential uses (FTA 2018). In the absence of local construction noise limits, the FTA recommends 80 dBA Leq criteria to assess the significance of construction noise levels at residential receivers. Recommended criteria for residential, commercial, and industrial receivers are shown in Table 3.13-2, *FTA Detailed Analysis Construction Noise Criteria*.

Table 3.13-2 FTA Detailed Analysis Construction Noise Criteria

Building/Structural Category	Daytime Leq (8-hour) dBA	Nighttime Leq (8-hour) dBA
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: FTA 2018.

Notes: dBA = A-weighted decibels; Leq = equivalent continuous sound level

The FTA also provides criteria for acceptable levels of groundborne vibration for various types of buildings. Structures amplify groundborne vibration; wood-frame buildings, such as typical residential structures, are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively, but the standards recommended by the FTA are shown in Table 3.13-3, *FTA Construction Vibration Damage Criteria*.

Table 3.13-3 FTA Construction Vibration Damage Criteria

Building/Structural Category	Peak Particle Velocity (PPV) (in/sec)	Approximate Vibration (VdB)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Nonengineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA 2018.

Notes: PPV = peak particle velocity; in/sec = inches per second; VdB = vibration decibels.

STATE

General Plan Guidelines

The Governor's Office of Land Use and Climate Innovation (LCI), formerly known as the Office of Planning and Research, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels, expressed in CNEL (LCI 2017). A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise-reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise-reduction requirements. The General Plan Guidelines provide cities with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

California Code of Regulations

Interior Noise Standards

Title 24 of the California Code of Regulations (CCR) includes the California Building Code (CBC). CBC Volume 1, Chapter 12, Section 1206.4, *Allowable Interior Noise Levels*, requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room. The noise metric is evaluated as either Ldn (the day-night average sound level) or CNEL (the community noise equivalent level), whichever is consistent with the noise element of the local general plan.

The State of California's noise insulation standards for nonresidential uses are codified in CCR Title 24, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Projects may use either the prescriptive method (Title 24 CCR Part 11, Section 5.507.4.1) or the performance method (Title 24 CCR Part 11, Section 5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA Leq (1 hour).

Airport Noise Standards

CCR Title 21, Subchapter 6, *Airport Noise Standards*, establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses are generally incompatible in locations where the aircraft exterior noise level exceeds 65 dBA CNEL unless an aviation easement for aircraft noise has been acquired by the airport proprietor or the residence is a high-rise with an interior CNEL of 45 dBA or less in all habitable rooms and an air circulation or air conditioning system, as appropriate.

Assembly Bill 2776

Passed in 2002, Assembly Bill (AB) 2776 requires any person who intends to sell or lease residential properties in an airport influence area (AIA) to disclose that fact to the person buying the property. The goal is to help homebuyers make informed choices, and to avoid the potential for conflict between neighborhood residents and general aviation pilots.

REGIONAL

Livermore Municipal Airport Land Use Compatibility Plan

The Alameda County Airport Land Use Commission (ALUC) adopted the Livermore Municipal Airport Land Use Compatibility Plan (ALUCP) in 2012 (Alameda County ALUC 2012). The creation of the ALUC and the preparation of the ALUCP are requirements of the California State Aeronautics Act (Public Utilities Code Section 21670 et seq.). The fundamental purpose of ALUCs is to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports. The ALUCP evaluates all surrounding land within the AIA, defined as any land on which current or future airport-related noise, overflight, safety, or airspace protection factors may impact existing land uses. The ALUCP requires the ALUC to review any project, specific plan, general plan, zoning ordinance, or building regulation proposed in the AIA for consistency with the ALUCP.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes directives to minimize adverse noise impacts in Livermore. The LMC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to noise are in Title 9, *Public Peace, Morals, and Welfare*. Specific interior and exterior standards are not provided but exemptions to the standards are identified in Chapter 9.36, *Noise*. Chapter 9.36 generally prohibits loud, disturbing, unusual, and unnecessary noises from any person that annoys, disturbs, injures, or endangers the comfort, health, repose, peace, or safety of other persons within the city. This chapter also declares the following noise sources as loud, disturbing, unnecessary, unusual, or habitual noises:

- **Blowers, fans, and combustion engines.** The operation of any noise-creating blower, power fan or internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, is prohibited, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device to deaden such noise in such a manner so as not to be plainly audible at a distance of either 75 feet from the source of the noise, or between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday, and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday, or at all on City-observed holidays.
- **Exhausts from engines, boats, or vehicles.** The discharge into the open air of the exhaust of any steam engine, stationary internal-combustion engine, motorboat or motor vehicle, except through a muffler or other device which will effectively prevent loud or explosive noises therefrom in such a manner so as not to be plainly audible at the distance of either 75 feet from the source of the noise, or the property line, whichever is greater, is prohibited.

- **Loading and unloading vehicles and opening crates and containers.** 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 is prohibited.
- **Noises adjacent to schools, courts, churches, and hospitals.** The creation of any excessive noise on any street adjacent to any school, institution of learning, church, or court while the same is in use, or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital is prohibited, provided conspicuous signs are displayed in such streets, indicating that the streets are adjacent to a school, hospital, or court.
- **Hammers, pile drivers, pneumatic tools, and similar equipment.** The operation between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday, and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday, or at all on City-observed holidays of any pile driver, pneumatic tools, derrick, electric hoist, sandblaster, or other equipment used in construction, demolition, or other repair work, the use of which is attended by loud or unusual noise, is prohibited.
- **Radios, phonographs, musical instruments, and similar devices.** The using or operating, or permitting to be played, used, or operated, of any radio receiving set, musical instrument, phonograph, or other machine or device for the producing or reproducing of sound in such a manner as to disturb the peace, quiet, and comfort of the neighboring inhabitants, or at any time with louder volume than is necessary for convenient hearing for the persons who are in the room, vehicle, or chamber in which such machine or device is operated, and who are voluntary listeners.

  The operation of such set, instrument, phonograph, machine, or device between the hours of 11:00 p.m. and 7:00 a.m. in such manner as to be plainly audible at a distance of either 75 feet from the source of the noise, or the property line, whichever is greater, which shall be prima facie evidence of a violation of the provisions of LMC Sections 9.36.040 through 9.36.100.
- **Yelling, shouting, and similar noise.** Yelling, shouting, hooting, whistling, or singing on the public streets between the hours of 11:00 p.m. and 7:00 a.m., or at any time or place so as to annoy or disturb the quiet, comfort, or repose of persons in any office or in any dwelling, hotel, or other type of residence, or of any persons in the vicinity, is prohibited.

Chapter 9.36 also outlines the following as exceptions to the noise restrictions:

- Any homeowner/resident constructing home improvements to their residence and doing the work themselves (without a contractor present) with a valid building permit (if required) shall be allowed to utilize noise generating construction tools and equipment between the hours of 7:00 a.m. through 11:00 p.m. seven days a week.

- Outdoor noise levels associated with a short-term rental, operating with a valid permit, are prohibited between the hours of 10:00 p.m. and 8:00 a.m., or at any time or place so as to annoy or disturb the quiet, comfort, or repose of persons in any office or dwelling, hotel, or other type of residence, or of any persons in the vicinity.
- Industrial areas more than 500 feet from a residential development are exempt from the noise hour restrictions.

The City engineer and/or building official shall have the authority to authorize construction activities during the hours restricted by this chapter for the following reasons:

- A public agency, other than the City, requires as a condition of a permit that the construction be done during the restricted hours.
- Public health, safety, or welfare requires the work to be done during the restricted hours.
- Specific construction activities (such as large concrete foundation pours) can be identified and approved to occur as an exemption to this ordinance in the conditions of approval for a project at the time of the public hearing.

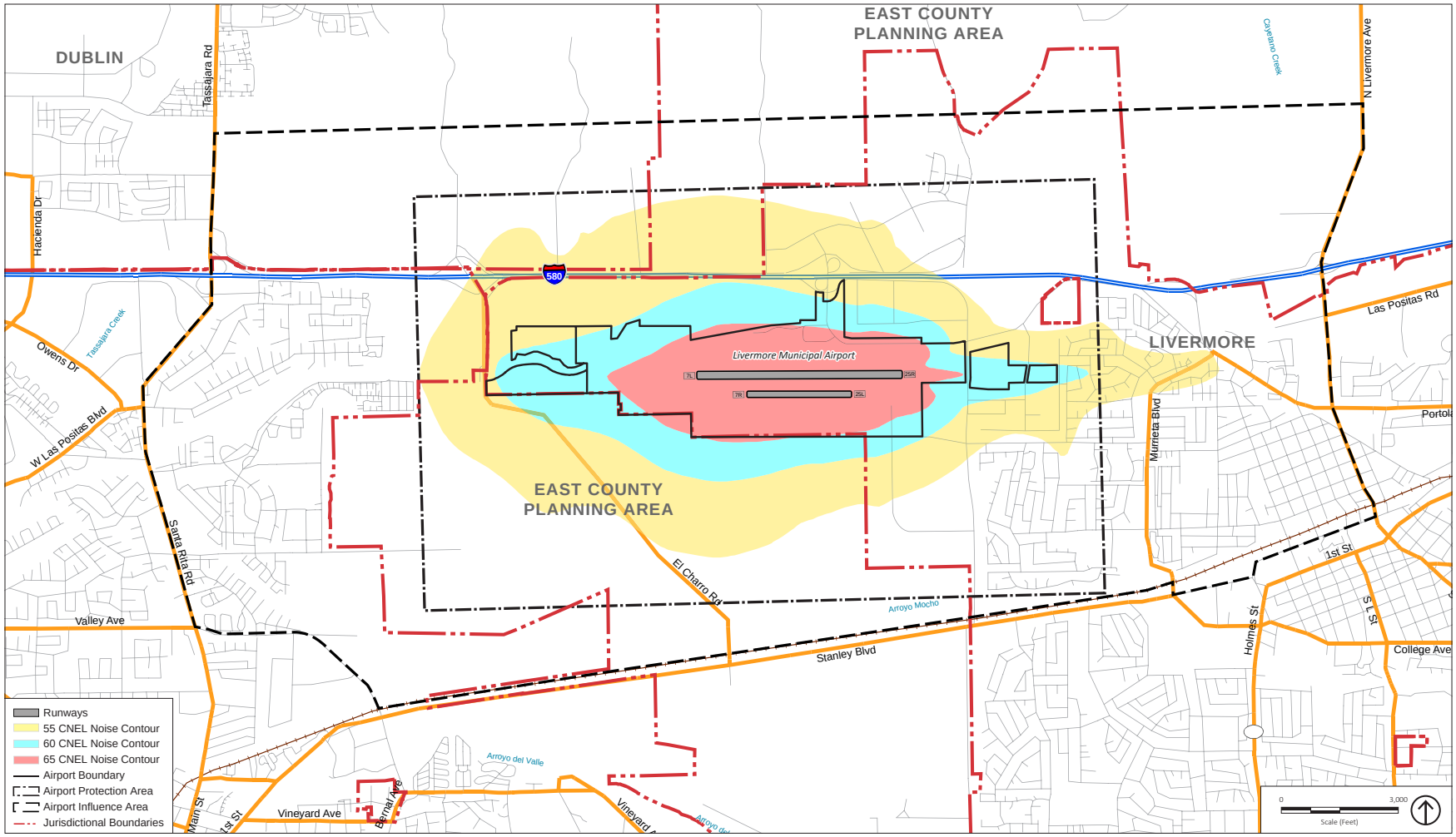
If the city engineer and/or building official approves an exception or an exception is allowed by conditions of approval for the project, the following shall be done by the contractor or City staff:

- Notify the Livermore police department, watch commander, at least 24 hours in advance.
- Notify residents and business owners that are adjacent to the work area at least 24 hours in advance. The limits of this notification shall be determined by the city engineer and/or building official.

3.13.2 Existing Conditions

NOISE MEASUREMENTS

PlaceWorks conducted ambient noise monitoring for the EIR Study Area on Wednesday, April 16, through Friday, April 18, 2025, to establish typical noise levels in different environments. Measurements were made during weekday periods to represent an active EIR Study Area. Long-term (48-hour) measurements were conducted at four locations within the EIR Study Area, and short-term (15-minute) measurements were conducted at 15 locations in the EIR Study Area. The locations of the short- and long-term measurements are shown in Figure 3.13-2, *Approximate Noise Monitoring Locations*.



Source: Livermore Executive Airport Land Use Compatibility Plan, August 2012, ESA Airports, 2009; ESRI, 2008; Brown-Buntin Associates, Inc., 2008; LSA Associates, Inc., 2009.

Figure 3.13-2
Livermore Municipal Airport Existing Noise Contours

Monitoring for the short-term measurements was performed using a Larson-Davis Model LxT sound level meter, which satisfies the American National Standards Institute (ANSI) standard for Type I instrumentation. Piccolo II meters were used for the long-term measurements and satisfy the ANSI standard for Type II instrumentation. All meters were calibrated prior to and after each monitoring period. All measurements were at least five feet above the ground and away from reflective surfaces. Meteorological conditions during the measurement periods were favorable for outdoor noise measurements and were noted to be representative of the typical conditions for the season. All sound level meters were equipped with a windscreen during measurements.

Long-Term Measurements

The long-term measurement results are detailed below and summarized in the following tables. Locations of long-term measurements are shown on Figure 3.13-2.

Long-Term Location 1 (LT-1) monitoring was conducted west of the parking lot for the Kingdom Hall, 37 feet north of the Herman Avenue centerline. The 48-hour noise measurement was conducted from Wednesday, April 16, through Friday, April 18, 2025. The noise environment is characterized primarily by traffic from Herman Avenue. As shown in Table 3.13-4, *LT-1 Long-Term Noise Measurements*, the average hourly daytime noise level from April 16 to 17 was 60.0 dBA Leq and the 24-hour noise level was 61.8 dBA CNEL at LT-1. The average hourly daytime noise level from April 17 to 18 was 57.0 dBA Leq and the 24-hour noise level was 59.9 dBA CNEL at LT-1.

Table 3.13-4 LT-1 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
Day 1									
10:00 AM	68.0	92.0	55.0	51.2	10:00 PM	52.2	73.1	50.0	48.0
11:00 AM	54.8	66.9	52.3	49.4	11:00 PM	52.8	72.1	51.3	48.8
12:00 PM	54.9	71.2	52.0	49.6	12:00 AM	50.2	63.7	49.1	46.1
1:00 PM	58.3	79.9	54.5	50.1	1:00 AM	50.8	62.6	49.8	46.7
2:00 PM	55.5	69.1	52.8	49.7	2:00 AM	51.7	61.6	51.1	48.2
3:00 PM	57.3	67.5	56.5	50.6	3:00 AM	55.0	67.7	54.4	51.7
4:00 PM	57.1	72.4	55.2	51.0	4:00 AM	56.6	67.2	56.0	54.3
5:00 PM	58.6	85.5	54.7	50.1	5:00 AM	55.0	67.8	54.1	51.1
6:00 PM	55.7	75.2	52.4	49.5	6:00 AM	55.6	68.4	53.9	51.8
7:00 PM	54.6	70.5	50.7	48.4	7:00 AM	58.2	76.1	55.7	53.6
8:00 PM	53.9	74.2	51.1	49.1	8:00 AM	58.9	77.6	56.1	49.0
9:00 PM	53.4	72.4	50.6	48.7	9:00 AM	56.3	79.4	49.0	45.6

Table 3.13-4 LT-1 Long-Term Noise Measurements

Average Hourly Daytime Noise Level					24-Hour Noise Level				
60.0 dBA Leq					61.8 dBA CNEL				
Day 2									
10:00 AM	55.6	71.3	51.8	48.3	10:00 PM	50.4	69.4	48.7	47.0
11:00 AM	54.2	77.4	46.7	43.6	11:00 PM	49.5	65.1	47.7	45.4
12:00 PM	55.0	72.3	48.9	45.9	12:00 AM	47.7	65.7	45.4	43.1
1:00 PM	60.0	89.1	51.2	46.8	1:00 AM	48.0	63.3	46.6	44.0
2:00 PM	56.2	72.1	51.0	46.2	2:00 AM	48.1	60.3	47.3	45.0
3:00 PM	56.9	72.0	53.6	47.5	3:00 AM	53.2	66.0	52.7	50.3
4:00 PM	56.5	77.5	52.1	46.3	4:00 AM	54.7	68.7	54.1	52.0
5:00 PM	57.0	79.7	52.7	47.5	5:00 AM	54.9	67.4	54.5	50.9
6:00 PM	56.8	82.1	52.8	49.0	6:00 AM	55.7	78.7	50.4	48.9
7:00 PM	53.3	65.0	49.9	46.0	7:00 AM	55.8	72.6	50.8	49.2
8:00 PM	53.1	70.1	49.8	47.2	8:00 AM	58.6	76.8	55.3	48.3
9:00 PM	53.9	70.3	51.4	49.4	9:00 AM	57.8	76.3	54.9	48.1
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
57.0 dBA Leq					59.9 dBA CNEL				

Source: See Appendix C, *Noise Data*.

Long-Term Location 2 (LT-2) monitoring was conducted at the southern portion of Dolan Park. The measurement location was located 45 feet northeast of the intersection of Junction Ave and Ladd Ave, approximately 34 feet north of the Ladd Ave centerline. The 48-hour noise measurement was conducted from Wednesday, April 16, through Friday, April 18, 2025. The noise environment is characterized by street vehicle noise from Ladd Avenue and Junction Avenue, as well as children playing at Dolan Park. As shown in Table 3.13-5, *LT-2 Long-Term Noise Measurements*, the average hourly daytime noise level from April 16 to 17 was 70.7 dBA Leq and the 24-hour noise level was 71.1 dBA CNEL at LT-2. The average hourly daytime noise level from April 17 to 18 was 70.3 dBA Leq and the 24-hour noise level was 71.5 dBA CNEL at LT-2.

Table 3.13-4 LT-1 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
Day 1									
11:00 AM	70.9	84.6	69.9	53.9	11:00 PM	50.1	71.5	44.3	42.4
12:00 PM	59.4	77.2	55.6	51.2	12:00 AM	55.3	83.7	43.6	40.9
1:00 PM	73.5	84.1	72.7	60.2	1:00 AM	54.1	71.6	44.9	39.5
2:00 PM	76.7	84.9	63.7	56.4	2:00 AM	56.0	85.5	41.1	39.6

Table 3.13-4 LT-1 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
3:00 PM	71.3	99.3	60.7	55.9	3:00 AM	42.5	64.8	40.3	38.8
4:00 PM	71.5	98.4	61.0	55.9	4:00 AM	49.3	69.7	43.2	40.3
5:00 PM	71.8	99.0	59.9	55.2	5:00 AM	69.8	100.0	46.3	42.4
6:00 PM	66.6	90.1	58.3	52.4	6:00 AM	64.6	94.6	52.1	46.3
7:00 PM	63.2	87.8	56.9	50.8	7:00 AM	63.4	86.3	55.1	48.1
8:00 PM	58.7	79.5	54.4	48.2	8:00 AM	67.9	96.1	58.4	52.2
9:00 PM	56.9	77.3	49.0	45.8	9:00 AM	59.5	82.7	54.4	48.7
10:00 PM	63.7	96.3	47.9	44.0	10:00 AM	60.6	82.1	54.8	49.9
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
70.7 dBA Leq					71.1 dBA CNEL				
Day 2									
11:00 AM	59.8	77.3	55.9	51.4	11:00 PM	53.6	79.4	46.3	42.6
12:00 PM	58.8	76.3	54.8	49.4	12:00 AM	55.6	72.3	45.9	41.8
1:00 PM	58.8	75.2	55.5	50.8	1:00 AM	45.0	69.2	40.7	38.8
2:00 PM	61.6	82.6	57.2	50.7	2:00 AM	42.6	61.9	39.4	38.0
3:00 PM	65.1	90.9	58.4	52.1	3:00 AM	44.9	67.7	39.8	37.8
4:00 PM	71.9	98.1	59.1	51.7	4:00 AM	48.4	67.9	42.3	40.0
5:00 PM	72.4	100.8	58.2	51.5	5:00 AM	62.4	94.7	48.2	43.4
6:00 PM	78.9	107.6	59.8	52.7	6:00 AM	72.3	104.0	50.9	45.7
7:00 PM	64.8	93.3	56.0	48.4	7:00 AM	65.8	96.2	54.9	48.9
8:00 PM	59.1	85.7	52.9	47.8	8:00 AM	66.4	95.8	58.2	51.7
9:00 PM	56.5	76.4	50.9	47.9	9:00 AM	61.3	78.9	57.8	51.1
10:00 PM	54.8	74.1	49.2	47.4	10:00 AM	59.0	77.3	55.1	49.1
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
70.3 dBA Leq					71.5 dBA CNEL				

Source: See Appendix C, *Noise Data*.

Long-Term Location 3 (LT-3) monitoring was conducted 37 feet north of the Swenson Group northeastern parking lot at 1410 Stealth Street. The measurement location was approximately 38 feet west of the Stealth Street centerline and approximately 0.75 miles east of the Livermore Municipal Airport runway. The 48-hour noise measurement was conducted from Wednesday, April 16, through Friday, April 18, 2025. The noise environment is characterized primarily by traffic noise on Stealth Street and aircraft flyovers attributable to the Livermore Municipal Airport. As shown in Table 3.13-6, *LT-3 Long-Term Noise Measurements*, the average hourly daytime noise level from April 16 to 17 was 56.9 dBA Leq and the 24-hour noise level was 61.9 dBA CNEL at LT-3. The average hourly daytime noise level from April 17 to 18 was 59.1 dBA Leq and the 24-hour noise level was 62.6 dBA CNEL at LT-3.

Table 3.13-6 LT-3 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
Day 1									
12:00 PM	58.7	80.1	53.9	52.1	12:00 AM	47.4	67.7	45.9	44.1
1:00 PM	57.2	77.9	54.4	52.6	1:00 AM	45.3	55.4	44.6	42.5
2:00 PM	59.2	84.3	53.9	52.4	2:00 AM	47.3	70.8	44.8	42.5
3:00 PM	60.7	83.7	55.3	53.3	3:00 AM	46.3	65.6	44.7	42.1
4:00 PM	62.2	84.9	56.1	53.9	4:00 AM	53.2	73.1	46.6	43.4
5:00 PM	61.2	86.9	55.0	53.4	5:00 AM	56.3	79.2	48.3	45.0
6:00 PM	57.8	78.4	54.1	52.8	6:00 AM	60.6	86.6	50.0	46.6
7:00 PM	57.6	73.5	54.0	53.1	7:00 AM	56.4	74.9	47.9	44.8
8:00 PM	58.4	85.6	50.9	49.0	8:00 AM	60.3	85.4	52.1	47.3
9:00 PM	52.4	69.9	49.9	47.8	9:00 AM	57.0	76.4	52.8	51.3
10:00 PM	52.0	70.6	49.6	47.7	10:00 AM	57.1	82.5	51.3	50.3
11:00 PM	49.0	65.9	47.4	45.4	11:00 AM	61.6	85.9	51.8	50.6
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
56.9 dBA Leq					61.9 dBA CNEL				
Day 2									
12:00 PM	57.3	80.8	52.1	50.9	12:00 AM	47.7	60.1	47.0	45.1
1:00 PM	57.2	79.2	51.9	50.5	1:00 AM	46.3	52.8	45.8	44.1
2:00 PM	60.4	86.5	51.7	50.1	2:00 AM	50.1	75.8	45.5	42.7
3:00 PM	61.9	85.4	56.3	51.7	3:00 AM	46.8	69.0	45.3	42.4
4:00 PM	59.5	79.8	54.1	51.5	4:00 AM	61.4	90.6	49.1	45.1
5:00 PM	57.8	84.5	51.5	50.3	5:00 AM	56.5	81.1	50.9	48.2
6:00 PM	56.3	71.7	52.1	50.6	6:00 AM	56.9	74.5	52.5	50.6
7:00 PM	59.7	83.7	53.8	52.8	7:00 AM	58.3	74.7	52.5	50.7
8:00 PM	57.5	82.3	51.1	49.6	8:00 AM	60.7	85.6	52.6	49.9
9:00 PM	54.9	81.6	50.8	49.2	9:00 AM	58.5	82.0	52.9	51.5
10:00 PM	51.9	69.4	50.4	49.0	10:00 AM	60.0	83.4	50.8	49.5
11:00 PM	49.9	66.5	49.2	47.7	11:00 AM	57.2	83.2	49.7	48.8
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
59.1 dBA Leq					62.6 dBA CNEL				

Source: See Appendix C, *Noise Data*.

Long-Term Location 4 (LT-4) monitoring was conducted at 5605 Southfront Road. The measurement was located approximately 170 feet south of the Interstate (I-) 580 centerline. The 48-hour noise measurement was taken from Wednesday, April 16, through Friday, April 18, 2025. The noise environment was primarily characterized by roadway traffic on Southfront Road and I-580. As shown in Table 3.13-7, *LT-4 Long-Term Noise Measurements*, the average hourly daytime noise level from April 16 to 17 was 77.8 dBA Leq and the 24-hour noise level was 83.0 dBA CNEL at LT-4. The average hourly daytime noise level from April 17 to 18 was 78.3 dBA Leq and the 24-hour noise level was 83.5 dBA CNEL at LT-4.

Table 3.13-7 LT-4 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
Day 1									
11:00 AM	78.0	88.9	77.5	74.3	11:00 PM	75.1	87.8	73.9	69.5
12:00 PM	78.7	94.3	78.3	75.8	12:00 AM	74.5	88.3	73.0	68.1
1:00 PM	78.5	86.8	78.1	75.8	1:00 AM	72.9	86.1	70.7	65.3
2:00 PM	76.2	87.2	74.8	71.8	2:00 AM	72.7	87.6	70.0	65.0
3:00 PM	75.9	89.8	74.7	71.6	3:00 AM	73.9	86.6	71.6	67.6
4:00 PM	75.0	87.9	73.8	71.0	4:00 AM	75.9	88.5	74.2	71.1
5:00 PM	74.6	87.0	73.6	71.1	5:00 AM	78.1	88.1	77.5	73.5
6:00 PM	78.2	90.0	77.9	74.5	6:00 AM	78.9	97.6	78.2	75.4
7:00 PM	79.0	90.1	78.7	76.7	7:00 AM	79.0	89.2	78.5	75.7
8:00 PM	78.7	96.9	78.2	75.4	8:00 AM	79.1	87.3	78.5	76.0
9:00 PM	76.7	87.6	76.3	73.0	9:00 AM	79.1	87.2	78.7	75.8
10:00 PM	76.3	90.3	75.5	71.6	10:00 AM	78.4	87.8	78.0	74.8
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
77.8 dBA Leq					83.0 dBA CNEL				
Day 2									
11:00 AM	79.3	91.9	78.9	76.3	11:00 PM	76.2	87.5	75.4	71.5
12:00 PM	79.5	88.8	79.1	76.8	12:00 AM	74.7	88.9	73.5	68.8
1:00 PM	79.2	88.5	78.9	76.7	1:00 AM	73.4	94.9	71.0	66.0
2:00 PM	77.0	89.8	76.1	72.1	2:00 AM	73.1	89.4	70.9	65.1
3:00 PM	74.7	95.5	72.9	69.6	3:00 AM	74.1	86.5	72.1	67.8
4:00 PM	74.3	99.4	71.0	68.3	4:00 AM	76.0	89.2	74.5	71.2
5:00 PM	72.7	87.3	69.9	66.3	5:00 AM	78.0	89.4	77.3	73.6
6:00 PM	73.5	85.8	72.1	67.9	6:00 AM	80.0	93.8	79.4	76.7
7:00 PM	79.0	92.1	78.7	76.7	7:00 AM	80.1	88.5	79.7	77.4

Table 3.13-7 LT-4 Long-Term Noise Measurements

Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)	Time	Leq (dBA)	Lmax (dBA)	L50 (dBA)	L90 (dBA)
8:00 PM	78.7	85.9	78.4	76.0	8:00 AM	80.4	99.6	79.9	77.6
9:00 PM	77.8	92.2	77.3	74.4	9:00 AM	80.1	89.9	79.8	77.3
10:00 PM	77.4	93.5	76.9	73.8	10:00 AM	79.6	92.5	79.1	76.3
Average Hourly Daytime Noise Level					**24-Hour Noise Level**				
78.3 dBA Leq					83.5 dBA CNEL				

Source: See Appendix C, *Noise Data*.

Short-Term Noise Measurements

The short-term measurement results are detailed in the pages that follow and summarized in Table 3.13-8, *Short-Term Noise Measurements Summary*. Locations of short-term measurements are shown on Figure 3.13-2. All short-term measurements were conducted for 15-minute durations.

Table 3.13-8 Short-Term Noise Measurements Summary

Monitoring Location	Description	15-minute Noise Level, dBA						
		Leq	Lmax	Lmin	L_{50}	L_{25}	L_{8}	L_{2}
ST-1	Old Oak Road, southeast of residence 249 Alden Lane	47.0	63.6	40.0	44.5	45.7	47.9	54.7
ST-2	Northeast of residence on 4947 Candy Court	55.5	69.7	43.1	51.5	55.4	59.3	63.3
ST-3	East from the driveway of the Lab Smith building at 5981 Graham Court	65.1	77.5	42.5	59.7	66.5	70.2	72.4
ST-4	Southwest of the driveway of the residence of 6682 Bear Creek Drive	52.4	70.4	43.4	47.4	48.9	51.6	61.4
ST-5	Corner end of Lassen Road	54.2	58.5	50.7	53.8	54.8	56.0	57.0
ST-6	North of the 306 Misty Circle residence	64.1	75.6	46.2	62.3	65.5	68.3	70.2
ST-7	East of 3884 First Street	66.9	75.9	49.5	65.3	68.3	71.1	73.3
ST-8	Southeast of the Ageno Apartments at 1055 Westwind Street #155	55.2	66.9	40.8	53.6	55.3	58.6	62.6
ST-9	Center of Stockman's Park	58.8	68.8	51.7	57.4	59.7	62.3	63.6
ST-10	East of 403 East Jack London Boulevard	66.0	77.5	45.5	61.3	67.5	71.2	73.3

Table 3.13-8 Short-Term Noise Measurements Summary

Monitoring Location	Description	15-minute Noise Level, dBA						
		Leq	Lmax	Lmin	L_{50}	L_{25}	L_{8}	L_{2}
ST-11	Northeastern portion of Portola Park	56.8	71.8	48.2	54.5	56.1	59.3	64.9
ST-12	Northwest of residence of 927 Aberdeen Avenue	70.1	80.0	45.5	68.6	71.3	74.0	76.2
ST-13	Southwest of the residence at 1428 Arlington Road	56.6	71.8	48.0	50.9	54.7	61.5	65.6
ST-14	East of 2801 Ladd Avenue	59.4	71.9	51.9	57.3	59.7	62.8	66.3
ST-15	Southwest corner of the St Michael Church on 458 Maple Street	66.1	83.1	50.0	62.0	64.5	69.1	73.4

Source: See Appendix C, *Noise Data*.

Short-Term Location 1 (ST-1) monitoring was conducted 90 feet southeast of the 249 Alden Lane residence, 44 feet south of the Old Oak Road centerline. The measurement began at 1:45 p.m. on Wednesday, April 16, 2025. The noise environment at this site is characterized by traffic on Old Oak Road and birds chirping. Noise levels measured 47 dBA Leq and 63.6 dBA Lmax during the measurement period at ST-1.

Short-Term Location 2 (ST-2) monitoring was conducted 28 feet east of the driveway of the residence on 4947 Candy Court and 28 feet south of the Candy Court centerline. The measurement began at 11:22 a.m. on Thursday, April 16, 2025. The noise environment at this site is characterized primarily by local traffic passing on Patterson Pass Road. Noise levels measured 55.5 dBA Leq and 69.7 dBA Lmax during the measurement period at ST-2.

Short-Term Location 3 (ST-3) monitoring was conducted 20 feet east of the Lab Smith building at 5981 Graham Court driveway, approximately 55 feet west of the South Vasco Road centerline. The measurement began at 10:56 a.m. on Thursday, April 17, 2025. The noise environment at this site is characterized primarily by the vehicular traffic. Occasional sounds from crows and truck unloading were observed from the direction of warehouses. Noise levels measured 65.1 dBA Leq and 77.5 dBA Lmax during the measurement period at ST-3.

Short-Term Location 4 (ST-4) monitoring was conducted on Bear Creek Drive, approximately 36 feet southwest of the residence at 6682 Bear Creek Drive. The measurement began at 9:29 a.m. on Thursday, April 17, 2025. The noise environment at this site is characterized primarily by single-family residential property uses, school, and open trails. No aircraft overflights were observed during the measurement period; however, the school bell alarm was observed. Noise levels measured 52.4 dBA Leq and 70.4 dBA Lmax during the measurement period at ST-4.

Short-Term Location 5 (ST-5) monitoring was conducted on the end of Lassen Road, approximately 18 feet west of the Lassen Road centerline. The measurement began at 9:29 a.m. on Thursday, April 17, 2025. The primary source of noise of the site is the frequent flow of vehicles along I-580. Bird flock was observed. Noise levels measured 54.2 dBA Leq and 58.5 dBA Lmax during the measurement period at ST-5.

Short-Term Location 6 (ST-6) monitoring was conducted 15 feet north of the 306 Misty Circle residence and 124 feet from South Vasco Road. The measurement began at 10:01 a.m. on Thursday, April 17, 2025. Small and medium vehicles were observed, as well as large trucks passing by during this measurement period. Occasional noise was observed coming from the warehouses north of the monitoring site, at approximately 240 feet. Noise levels measured 64.1 dBA Leq and 75.6 dBA Lmax during the measurement period at ST-6.

Short-Term Location 7 (ST-7) monitoring was conducted in a recreational area located 92 feet east of 3884 First Street. General noise sources at the monitoring site included vehicular traffic on First Street and Portola Avenue. The measurement began at 12:54 a.m. on April 17, 2025. During the monitoring period First Street and Portola Avenue dominated the noise environment; however, aircraft overflights were also observed. Noise levels measured 66.9 dBA Leq and 75.9 dBA Lmax during the measurement period at ST-7.

Short-Term Location 8 (ST-8) monitoring was conducted approximately 10 feet southeast of the Ageno Apartments at 1055 Westwind Street. The measurement began at 10:28 a.m. on Thursday, April 17, 2025. The noise environment of this site is characterized primarily by distant high-volume traffic on South Vasco Road, which is located approximately 840 feet west of the measurement location. No trains were observed passing by. Noise levels measured 55.2 dBA Leq and 66.9 dBA Lmax during the measurement period at ST-8.

Short-Term Location 9 (ST-9) monitoring was conducted at the center of Stockman's Park, approximately 135 feet west of Livermore Avenue. The measurement began at 2:22 p.m. on Thursday, April 24, 2025. The noise environment of this site is characterized primarily by active construction and Livermore Avenue traffic. Noise levels measured 58.8 dBA Leq and 68.8 dBA Lmax during the measurement period at ST-9.

Short-Term Location 10 (ST-10) monitoring was conducted approximately 45 feet south of the Jack London Boulevard centerline. The measurement began at 9:34 a.m. on Friday, April 18, 2025. The noise environment of this site is characterized primarily by Jack London Boulevard traffic and children playing at the nearby preschool/daycare center. Noise levels measured 66.0 Leq and 77.5 dBA Lmax during the measurement period at ST-10.

Short-Term Location 11 (ST-11) monitoring was conducted in the northeastern portion of Portola Park, approximately 135 feet south of the Portola Avenue centerline. The measurement began at 10:22 a.m. on Friday, April 18, 2025. The noise environment is characterized by Portola Avenue traffic. Noise levels measured 56.8 dBA Leq and 71.8 dBA Lmax during the measurement period at ST-11.

Short-Term Location 12 (ST-12) monitoring was conducted near the residence of 927 Aberdeen Avenue, approximately 50 feet from the Holmes Street centerline. The measurement began at 10:52 a.m. on Friday, April 18, 2025. The noise environment at the site was characterized by Holmes Street traffic. Noise levels measured 70.1 dBA Leq and 80.0 dBA Lmax during the measurement period at ST-12.

Short-Term Location 13 (ST-13) monitoring was conducted near the residence at 1428 Arlington Road, approximately 30 feet east of the Stealth Street centerline. The measurement began at 2:48 p.m. on Thursday, April 17, 2025. The noise environment at the site is characterized primarily by Stealth Street traffic and Livermore Municipal Airport aircraft overflights. Noise levels measured 56.6 dBA Leq and 71.8 dBA Lmax during the measurement period at ST-13.

Short-Term Location 14 (ST-14) monitoring was conducted near 2801 Ladd Avenue, approximately 35 feet north of the Junction Avenue centerline. The measurement began at 1:27 p.m. on Thursday, April 28, 2025. The noise environment of this site is characterized primarily by vehicle traffic on Junction Avenue and industrial activity. Noise levels measured 59.4 dBA Leq and 71.9 dBA Lmax during the measurement period at ST-14.

Short-Term Location 15 (ST-15) monitoring was conducted at the southwest corner of the St Michael Catholic Church. The measurement was located approximately 50 feet east of the Fourth Street centerline. The measurement began at 1:57 p.m. on Thursday, April 17, 2025. The noise environment of this site is characterized primarily by vehicle traffic on Fourth Street and Maple Street. Noise levels measured 66.1 dBA Leq and 83.1 dBA Lmax during the measurement period at ST-15.

TRAFFIC NOISE

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the roadway. Given the prevalence of mobile-source noise in the EIR Study Area, it is necessary to determine the noise currently generated by vehicles traveling through the EIR Study Area. Average daily traffic volumes were based on the existing daily traffic volumes calculated using peak hour intersection movements The City of Livermore does not provide a quantified vibration perception (human annoyance) standard, nor does it establish a specific vibration damage standard. The FTA criteria for acceptable vibration damage

levels for various types of buildings are shown in Table 3.13-3, *FTA Construction Vibration Damage Criteria*.

Existing traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction Model. The FHWA model determines a predicted noise level through a series of adjustments to a reference sound level. These adjustments account for traffic flows, speed, truck mix, varying distances from the roadway, and length of exposed roadway. Vehicle speeds on each roadway were assumed to be the posted speed limit, and no reduction in speed was assigned due to congested traffic flows. Current roadway characteristics, such as the number of lanes and speed limits, were determined from field observations and according to roadway classification.

The results of traffic noise modeling indicate that average noise levels along the EIR Study Area roadway segments currently range from approximately 47 dBA to 78 dBA CNEL (as calculated at 50 feet from the centerline of the road). Traffic noise levels for existing conditions, including distances to the 70 dBA, 65 dBA, and 60 dBA CNEL contours, along analyzed roadways are presented in Table 3.13-9, *Existing Roadway Traffic Noise Levels*.

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Airway Boulevard	East of Isabel Avenue	6,888	65	24	51	110
Airway Boulevard	West of Isabel Avenue	8,274	66	29	61	132
Airway Boulevard	South of North Canyons Parkway	14,284	70	53	114	246
Arroyo Road	North of Concannon Boulevard	2,144	58	8	17	36
Arroyo Rd	North of Wetmore Road	606	52	3	7	16
Bluebell Drive	East of Springtown Boulevard	9,092	63	18	38	81
Bluebell Drive	South of Buckskin Road	1,146	53	4	8	18
Brisa Street	East of Vasco Road	9,702	62	14	31	66
Catalina Drive	West of Wagoner Drive	1,446	54	4	10	21
Chestnut Street	East of P Street	3,018	58	8	17	36
College Avenue	East of L Street	2,738	55	5	11	23
Collier Canyon Road	North of Portola Avenue	1,406	58	8	18	39
Concannon Boulevard	East of Arroyo Road	10,389	71	61	131	283

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Concannon Boulevard	East of Isabel Avenue	14,959	68	37	79	170
Concannon Boulevard	West of Epson Street	11,899	71	56	120	258
Concannon Boulevard	South of Livermore Avenue	10,438	72	69	149	321
Dalton Avenue	West of Vasco Road	3,634	62	15	33	70
East Avenue	West of Jensen Street	16,156	67	30	64	138
East Avenue	West of Mines Road	13,854	69	44	94	202
East Avenue	West of Research Avenue	15,961	70	50	108	233
El Caminito	South of Stanley Boulevard	2,633	57	7	14	31
First Street	West of S. Livermore Avenue	4,304	60	10	23	49
First Street	North of Portola Avenue	36,653	73	80	173	373
First Street	South of I-580 EB Ramps	25,765	73	76	164	354
First Street	South of Inman Street	21,963	72	70	150	324
First Street	Between N and P Streets	4,302	60	10	22	47
Fourth Street	East of L Street	18,315	70	49	106	228
Greenville Road	North of East Avenue	1,169	59	9	19	42
Greenville Road	North of Marathon Drive	2,629	61	13	28	61
Greenville Road	North of Southfront Road	6,784	65	25	53	114
Holmes Street	South of Concannon Boulevard	15,192	71	60	130	280
Holmes Street	North of Mocho Street	16,205	69	40	86	186
Isabel Avenue	North of Rickenbacker Circle	42,052	76	134	288	621
Isabel Avenue	South of Portola Avenue	6,283	66	25	54	117
Isabel Avenue	South of Vallecitos Road	42,893	78	175	378	814
Isabel Avenue	North of Vineyard Avenue	38,406	78	170	367	791
Isabel Avenue	North of Concannon Boulevard	38,623	77	144	311	670

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Jack London Boulevard	East of El Charro Road	21,157	70	54	116	249
Jack London Boulevard	West of Isabel Avenue	13,621	67	32	69	149
Jack London Boulevard	East of Hagemann Drive	16,408	68	36	78	168
Junction Avenue	East of North Livermore Avenue	1,452	55	5	10	22
L Street	South of Pine Street	2,185	57	6	14	29
L Street	North of College Avenue	1,877	56	6	12	26
Las Positas Road	East of North Livermore Avenue	22,480	73	83	179	385
Las Positas Road	West of First Street	7,156	67	29	63	136
Las Positas Road	West of Vasco Road	1,280	57	7	15	32
Laughlin Road	North of Northfront Road	1,282	56	6	12	26
Lexington Way	East of Norwood Road	1,700	50	2	5	11
Livermore Avenue	South of Chestnut Street	20,839	69	45	97	209
Livermore Avenue	South of I-580 EB Ramps	30,065	74	95	204	439
Livermore Avenue	South of Concannon Boulevard	12,393	72	69	149	322
Livermore Avenue	South of Seventh Street	6,583	66	26	57	122
Maple Street	South of Second Street	5,721	61	12	26	56
Mines Road	North of East Avenue	9,660	67	33	72	154
Mines Road	South of First Street	24,916	73	78	169	363
Mines Road	South of Las Positas Road	11,200	68	35	76	163
Murdell Lane	South of Stanley Boulevard	5,543	60	11	24	51
Murrieta Boulevard	North of Stanley Boulevard	9,835	65	23	50	107
Murrieta Boulevard	South of Portola Avenue	3,712	61	12	26	56

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Murrieta Boulevard	West of Holmes Street	11,739	68	34	74	159
North Canyons Pkwy	East of Airway Boulevard	13,331	69	41	89	193
Northfront Road	East of Vasco Road	5,540	66	28	60	129
Olivina Avenue	East of Albatross Avenue	2,529	57	7	15	32
Olivina Avenue	West of Murrieta Boulevard	2,985	57	7	16	34
P Street	South of Chestnut Street	4,855	60	10	23	49
P Street	South of Portola Avenue	1,731	55	5	11	24
Patterson Pass Road	East of Greenville Road	9,859	68	36	78	168
Patterson Pass Road	West of Shannon Court	10,956	72	68	147	316
Patterson Pass Road	West of Vasco Road	12,743	71	60	128	277
Portola Avenue	East of Isabel Avenue	9,908	67	33	70	152
Portola Avenue	East of Livermore Avenue	7,632	67	30	64	139
Portola Avenue	East of Murrieta Boulevard	17,945	70	47	101	218
Preston Avenue	East of Vasco Road	9,479	66	27	58	125
Railroad Avenue	East of P Street	22,432	71	62	133	286
Scenic Avenue	West of Vasco Road	2,237	56	6	13	28
Southfront Road	East of Leisure Street	840	55	5	10	23
Springtown Boulevard	South of Redwood Road	3,839	62	15	33	70
Stanley Boulevard	East of Fenton Street	25,767	73	76	165	355
Stanley Boulevard	West of Murdell Lane	35,247	74	89	192	414
Stanley Boulevard	West of Murrieta Boulevard	33,952	75	104	224	483
Sunflower Court	East of Bluebell Drive	2,260	59	9	20	43
Tesla Road	East of Greenville Road	10,196	73	73	158	341

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Vallecitos Road	North of Isabel Avenue	12,721	72	65	140	301
Vancouver Way	East of Darwin Avenue	672	51	3	6	13
Vasco Road	North of Dalton Avenue	24,799	71	56	120	259
Vasco Road	North of Daphne Drive	21,711	72	72	154	333
Vasco Road	North of Preston Avenue	30,324	74	94	202	436
Vasco Road	North of Tesla Avenue	4,625	66	29	62	133
Vasco Road	South of Northfront Road	39,056	73	76	163	351
Vineyard Avenue	East of Isabel Avenue	2,182	60	10	22	47
Wetmore Road	West of Lagis Drive	891	54	4	9	20
Wisteria Way	East of Bluebell Drive	815	47	1	3	6
Airway Boulevard	East of Isabel Avenue	6,888	65	24	51	110
Airway Boulevard	West of Isabel Avenue	8,274	66	29	61	132
Airway Boulevard	South of North Canyons Parkway	14,284	70	53	114	246
Arroyo Road	North of Concannon Boulevard	2,144	58	8	17	36
Arroyo Road	North of Wetmore Road	606	52	3	7	16
Bluebell Drive	East of Springtown Boulevard	9,092	63	18	38	81
Bluebell Drive	South of Buckskin Road	1,146	53	4	8	18
Brisa Street	East of Vasco Road	9,702	62	14	31	66
Catalina Drive	West of Wagoner Drive	1,446	54	4	10	21
Chestnut Street	East of P Street	3,018	58	8	17	36
College Avenue	East of L Street	2,738	55	5	11	23
Collier Canyon Road	North of Portola Avenue	1,406	58	8	18	39
Concannon Boulevard	East of Arroyo Road	10,389	71	61	131	283
Concannon Boulevard	East of Isabel Avenue	14,959	68	37	79	170
Concannon Boulevard	West of Epson Street	11,899	71	56	120	258
Concannon Boulevard	South of Livermore Avenue	10,438	72	69	149	321

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Dalton Avenue	West of Vasco Road	3,634	62	15	33	70
East Avenue	West of Jensen Street	16,156	67	30	64	138
East Avenue	West of Mines Road	13,854	69	44	94	202
East Avenue	West of Research Avenue	15,961	70	50	108	233
El Caminito	South of Stanley Boulevard	2,633	57	7	14	31
First Street	West of S. Livermore Avenue	4,304	60	10	23	49
First Street	North of Portola Avenue	36,653	73	80	173	373
First Street	South of I-580 EB Ramps	25,765	73	76	164	354
First Street	South of Inman Street	21,963	72	70	150	324
First Street	Btwn N and P Street	4,302	60	10	22	47
Fourth Street	East of L Street	18,315	70	49	106	228
Greenville Road	North of East Avenue	1,169	59	9	19	42
Greenville Road	North of Marathon Drive	2,629	61	13	28	61
Greenville Road	North of Southfront Road	6,784	65	25	53	114
Holmes Street	South of Concannon Boulevard	15,192	71	60	130	280
Holmes Street	North of Mocho Street	16,205	69	40	86	186
Isabel Avenue	North of Rickenbacker Circle	42,052	76	134	288	621
Isabel Avenue	South of Portola Avenue	6,283	66	25	54	117
Isabel Avenue	South of Vallecitos Road	42,893	78	175	378	814
Isabel Avenue	North of Vineyard Avenue	38,406	78	170	367	791
Isabel Avenue	North of Concannon Boulevard	38,623	77	144	311	670
Jack London Boulevard	East of El Charro Road	21,157	70	54	116	249
Jack London Boulevard	West of Isabel Avenue	13,621	67	32	69	149
Jack London Boulevard	East of Hagemann Drive	16,408	68	36	78	168

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Junction Avenue	East of North Livermore Avenue	1,452	55	5	10	22
L Street	South of Pine Street	2,185	57	6	14	29
L Street	North of College Avenue	1,877	56	6	12	26
Las Positas Road	East of North Livermore Avenue	22,480	73	83	179	385
Las Positas Road	West of First Street	7,156	67	29	63	136
Las Positas Road	West of Vasco Road	1,280	57	7	15	32
Laughlin Road	North of Northfront Road	1,282	56	6	12	26
Lexington Way	East of Norwood Road	1,700	50	2	5	11
Livermore Avenue	South of Chestnut Street	20,839	69	45	97	209
Livermore Avenue	South of I-580 EB Ramps	30,065	74	95	204	439
Livermore Avenue	South of Concannon Boulevard	12,393	72	69	149	322
Livermore Avenue	South of Seventh Street	6,583	66	26	57	122
Maple Street	South of Second Street	5,721	61	12	26	56
Mines Road	North of East Avenue	9,660	67	33	72	154
Mines Road	South of First Street	24,916	73	78	169	363
Mines Road	South of Las Positas Road	11,200	68	35	76	163
Murdell Lane	South of Stanley Boulevard	5,543	60	11	24	51
Murrieta Boulevard	North of Stanley Boulevard	9,835	65	23	50	107
Murrieta Boulevard	South of Portola Avenue	3,712	61	12	26	56
Murrieta Boulevard	West of Holmes Street	11,739	68	34	74	159
North Canyons Parkway	East of Airway Boulevard	13,331	69	41	89	193
Northfront Road	East of Vasco Road	5,540	66	28	60	129
Olivina Avenue	East of Albatross Avenue	2,529	57	7	15	32

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Olivina Avenue	West of Murrieta Boulevard	2,985	57	7	16	34
P Street	South of Chestnut Street	4,855	60	10	23	49
P Street	South of Portola Avenue	1,731	55	5	11	24
Patterson Pass Road	East of Greenville Road	9,859	68	36	78	168
Patterson Pass Road	West of Shannon Court	10,956	72	68	147	316
Patterson Pass Road	West of Vasco Road	12,743	71	60	128	277
Portola Avenue	East of Isabel Avenue	9,908	67	33	70	152
Portola Avenue	East of Livermore Avenue	7,632	67	30	64	139
Portola Avenue	East of Murrieta Boulevard	17,945	70	47	101	218
Preston Avenue	East of Vasco Road	9,479	66	27	58	125
Railroad Avenue	East of P Street	22,432	71	62	133	286
Scenic Avenue	West of Vasco Road	2,237	56	6	13	28
Southfront Road	East of Leisure Street	840	55	5	10	23
Springtown Boulevard	South of Redwood Road	3,839	62	15	33	70
Stanley Boulevard	East of Fenton Street	25,767	73	76	165	355
Stanley Boulevard	West of Murdell Lane	35,247	74	89	192	414
Stanley Boulevard	West of Murrieta Boulevard	33,952	75	104	224	483
Sunflower Court	East of Bluebell Drive	2,260	59	9	20	43
Tesla Road	East of Greenville Road	10,196	73	73	158	341
Vallecitos Road	North of Isabel Avenue	12,721	72	65	140	301
Vancouver Way	East of Darwin Avenue	672	51	3	6	13
Vasco Road	North of Dalton Avenue	24,799	71	56	120	259
Vasco Road	North of Daphne Drive	21,711	72	72	154	333
Vasco Road	North of Preston Avenue	30,324	74	94	202	436
Vasco Road	North of Tesla Avenue	4,625	66	29	62	133

Table 3.13-9 Existing Roadway Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Vasco Road	South of Northfront Road	39,056	73	76	163	351
Vineyard Avenue	East of Isabel Avenue	2,182	60	10	22	47
Wetmore Road	West of Lagis Drive	891	54	4	9	20
Wisteria Way	East of Bluebell Drive	815	47	1	3	6

Source: FHWA Highway Traffic Noise Prediction Model based on traffic volumes provided by Kittelson & Associates, Inc. (see Appendix C, *Noise Data*).

Table 3.13-10, *Existing Interstate 580 Traffic Noise Levels,* shows existing traffic noise levels 100 feet from the centerline and contour distances to the 70 dBA, 65 dBA, and 60 dBA CNEL.

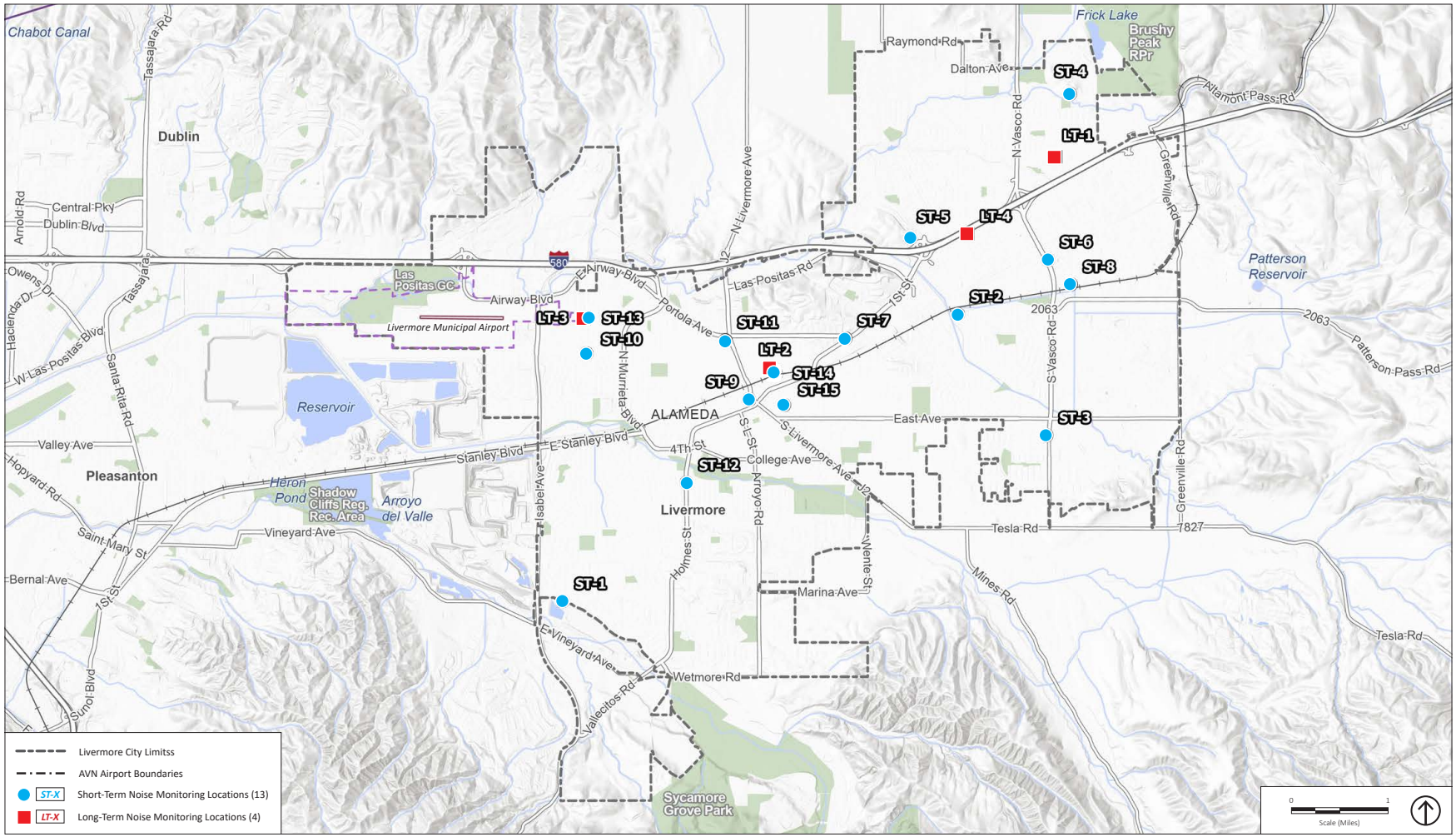
Table 3.13-10 Existing Interstate 580 Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Interstate 580	From the East to Greenville Road	190,000	77	288	621	1,337
Interstate 580	From Greenville Road to First Street	221,000	83	715	1,541	3,320
Interstate 580	From First Street to the West	214,000	83	745	1,606	3,459

Source: FHWA Highway Traffic Noise Prediction Model based on traffic volumes provided by Caltrans 2022 ADT Truck Volumes (see Appendix C, *Noise Data*).

AIRCRAFT NOISE

The EIR Study Area experiences aircraft noise from the Livermore Municipal Airport near the northwest portion of the City Limit. The Livermore Municipal Airport is a public airstrip with supporting general aviation activities. Aircraft noise in the Sphere of Influence is rare but can be intrusive to sensitive receptors east of the airport runway. Airport noise contours, shown in Figure 3.13-3, *Livermore Municipal Airport Existing Noise Contours*, extend east into the residential neighborhood. The 60 dBA CNEL noise contour extends slightly beyond Stealth Street, and the 55 dBA CNEL contour extends approximately 0.6 miles east of the 60 dBA CNEL noise contour.



Source: ESA Airports, 2009; ESRI, 2008; Brown-Buntin Associates; Inc., 2008; LSA Associates, Inc., 2009.

Figure 3.13-3
Approximate Noise Monitoring Locations

RAILROAD NOISE

One railroad corridor runs through the EIR Study Area. The Union Pacific (UP) Railroad owns and operates freight traffic on the Oakland Subdivision. The UP Oakland Subdivision extends from Stockton in the east to Oakland, crossing Altamont Pass and traversing Niles Canyon. There is one main track and one siding track throughout most of the EIR Study Area. The single track diverges into two tracks at Arroyo Seco and is aligned through the EIR Study Area as two tracks until reaching the vicinity of North P Street and Murietta Boulevard, where it converges into one track. The Altamont Corridor Express (ACE) also operates commuter trains along this line. The typical ACE train consists of one locomotive and seven cars. The EIR Study Area contains two ACE stations—one at 2418 Railroad Avenue (Livermore Station) and one at 575 South Vasco Road (Vasco Road Station). According to Federal Rail Administration (FRA) crossing data, a total of 12 trains travel through the EIR Study Area each day (FRA 2025), including eight ACE passenger trains and four UP freight trains.

The San Joaquin Regional Rail Commission (SJRRC) manages the ACE commuter rail service that connects Stockton and San Jose during morning and evening commuting hours. ACE operates eight passenger trains that travel through the EIR Study Area—four westbound and four eastbound trains every weekday. The morning westbound trains arrive in Livermore between the hours of 5:10 a.m. and 8:37 a.m. and the evening eastbound trains depart Livermore between 4:37 p.m. and 7:45 p.m. The trains run approximately every hour during commuting hours. As indicated by the ACE Altamont Corridor Vision plan, future service is expected to increase to two additional round trips in the near term and four additional round trips in the long term (SJRRC 2025).

Two at-grade crossings are in the EIR Study Area, at L Steet and Junction Avenue. All other rail crossings are grade separated by overpasses or underpasses. According to federal regulations, trains are required to blow their horns as they approach at-grade crossings as a safety measure to alert motorists and pedestrians. However, this can be a significant noise impact for nearby residents and commercial/industrial land uses.

Although the speed limits for freight and passenger trains along the sections of track within the EIR Study Area are 50 and 60 miles per hour (mph), respectively, most of the trains travel at approximately 40 to 45 mph because of starts and stops at the ACE passenger stations.

STATIONARY NOISE

All land uses can involve stationary noise sources. Residential uses generate noise from landscaping, maintenance activities, refuse collection, and air conditioning systems. Commercial/retail uses generate noise from heating, ventilation, air conditioning (HVAC) systems; generators; loading docks/truck deliveries; rail yards; and other sources. Mixed uses generate a combination of residential and retail/commercial-related noise sources. Industrial

uses generate noise from HVAC systems, loading docks, equipment, and machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of the activities. In addition, equipment on agricultural and mining lands can create localized noise to existing residential uses, such as the CEMEX Pleasanton Plant east of State Route 24 and Livermore City Limit. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool and hot tub pumps, school playgrounds, athletic and music events, and public parks are other common noise sources.

VIBRATION

Railroad, commercial, construction, and industrial operations within the EIR Study Area can generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Construction and operation of development projects could generate groundborne vibrations at nearby receptors. Demolition and construction of structures generate the highest vibration levels. Vibratory pile drivers, compactors or rollers, and hoe rams generate high vibration levels that could be perceptible when near construction activities. Heavy trucks also generate groundborne vibrations that vary depending on the pavement condition, vehicle weight, and travel speed.

3.13.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to noise if it would:

a) Generate 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.

b) Generate excessive groundborne vibration or groundborne noise levels.

c) For a project 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, if the project would expose people residing or working in the project area to excessive noise levels.

3.13.4 Project Impact Analysis

Noise monitoring to establish the ambient noise environment was conducted in 2025, and noise modeling was also conducted in 2025.

METHODOLOGY

This program-level analysis evaluates the potential noise and vibration impacts from the adoption of the proposed Project by assessing the proposed General Plan 2045 goals and policies and the development it would facilitate. Impacts are evaluated using the City's significance criteria and are based on traffic volume projections for the proposed Project provided by Kittelson & Associates, Inc. (see Appendix C, *Noise Data*).

The analysis of construction noise from future development uses the FHWA Roadway Construction Noise Model (RCNM). The model is based on a representative equipment mix for standard construction activities. Given the variable nature of construction, the conservative (i.e., "worst-case") scenario is modeled by combining the Leq contributions from the simultaneous operation of the loudest pieces of equipment for a given activity.

Future traffic noise levels were calculated for roadway segments forecasted to analyze the most substantial increases in traffic volume. Transportation noise levels were modeled using the FHWA Traffic Noise Prediction Model, incorporating the provided traffic volumes, projected vehicle speeds, and site conditions. The average vehicle noise emission rates were calibrated to reflect those identified for California by Caltrans.

Groundborne vibration and groundborne noise from construction are determined using FTA methodology and reference vibration levels for typical equipment (FTA 2018). Vibration levels are provided for reference from the nearest disturbance area of the construction site to the foundation of the nearest assumed sensitive receptor.

a) Would the project generate 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?

Significant and Unavoidable.

Construction Noise

Under the proposed Project, the primary source of temporary noise within the EIR Study Area would be demolition and construction activities associated with development projects. Construction activities would involve both off-road demolition/construction equipment

(excavators, dozers, cranes, etc.), general demolition/construction equipment (compressors, jack hammers, saws), and transport of workers and equipment to and from construction sites. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable. Table 3.13-11, *Construction Equipment Noise Emission Levels*, lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet from the equipment. It is noted that future development could potentially require installation of pile foundations that utilize impact pile drivers or similar equipment that generates high noise levels.

Table 3.13-11 Construction Equipment Noise Emission Levels

Construction Equipment	Typical Noise Levels at 50 feet, dBA	Construction Equipment	Typical Noise Levels at 50 feet, dBA
Air Compressor	80	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	95
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	77
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	95
Concrete Pump	82	Roller	85
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	85
Dozer	85	Shovel	82
Generator	82	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	80	Truck	84
Paver	85		

Source: FTA 2018.

Note: dBA = A-weighted decibels.

As shown in Table 3.13-11, construction equipment generates high levels of noise, generally ranging from 76 dBA to 101 dBA at a distance of 50 feet. Average hourly noise levels associated with construction projects can vary, depending on the activities performed. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips, may also result in temporary increases in ambient noise levels at nearby receptors. During each stage of construction, a different mix of equipment would operate, and noise levels are determined by combining the Leq contributions from each piece of equipment used at a given time, while accounting for the ongoing time-variations of noise emissions (commonly referred to as the

usage factor). Noise attenuation due to distance, the number and type of equipment, and the load and power requirements to accomplish tasks at each construction phase would result in different noise levels from construction activities at a given receptor. Because noise from construction equipment is intermittent and diminishes at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and shielding effects), the average noise levels at noise-sensitive receptors could vary considerably, because mobile construction equipment would move around the site with different loads and power requirements.

The City's Noise Ordinance (LMC Chapter 9.36) establishes time restrictions where no construction activity shall occur between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday, and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday or at all on City-observed holidays. The City does not have an established noise threshold for construction noise. The FTA provides criteria for acceptable construction noise levels and recommends a daytime noise threshold of 80 dBA Leq for residential uses, 85 dBA Leq for commercial uses, and 90 dBA Leq for industrial uses. For the purposes of this analysis, the FTA criterion is used for nearby receptors. Measures to limit construction-related noise to a performance standard of 80 dBA Leq at the property line of the nearest sensitive receptor may include:

- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
- At a minimum, the construction contractor shall implement the following control measures: improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds.
- Equipment used for project construction shall be hydraulically or electrically powered impact tools (e.g., jack hammers) wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. A muffler could lower noise levels from the exhaust by up to about 10 dBA.
- External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures shall be used (such as drilling rather than impact equipment) wherever feasible.
- The construction contractor shall not allow any construction equipment, trucks, or vehicles to idle.

- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Because the proposed General Plan 2045 is a long-term planning document with no specific projects identified, specific, project-level information is inherently not available, and it is not possible to quantify the estimated construction noise levels at specific sensitive receptors due to a given project. In most cases, construction of individual developments consistent with the proposed Project would temporarily increase the environment's ambient noise in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses, such as residences, parks, and schools.

All future projects would be required to comply with the City's Noise Ordinance (LMC Chapter 9.36). Additionally, the Noise (N) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize construction noise:

- **Goal N-1:** Minimize the exposure of community residents to excessive noise.
  - **Policy N-1.1: Land Use Planning for Noise Mitigation.** Maintain a pattern of land use planning, site design standards, and noise-reduction techniques to ensure the noise compatibility of land uses. Separate noise-sensitive land uses from major noise sources with spatial buffers.

- **Policy N-1.2: Noise Sensitive Uses.** Maintain acceptable noise levels at existing noise-sensitive uses. Apply the interior and exterior noise standards, measured in dBA CNEL, contained in Table N-1 (Table 3.13-12, *Interior and Exterior Noise Standards for Sensitive Uses*, of this Draft EIR). Evaluate potential noise impacts and recommend mitigation measures through review of permit submittals.

Table 3.13-12 Interior and Exterior Noise Standards for Sensitive Uses

Categories	Land Use Categories	Interior[1] (dBA CNEL)	Exterior[2] (dBA CNEL)
Residential	Low-Density, Single-Family	45[3]	60
	Multifamily, Duplex	45[3]	65
Institutional	School, Library, Church, Hospital, Nursing Home	45	65
Commercial	Transient Lodging, Hotels, Motels	45	70
	Office, Business, Professional, Retail	50	70
Open Space	Playground, Neighborhood Park	--	70
Industrial	Manufacturing, Utilities, R&D	--	75

Notes:

1. Interior areas include, but are not limited to, bedrooms, living rooms, dining rooms, private offices, and conference rooms.
2. Exterior areas shall mean: private yards of single-family homes, park picnic areas, school playgrounds, common areas.
3. Interior noise level requirements assume a closed-window condition. Mechanical ventilation system or other means of natural ventilation shall be provided, as necessary.

- **Goal N-4:** Adopt design standards and identify effective noise and vibration attenuation measures to prevent or reduce noise to acceptable levels.
  - **Policy N-4.4: Construction Noise and Vibration.** During all phases of construction, minimize the exposure of neighboring properties to excessive noise and vibration levels from construction-related activity to meet acceptable levels, as established by the Federal Transit Administration or the City.
  - **Policy N-4.6: Temporary Noise Sources.** Minimize noise impacts on surrounding areas for temporary land uses. The noise level from the temporary use should be in conformance with the noise level standards in Table N-1 (Table 3.13-12 of this Draft EIR) for nearby land uses to the extent feasible.

Specifically, proposed Policy N-4.4 requires the minimization of excessive noise and vibration levels from construction-related activity to meet acceptable levels, as established by the FTA or the City.

Operational Noise

The following analysis evaluates the potential for the proposed Project to require or result in the operational noise impacts pertaining to traffic, stationary sources, and railroad.

Traffic Noise

Future development is expected to affect the community noise environment by generating additional traffic. Traffic-source noise levels were calculated using the FHWA-RD-77-108 with traffic data provided by Kittelson & Associates, Inc. (see Appendix C, *Noise Data*). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans.

A project will normally have a significant effect on the environment related to noise if transportation noise would substantially increase the ambient noise levels for adjoining noise-sensitive areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if project-generated traffic noise increases would exceed:

- 1.5 dBA in ambient noise environments of 65 dBA CNEL and higher
- 3 dBA in ambient noise environments of 60 to 64 dBA CNEL
- 5 dBA in ambient noise environments of less than 60 dBA CNEL

Table 3.13-13, *Project-Related Increase in Traffic Noise*, shows the existing and future predicted noise levels at 50 feet from the nearest travel centerline, as well as the predicted traffic noise increase with implementation of the proposed Project. Appendix C, *Noise Data*, contains the traffic noise modeling inputs and outputs.

As shown in Table 3.13-13, one roadway segment— Laughlin Road north of Northfront Road— could experience up to a 5 dBA CNEL traffic noise increase with implementation of the proposed Project.

Table 3.13-13 Project-Related Increase in Traffic Noise

Roadway	Segment	dBA CNEL at 50 Feet			Buildout Noise Increase (CNEL)	Significant Increase?
		Existing	2045 No Project	2045 with Project		
Airway Boulevard	East of Isabel Avenue	65	67	67	<1	No
Airway Boulevard	West of Isabel Avenue	66	68	67	-1	No
Airway Boulevard	South of North Canyons Parkway	70	73	73	-1	No
Arroyo Road	North of Concannon Boulevard	58	62	63	<1	No
Arroyo Road	North of Wetmore Road	52	51	55	4	No
Bluebell Drive	East of Springtown Boulevard	63	65	65	<1	No
Bluebell Drive	South of Buckskin Road	53	57	58	1	No
Brisa Street	East of Vasco Road	62	62	62	<1	No
Catalina Drive	West of Wagoner Drive	54	54	55	<1	No
Chestnut Street	East of P Street	58	63	62	-1	No
College Avenue	East of L Street	55	62	62	1	No
Collier Canyon Road	North of Portola Avenue	58	63	63	<1	No
Concannon Boulevard	East of Arroyo Road	71	73	73	<1	No
Concannon Boulevard	East of Isabel Avenue	68	71	71	<1	No
Concannon Boulevard	West of Epson Street	71	73	73	<1	No
Concannon Boulevard	South of Livermore Avenue	72	74	74	<1	No
Dalton Avenue	West of Vasco Road	62	67	67	<1	No
East Avenue	West of Jensen Street	67	70	70	<1	No
East Avenue	West of Mines Road	69	72	72	<1	No
East Avenue	West of Research Avenue	70	73	73	<1	No
El Caminito	South of Stanley Boulevard	57	57	57	<1	No
First Street	West of S. Livermore Avenue	60	65	64	<1	No
First Street	North of Portola Avenue	73	75	75	<1	No
First Street	South of I-580 EB Ramps	73	75	75	<1	No

Table 3.13-13 Project-Related Increase in Traffic Noise

Roadway	Segment	dBA CNEL at 50 Feet			Buildout Noise Increase (CNEL)	Significant Increase?
		Existing	2045 No Project	2045 with Project		
First Street	South of Inman Street	72	73	73	<1	No
First Street	Between N and P Streets	60	65	65	<1	No
Fourth Street	East of L Street	70	73	73	<1	No
Greenville Road	North of East Avenue	59	65	66	2	No
Greenville Road	North of Marathon Drive	61	64	65	1	No
Greenville Road	North of Southfront Road	65	71	70	-1	No
Holmes Street	South of Concannon Boulevard	71	74	73	<1	No
Holmes Street	North of Mocho Street	69	72	72	<1	No
Isabel Avenue	North of Rickenbacker Circle	76	78	78	<1	No
Isabel Avenue	South of Portola Avenue	66	69	68	-1	No
Isabel Avenue	South of Vallecitos Road	78	81	81	<1	No
Isabel Avenue	North of Vineyard Avenue	78	81	81	<1	No
Isabel Avenue	North of Concannon Boulevard	77	79	79	<1	No
Jack London Boulevard	East of El Charro Road	70	73	73	<1	No
Jack London Boulevard	West of Isabel Avenue	67	70	70	<1	No
Jack London Boulevard	East of Hagemann Drive	68	70	70	<1	No
Junction Avenue	East of North Livermore Avenue	55	56	57	1	No
L Street	South of Pine Street	57	58	58	<1	No
L Street	North of College Avenue	56	63	63	<1	No
Las Positas Road	East of North Livermore Avenue	73	76	76	<1	No
Las Positas Road	West of First Street	67	71	70	<1	No
Las Positas Road	West of Vasco Road	57	67	68	1	No
Laughlin Road	North of Northfront Road	56	56	61	5	Yes
Lexington Way	East of Norwood Road	50	50	50	<1	No

Table 3.13-13 Project-Related Increase in Traffic Noise

Roadway	Segment	dBA CNEL at 50 Feet			Buildout Noise Increase (CNEL)	Significant Increase?
		Existing	2045 No Project	2045 with Project		
Livermore Avenue	South of Chestnut Street	69	71	71	<1	No
Livermore Avenue	South of I-580 EB Ramps	74	75	76	<1	No
Livermore Avenue	South of Concannon Boulevard	72	74	74	<1	No
Livermore Avenue	South of Seventh Street	66	66	65	-1	No
Maple Street	South of Second Street	61	63	63	<1	No
Mines Road	North of East Avenue	67	68	68	<1	No
Mines Road	South of First Street	73	75	75	<1	No
Mines Road	South of Las Positas Road	68	69	69	<1	No
Murdell Lane	South of Stanley Boulevard	60	60	60	<1	No
Murrieta Boulevard	North of Stanley Boulevard	65	67	67	<1	No
Murrieta Boulevard	South of Portola Avenue	61	63	61	-2	No
Murrieta Boulevard	West of Holmes Street	68	71	71	<1	No
North Canyons Parkway	East of Airway Boulevard	69	73	72	-1	No
Northfront Road	East of Vasco Road	66	71	71	<1	No
Olivina Avenue	East of Albatross Avenue	57	63	62	-1	No
Olivina Avenue	West of Murrieta Boulevard	57	62	61	-1	No
P Street	South of Chestnut Street	60	61	61	<1	No
P Street	South of Portola Avenue	55	57	57	<1	No
Patterson Pass Road	East of Greenville Road	68	72	72	<1	No
Patterson Pass Road	West of Shannon Court	72	76	76	<1	No
Patterson Pass Road	West of Vasco Road	71	74	74	<1	No
Portola Avenue	East of Isabel Avenue	67	71	71	<1	No
Portola Avenue	East of Livermore Avenue	67	70	70	<1	No
Portola Avenue	East of Murrieta Boulevard	70	72	72	<1	No

Table 3.13-13 Project-Related Increase in Traffic Noise

Roadway	Segment	dBA CNEL at 50 Feet			Buildout Noise Increase (CNEL)	Significant Increase?
		Existing	2045 No Project	2045 with Project		
Preston Avenue	East of Vasco Road	66	68	67	<1	No
Railroad Avenue	East of P Street	71	72	72	<1	No
Scenic Avenue	West of Vasco Road	56	57	58	1	No
Southfront Road	East of Leisure Street	55	63	63	-1	No
Springtown Boulevard	South of Redwood Road	62	64	62	-1	No
Stanley Boulevard	East of Fenton Street	73	74	74	<1	No
Stanley Boulevard	West of Murdell Lane	74	76	75	<1	No
Stanley Boulevard	West of Murrieta Boulevard	75	77	77	<1	No
Sunflower Court	East of Bluebell Drive	59	61	62	1	No
Tesla Road	East of Greenville Road	73	75	75	<1	No
Vallecitos Road	North of Isabel Avenue	72	74	74	<1	No
Vancouver Way	East of Darwin Avenue	51	53	52	-1	No
Vasco Road	North of Dalton Avenue	71	72	72	<1	No
Vasco Road	North of Daphne Drive	72	74	74	<1	No
Vasco Road	North of Preston Avenue	74	75	75	<1	No
Vasco Road	North of Tesla Avenue	66	70	70	<1	No
Vasco Road	South of Northfront Road	73	74	74	<1	No
Vineyard Avenue	East of Isabel Avenue	60	62	61	-1	No
Wetmore Road	West of Lagis Drive	54	53	55	2	No
Wisteria Way	East of Bluebell Drive	47	47	46	<1	No

Source: FHWA Highway Traffic Noise Prediction Model based on traffic volumes provided by Kittelson & Associates, Inc. (see Appendix C, *Noise Data*).

The Noise (N) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts related to traffic noise:

- **Goal N-3:** Minimize noise levels from traffic, which is the single largest continual source of unacceptable noise in the city.
  - **Policy N-3.1: Noise Legislation.** Support federal and State legislation to reduce noise levels from motor vehicles.
  - **Policy N-3.2: Traffic Noise.** Design streets and traffic-control measures to minimize potential transportation noise. Consider reduced speed limits, improved paving texture, and traffic controls to reduce roadway noise to normally acceptable levels.
  - **Policy N-3.3: Truck Noise.** Separate truck access routes from residential areas to the maximum feasible extent.
  - **Policy N-3.4: Transit Noise.** Prior to construction or implementation of future transit systems, require project proponents to quantify noise levels and assess impacts generated by transit vehicle noise on existing development. In coordination with transit service providers, identify mitigation measures to ensure that existing developed areas are not subject to excessive noise levels above city standards from proposed transit improvements.
  - **Policy N-3.5: Bus Noise.** Encourage the Livermore Amador Valley Transit Authority to reduce bus noise through new vehicle technologies to reduce transportation noise.
  - **Policy N-3.6: Train Horn Noise Reduction.** Explore strategies to reduce the impact of train horn noise on surrounding neighborhoods and sensitive land uses by studying feasible mitigation measures in coordination with rail operators and regulatory agencies.
- **Goal N-4:** Adopt design standards and identify effective noise attenuation measures to prevent or reduce noise to acceptable levels.
  - **Policy N-4.1: Noise Mitigation.** When drafting mitigation measures for adverse noise exposure from new development, encourage the use of noise attenuation measures that avoid constructing sound walls, such as wider setbacks, building orientation, and construction methods such as double-pane windows and other noise insulation materials.

    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.
  - **Policy N-4.2. Acoustical Analysis**. New noise-sensitive land uses, as identified in Table N-1 (Table 3.13-12 of this Draft EIR), proposed in areas where ambient noise levels exceed 65 dBA CNEL, shall be supported by a technical acoustical analysis prepared by a qualified acoustical engineer. The analysis shall identify appropriate noise mitigation measures to ensure interior and exterior noise levels are reduced to meet the standards in Table N-1.

Specifically, proposed Policy N-4.1 would require implementation of noise attenuation programs to reduce traffic noise to acceptable levels and Policy N-4.2 would require new noise-sensitive land uses to include measures to ensure interior and exterior noise levels meet applicable standards as provided in Table 3.13-12; this would include confirmation that noise from traffic is reduced as well.

Stationary Noise

Stationary noise sources can be generated from new land uses (e.g., residential, office, retail, hotel, and industrial development) and could include HVAC equipment, parking structures, truck deliveries, loading docks, trash collection, human activity in open spaces and parks, and landscaping maintenance. A significant impact would occur if a project would generate noise that exceeds established City standards at sensitive land uses.

The City's Noise Ordinance (LMC Chapter 9.36) prohibits the use of blowers, fans, and combustion engines either in a way that would be plainly audible at a distance of 75 feet, or between City-established evening, weekend, or holiday hours. Furthermore, the proposed General Plan 2045 goals and policies previously identified under the "Construction Noise" subheading, in addition to the following goals and policies from the Noise (N) Element, are designed to minimize impacts related to stationary noise:

- **Goal N-2:** Minimize noise generated by mechanical and other noise-generating equipment.
  - **Policy N-2.1: Industrial and Commercial Noise.** Require that industrial and commercial uses be designed and operated to avoid generating noise effects on surrounding sensitive land uses, as defined in Table N-1 (Table 3.13-12 of this Draft EIR), from exceeding the following noise levels for exterior environments:
    a. 55 dBA Leq (7:00 a.m. to 10:00 p.m.)
    b. 45 dBA Leq (10:00 p.m. to 7:00 a.m.)
  - **Policy N-2.2: Mechanical Noise Measurement Methodology.** Industrial and commercial noise sources shall be measured at the property line of single-family uses and at the common outdoor activity area of multifamily uses. Noise measurements shall be conducted using A-weighted Equivalent Continuous Sound Level (dBA, Leq), as defined in this element.
  - **Policy N-2.3: Noise Standard Exemptions.** Allow exemptions to noise standards specified in Policy N-2.1 as specified in the Livermore Municipal Code Section 9.36.110, *Exceptions*.
- **Goal N-4:** Adopt design standards and identify effective noise attenuation measures to prevent or reduce noise to acceptable levels.
  - **Policy N-4.3: Noise Control at the Source.** New development should minimize noise impacts through measures such as site layout, building design, landscaping, limits on hours of operation, and other effective techniques.

Compliance with the proposed General Plan 2045 goals and policies would ensure that no noise-sensitive land uses would experience operational stationary noise impacts due to the proposed Project. Specifically, proposed Policies N-2.1 and N-2.2 would require industrial and commercial uses be designed and operated to avoid generating noise effects on surrounding sensitive uses, where noise sources are measured at the property line of single-family uses and at the common outdoor activity area of multifamily uses. Proposed Policy N-4.3 would require new development to minimize noise impacts through measures such as site layout, building design, landscaping, limits on hours of operation, and other effective techniques.

Railroad Noise

The proposed Project would not affect the type, number, or frequency of trains traveling in the EIR Study Area, nor would it change the location, alignment, or use of railroads. Therefore, no aspect of the proposed Project would have the potential to increase railway noise levels along the existing railroad corridors. Under the proposed Project, noise levels along existing railways are expected to remain similar to existing conditions; any changes to the frequency of trains or to train equipment would be initiated and implemented by the respective rail authority rather than the City, and rail lines are not part of the proposed Project.

Additionally, the same proposed General Plan 2045 goals and policies from the Noise (N) Element identified previously under the "Construction Noise" and "Traffic Noise" subheadings would also serve to minimize impacts related to railroad noise. Adherence to the proposed Policies N-1.1, N-1.2, and N-3.4, would ensure that the noise environment does not increase in a manner that degrades existing noise compatibility or exposes noise-sensitive land uses to "unacceptable" noise levels. Compliance with the proposed General Plan 2045 goals and policies would ensure that no noise-sensitive land uses would experience a railroad noise impact.

Summary

Adherence to the City's Noise Ordinance and compliance with the proposed General Plan 2045 goals and policies would ensure that operational noise sources, including traffic, stationary, and railroad noise, would not exceed established noise standards. While compliance with the City's Noise Ordinance and the proposed General Plan 2045 goals and policies would reduce construction noise impacts, construction activities associated with any individual development may occur near noise-sensitive receptors and, depending on the project type, distance to nearest noise-sensitive receptor, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours. Therefore, impacts related to temporary construction noise would be *potentially significant.*

Impact NOI-1: Implementation of the proposed Project could generate 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.

Implementation of the proposed General Plan 2045 goals and policies, specifically proposed Policy N-4.4, would reduce potential noise impacts during construction to the extent feasible. Implementation of one or a combination of construction best management practices would provide between 3 dBA and 10 dBA of noise reduction. However, due to the potential for proximity of construction activities to sensitive uses, the number of construction projects occurring simultaneously, and the potential duration of construction activities, implementation of the proposed Project could result in a temporary substantial increase in noise levels above ambient conditions. Since the proposed Project is a long-term planning document with no specific projects identified, specific project-level information is inherently not available, and it is not possible to quantify the estimated construction noise levels at specific sensitive receptors related to an individual development. At the programmatic level, it is not possible to identify additional measures that can be assured to reduce the impacts of temporary construction noise of all future development projects to less-than-significant levels. Therefore, impacts related to temporary construction noise would remain **significant and unavoidable**. However, the identification of this program-level impact does not preclude the finding of less-than-significant impacts for future projects analyzed at the project level.

b) Would the project generate excessive groundborne vibration or groundborne noise levels?

Less than significant. The City of Livermore does not provide a quantified vibration perception (human annoyance) standard, nor does it establish a specific vibration damage standard. Therefore, FTA criteria for acceptable vibration damage levels for various types of buildings are used for the purposes of this vibration analysis (see Table 3.13-3).

Construction Vibration

Construction of future development would generate varying degrees of ground vibration, depending on the project-specific construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures but can achieve the audible and perceptible ranges in buildings close to the

construction site. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers (FTA 2018).

Table 3.13-14, *Vibration Levels for Construction Equipment*, lists reference vibration levels for construction equipment. As shown in Table 3.13-14, vibration generated by construction equipment has the potential to be substantial, because it has the potential to exceed the FTA criteria for architectural damage thresholds shown in Table 3.13-3 (e.g., 0.2 in/sec PPV for non-engineered timber and masonry buildings).

Table 3.13-14 Vibration Levels for Construction Equipment

Equipment	Approximate RMS Vibration Level at 25 Feet (VdB)	Approximate PPV Vibration Level at 25 Feet (in/sec)
Pile Driver, Impact (Upper Range)	112	1.518
Pile Driver, Impact (Typical)	104	0.644
Pile Driver, Sonic (Upper Range)	105	0.734
Pile Driver, Sonic (Typical)	93	0.170
Vibratory Roller	94	0.210
Large Bulldozer	87	0.089
Caisson Drilling	87	0.089
Loaded Trucks	86	0.076
Jackhammer	79	0.035
Small Bulldozer	58	0.003

Source: FTA 2018.

Notes: in/sec = inches per second; RMS = root-mean-square; PPV = peak particle velocity; VdB = vibration decibel.

In most cases, construction that requires the use of vibration-causing construction equipment, such as a pile driver, caisson drill, vibratory roller, or large bulldozer, would temporarily increase the ambient noise and vibration environment in the vicinity of the individual project, potentially affecting existing and future nearby sensitive users. Some common alternate methods/equipment for construction include, but are not limited to:

- For pile driving, the use of caisson drilling (drill piles), vibratory pile drivers, oscillating or rotating pile installation methods, pile pressing, “silent” piling, and jetting or partial jetting of piles into place using a water injection at the tip of the pile.
- For paving, use of a static roller in lieu of a vibratory roller.
- For grading and earthwork activities, off-road equipment limited to 100 horsepower or less.

The same proposed General Plan 2045 goals and policies from the Noise (N) Element identified previously under the “Construction Noise” subheading would also serve to minimize impacts related to construction vibration. Specifically, proposed Policy N-4.4 would require the reduction of vibration impacts during construction to below FTA thresholds, such as those for

architectural damage (e.g., 0.12 inches per second [in/sec] PPV for fragile or historical resources, 0.2 in/sec PPV for nonengineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). Compliance with the proposed General Plan 2045 goals and policies would ensure construction of future development would not generate excessive groundborne vibration.

Operational Vibration

Some land uses (typically commercial and industrial operations) in the EIR Study Area would generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels.

Due to the potential for sensitive uses within the EIR Study Area to be exposed to annoying and/or interfering levels of vibration from operational uses, future projects would be required to comply with the FTA criteria for architectural damage thresholds shown in Table 3.13-3. In addition, the Noise (N) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts related to groundborne vibration:

- **Goal N-4:** Adopt design standards and identify effective noise and vibration attenuation measures to prevent or reduce noise to acceptable levels.
  - **Policy N-4.7 Groundborne Vibrations.** Reduce impacts from groundborne vibrations associated with rail operations by requiring that habitable buildings are sited at least 100 feet from the centerline of the tracks, whenever feasible. For habitable buildings within 100 feet from the centerline of railroad tracks, require applicants to provide a study demonstrating that groundborne vibration issues associated with rail operations adhere to Federal Transit Administration standards.
  - **Policy N-4.8: Vibration Study.** Require new projects that have the potential to generate substantial vibration to provide a vibration study to determine vibration levels due to operation, prior to approval of the project, when in close proximity to vibration sensitive receptors, and, if levels are above applicable standards, include attenuation measures to reduce such vibration to adhere to applicable standards.

Compliance with the proposed General Plan 2045 goals and policies would ensure operation of future development would not generate excessive groundborne vibration. Specifically, proposed Policy N-4.7 would require new projects that have the potential to generate substantial vibration to provide a vibration study that include attenuation measures to reduce such vibration to adhere to applicable standards.

Summary

Because specific project-level information is not available at this time, it is not possible to quantify future vibration levels at vibration-sensitive receptors that may be near future operational vibration sources. However, adherence to the FTA vibration standards as part of permit issuance for future projects and implementation of the proposed General Plan 2045 goals and policies listed previously would ensure impacts related to excessive groundborne vibration or groundborne noise levels would be **less than significant**.

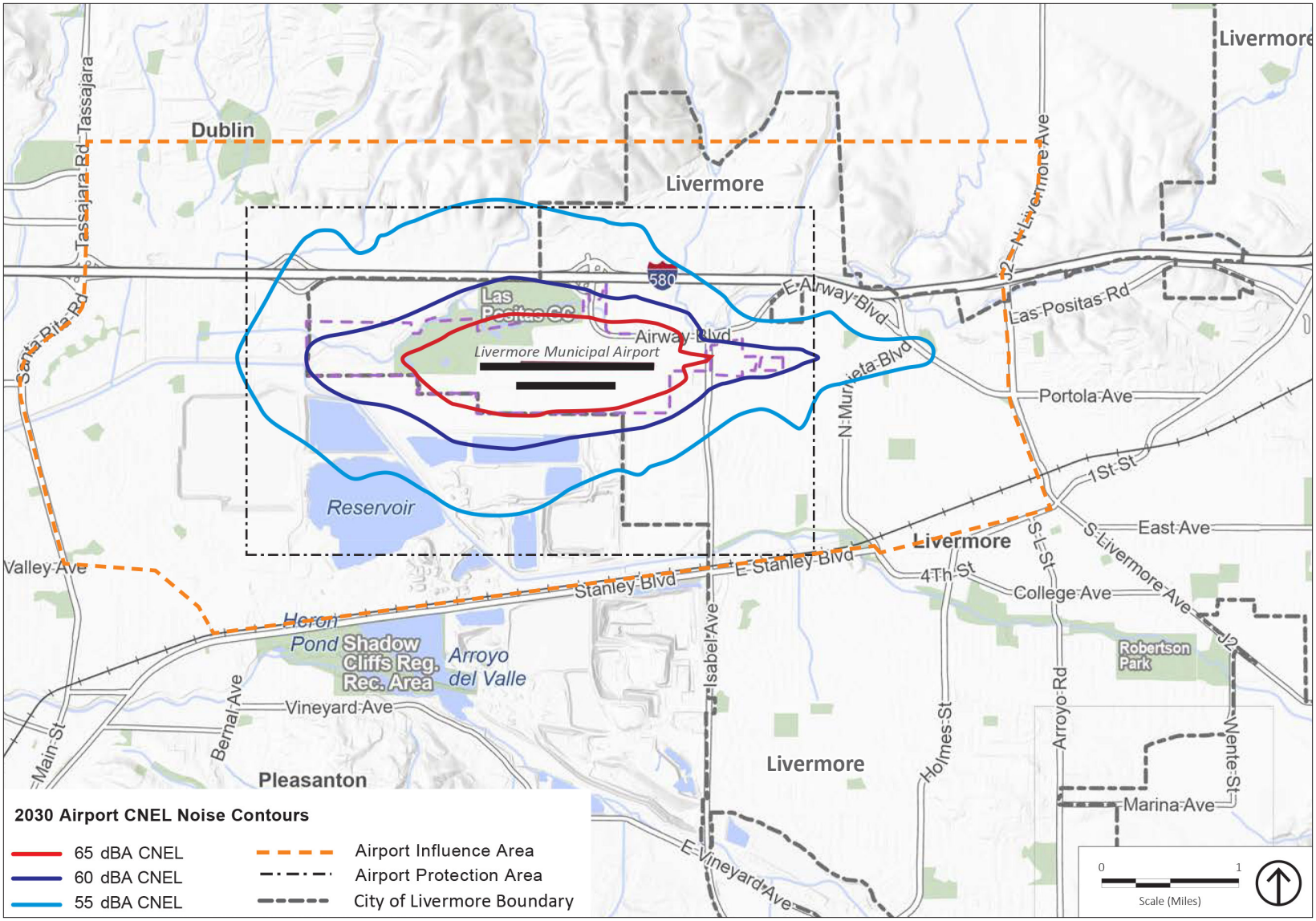
c) For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than significant. As discussed in Section 3.13.2, *Existing Conditions*, Livermore Municipal Airport is in the northwest portion of the EIR Study Area. As shown in Figure 3.13-3, *Livermore Municipal Airport Existing Noise Contours*, airport noise contours extend east into a residential neighborhood. The 60 CNEL noise contour extends slightly beyond Stealth Street, and the 55 CNEL contour extends approximately 0.6 miles east of the 60 CNEL noise contour. To minimize disruptions, sensitive land uses like residences, schools, and hospitals should avoid areas within the airport's 65 dBA CNEL noise contour; industrial or low-occupancy projects are more suited for these zones.

Based on 2030 noise contours forecast conditions shown in Figure 3.13-4, *Livermore Municipal Airport 2030 Noise Contours*, the 55 dBA, 60 dBA, and 65 dBA CNEL noise contours would extend to the east and west; however, the 65 dBA CNEL noise contour would not extend beyond airport property to the east of Runway 7-25. The 65 dBA CNEL contour would extend to Isabella Avenue, east of the airport, and a portion of the Las Positas Golf Course, west and north of the airport. There are no existing or planned noise-sensitive uses within the 65 dBA CNEL noise level contour of the airport.

The Noise (N) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts related to airport noise:

- **Goal N-1:** Minimize the exposure of community residents to excessive noise.
  - **Policy N-1.3: Airport Noise Contours.** Within the 2030 Airport Community Noise Equivalent Level Noise Contours illustrated in Figure N-1 (of the General Plan), apply the Noise Compatibility policies in Section 3.3.1 et seq. of the Livermore Airport Land Use Compatibility Plan, dated August 2012, in conjunction with citywide General Plan Noise Element policies. Evaluate potential noise impacts and recommend mitigation measures through discretionary review procedures such as environmental review, design review, and evaluation of use permits.



Source: ESA Airports, 2009; ESRI, 2025; Brown-Buntin Associates; Inc., 2008; LSA Associates, Inc., 2009.

Figure 3.13-4
Livermore Municipal Airport 2030 Noise Contours

- **Goal N-4:** Adopt design standards and identify effective noise attenuation measures to prevent or reduce noise to acceptable levels.
  - **Policy N-4.5: Airport Voluntary Noise Abatement.** Encourage voluntary compliance with noise abatement procedures, including the avoidance of nighttime operations between 10 p.m. and 6 a.m., particularly by jet aircraft.

Specifically, proposed Policy N-1.3 would require the City to apply the Noise Compatibility policies of the Livermore ALUCP and evaluate potential noise impacts and recommend mitigation measures through discretionary review procedures such as environmental review, design review, and evaluation of use permits.

Compliance with the proposed General Plan 2045 goals and policies would ensure future development would not be exposed to unacceptable aircraft noise impacts. Therefore, impacts would be **less than significant**.

3.13.5 Cumulative Impact Analysis

The geographic scope of the cumulative noise analysis with respect to substantial or permanent increase in ambient noise and groundborne vibration or groundborne noise levels is limited by the range of potential noise and vibration impacts. Noise and vibration impacts tend to be localized; therefore, noise impacts for traffic and stationary noise sources are limited to approximately 500 feet from the source and 50 feet from the source for typical heavy-duty construction equipment and 100 feet from pile-driving activities for groundborne vibration.

The geographic scope for excessive noise levels with respect to an airport is the Livermore Municipal Airport Protection area, as shown in Figure 3.9-1, *Livermore Municipal Airport Boundaries*, in Section 3.9, *Hazards and Hazardous Materials*.

Would the project have a cumulative effect related to noise?

Significant and unavoidable.

Increase in Ambient Noise Levels

Construction

Because the proposed General Plan 2045 is a long-term planning document with no specific projects identified, specific, project-level information is inherently not available, and it is not possible to quantify the estimated construction noise levels at specific sensitive receptors within 500 feet of potential construction. Future projects would be subject to the requirements of the LMC, which establishes time restrictions where no construction activity may occur and future projects could implement measures to reduce construction-related noise, as well as the

proposed General Plan goals and policies, as described in impact discussion (a) under "Construction Noise" subheading, which would minimize construction noise. However, because there is potential for proximity of construction activities occurring simultaneously to sensitive uses, and, since specific project-level information is not available at this time, it cannot be determined that cumulative construction noise would be reduced to a less-than-significant level.

Operation

This analysis evaluates potential cumulative operational traffic noise impacts with respect to residential development because that is the most sensitive land use with respect to noise. As shown in Table 3.13-13, there are several roadway segments that experience dBA CNEL of over 60 and 65, which are the exterior noise standards for sensitive uses for low-density and multifamily residential, respectively, which is an existing cumulative impact related to traffic noise. Traffic noise at one roadway segment—Laughlin Road north of Northfront Road—could experience an up to 5 dBA CNEL traffic noise increase with implementation of the proposed Project. Future development would be required to comply with the City's operational noise performance standards of the LMC and proposed General Plan 2045 goals and policies, which establish permissible hours of operation and require implementation of noise attenuation programs, which would ensure maintenance of acceptable interior noise levels for receiving land uses. Stationary noise sources would be required to comply with the exterior and interior noise level standards outlined in the Noise Element. Design features commonly employed to achieve compliance, such as rooftop or ground-mounted equipment enclosures, rooftop parapets, acoustic screening, and silencers for exhaust and intake openings, would be incorporated, as necessary, based on final equipment specifications and acoustical evaluation.

Groundborne Noise and Vibration

Construction

Construction vibration impacts are very localized; therefore, only areas within approximately 50 feet from typical heavy-duty construction equipment and 100 feet from pile-driving could potentially be affected by groundborne noise and vibration resulting from construction activities for nearby projects. The same proposed General Plan 2045 goals and policies identified previously under the "Construction Noise" subheading would also serve to minimize impacts related to groundborne vibration and noise associated with construction activities. Specifically, proposed Policy N-4.4 would require the reduction of vibration impacts during construction to below FTA thresholds, such as those for architectural damage (e.g., 0.12 inches per second [in/sec] PPV for fragile or historical resources, 0.2 in/sec PPV for nonengineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). Given that each individual project would be required to comply with the proposed General Plan 2045 goals and

policies and groundborne vibration impacts are highly localized, cumulative development would not generate excessive groundborne vibration.

Operation

Some land uses (typically commercial and industrial operations) for cumulative projects would generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source and, thus, impacts are localized. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The proposed General Plan 2045 contains goals and policies that would serve to minimize impacts related to groundborne vibration, including Policy N-4.7, which requires that habitable buildings are sited at least 100 feet from the centerline of railroad tracks, and, for habitable buildings within 100 feet, require applicants to demonstrate compliance with FTA standards and Policy N-4.8 that requires completion of a vibration study for new projects and would ensure adherence to applicable standards. Compliance with the proposed General Plan 2045 goals and policies would ensure operation of cumulative development would not generate excessive groundborne vibration.

Airport

As described in impact discussion (c), there are no existing or planned noise-sensitive uses within the 65 dBA CNEL noise level contour of the airport. As noted in the impact discussion (c), pursuant to proposed Policy N-1.3, future development would be required to comply with the Noise Compatibility policies contained in Section 3.3.1 et seq. of the Livermore ALUCP. Through compliance with the goals and policies of the proposed General Plan 2045 and the Livermore ALUCP, cumulative projects would have a less-than-significant cumulative effect and the proposed Project would not result in a cumulatively considerable contribution.

Summary

Compliance with existing regulations and the proposed General Plan 2045 goals and policies would ensure no new permanent sources of groundborne vibration or noise or unacceptable aircraft noise. While compliance with the City's Noise Ordinance and the proposed General Plan 2045 goals and policies would reduce construction noise impacts, construction activities associated with cumulative buildout pursuant to the proposed Project may occur simultaneously and near noise-sensitive receptors, and, depending on the project type, distance to nearest noise-sensitive receptor, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours. Therefore, cumulative impacts related to temporary construction noise would be *potentially significant.*

Impact NOI-4: Implementation of the proposed Project could generate 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, resulting in a significant cumulative impact.

Implementation of the proposed General Plan 2045 goals and policies, specifically proposed Policy N-4.4, would reduce potential noise impacts during construction to the extent feasible. Implementation of one or a combination of construction best management practices would provide between 3 dBA and 10 dBA of noise reduction. However, due to the potential for proximity of construction activities to sensitive uses, the number of construction projects that could occur simultaneously, and the potential duration of construction activities, construction of cumulative projects could result in a temporary substantial increase in noise levels above ambient conditions. Since the proposed Project is a long-term planning document with no specific projects identified, specific project-level information is inherently not available, and it is not possible to quantify the estimated construction noise levels at specific sensitive receptors. At the programmatic level, it is not possible to identify additional measures that can be assured to reduce the impacts of temporary construction noise of cumulative projects to less-than-significant levels. Therefore, impacts related to temporary construction noise would remain **significant and unavoidable**. However, the identification of this program-level impact does not preclude the finding of less-than-significant impacts for future projects analyzed at the project level.

3.13.6 References

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3.14 POPULATION AND HOUSING

This section evaluates the potential population and housing impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential population and housing impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

As summarized in Chapter 3, *Environmental Analysis,* concerns related to the need for new housing were provided during the EIR scoping period.

3.14.1 Regulatory Framework

STATE

California Housing Element Law

California Housing Element Law (Government Code Sections 65580-65589.8) includes provisions related to the requirements for Housing Elements of local government General Plans. These requirements include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, to ensure that counties and cities contribute to the attainment of the State housing goals, this section of the Government Code calls for local jurisdictions to plan for and allow the construction of a share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA). The California Department of Housing and Community Development (HCD) is responsible for reviewing Housing Elements and ongoing progress towards implementation to ensure they comply with the law. The City's Housing Element was adopted by the City Council on March 13, 2023, and certified by HCD on March 24, 2023.

Senate Bill 166

Senate Bill 166 mandates that jurisdictions must maintain adequate sites to always accommodate remaining unmet RHNA by each income category throughout the entire planning period. This can be maintained through a buffer in the Housing Element inventory of at least 15 to 30 percent more capacity than required, especially for capacity to accommodate the lower-income RHNA (HCD 2019).

REGIONAL

Plan Bay Area

The Association of Bay Area Government (ABAG) and Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021a). Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related greenhouse gas (GHG) reduction goals of the Sustainable Communities and Climate Protection Act (Senate Bill 375). The current Plan Bay Area projects growth and development patterns through 2050.

Plan Bay Area designates Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) throughout the region. PDAs are areas along transportation corridors that are served by public transit that allow opportunities for development of transit-oriented, infill development within existing communities that are expected to host the majority of future development. TPAs are similar in that they are formed within 0.5 miles around a major transit stop such as a transit center or rail line. The three PDAs in Livermore are discussed in Section 3.14.2, *Existing Conditions*.

Plan Bay Area distributes future growth across the San Francisco Bay Area region to meet its GHG emissions reduction, housing, and other performance targets, but it is not intended to override local land use control. Cities and counties, not ABAG/MTC, are ultimately responsible for the manner in which their local communities continue to be built out in the future. For this reason, cities and counties are not required to revise their land use policies and regulations, including General Plans, to be consistent with the regional transportation plan or an alternative planning strategy. Rather than increase regional land use control, Plan Bay Area facilitates implementation by expanding incentives and opportunities available to local jurisdictions to support growth in PDAs. In addition to funding transportation and planning projects in PDAs, Plan Bay Area sets the stage for cities and counties to increase the efficiency of the development process, if they choose, for projects consistent with Plan Bay Area and other State legislation.

Plan Bay Area 2050 is currently undergoing an update, which is called Plan Bay Area 2050+. The Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong economy and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to population and housing. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to population and housing are in Title 3, *Revenue and Finance*. Chapter 3.26, *Affordable Housing Fee,* establishes a means by which developers assist in increasing the supply of affordable housing. The affordable housing fees proposed under this chapter aim to provide affordable housing in the city by assisting in the private and nonprofit development and preservation of affordable owner and rental housing and related programs that help residents to enter or remain in affordable housing. These include, but are not limited to, mortgage subsidies and down-payment assistance, site acquisition, banking of land for use in the development of affordable housing, rental subsidies, construction financing, issuance of bonds, providing predevelopment funds, providing rehabilitation funds to preserve existing affordable housing stock, providing loan security, and any other assistance that will serve to increase or maintain the supply of affordable housing in the city.

3.14.2 Existing Conditions

As shown in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*, in Chapter 2, *Project Description*, the EIR Study Area has a population of approximately 87,930, with 33,030 housing units and 57,220 jobs as of 2023.

REGIONAL GROWTH PROJECTIONS

Plan Bay Area 2050 includes growth projections for the year 2050 for counties within the region. Interim years between 2015 and 2050 are not provided. As shown in Table 3.14-1, *Alameda County Regional Growth Projections, 2015 to 2050*, projections anticipate the number of households in Alameda County to increase by 54 percent, with jobs projected to increase by 36 percent.

Table 3.14-1 Alameda County Regional Growth Projections, 2015 to 2050

	2015	2050	Total Change	Percent Change
Households	552,000	847,000	295,000	54%
Jobs	867,000	1,182,000	315,000	36%

Source: ABAG and MTC 2021b.

Priority Development Areas

As discussed in Chapter 3, *Environmental Analysis*, and shown on Figure 3-1, *Priority Development Areas and Transit Priority Areas,* the EIR Study Area has three PDAs that are also TPAs, including the Downtown PDA and TPA surrounding the Downtown Livermore Station area in central Livermore, the Isabel Avenue/BART Station Planning Area PDA and TPA surrounding the proposed Isabel BART station in northwest Livermore, and the McGrath Southfront PDA and TPA in east Livermore. Because Plan Bay Area anticipates most growth in the Bay Area will occur in PDAs, these three PDAs are anticipated to experience growth through 2050.

Regional Housing Needs Allocation

As the San Francisco Bay Area's regional agency, ABAG/MTC calculates the RHNA for jurisdictions in Alameda County, including Livermore. Table 3.14-2, *Regional Housing Needs Allocation, 2023 to 2031*, shows the 6th RHNA Housing Cycle for the current planning period, which is the number of housing units the City would need to accommodate by 2031.

Table 3.14-2 Regional Housing Needs Allocation, 2023 to 2031

	Very Low Income	Low Income	Moderate Income	Above Moderate Income	Total
City of Livermore	1,317	758	696	1,799	4,570
Alameda County	114,442	65,892	72,712	188,130	441,176

Source: ABAG 2025.

As shown in Table 3.14-2, the housing unit allocations are categorized by household size and income. The household income categories are as follows:

- Very Low Income: Households making less than 50 percent of the area median income.
- Low Income: Households making between 50 and 80 percent of the area median income.
- Moderate Income: Households making between 80 and 120 percent of the area median income.
- Above Moderate Income: Households making more than 120 percent of the area median income.

Household median income is calculated based on household size. In 2020, the median income in Alameda County for a single-person household was $83,450. The median income in Alameda County for a family of three in 2020 was $107,300, and $138,250 for a family of six (HCD 2020).

3.14.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to population and housing if it would:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.14.4 Project Impact Analysis

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant. The proposed General Plan 2045 is a high-level policy document that will replace the current General Plan as the overarching policy document that defines a vision for future change and sets the land use and policy framework for growth. The proposed Project considers growth over an approximately 20-year horizon but does not include specific development proposals. The General Plan is the policy document that plans ahead to accommodate the amount of reasonably foreseeable growth for population, housing, and jobs given past growth trends and the ability of existing services and infrastructure to support future growth. Therefore, the proposed Project would not directly induce growth but rather plans for the anticipated growth that is likely to occur whether the proposed Project is adopted or not. Because the proposed General Plan 2045 also includes recommendations for future roadways and infrastructure extensions, as it is required to do by State law, it has the potential to indirectly induce growth. However, the proposed General Plan 2045 itself is the City's effort to adequately plan for this anticipated growth.

As shown in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*, in Chapter 2, *Project Description*, the EIR Study Area has a population of approximately 87,930, with 33,030 housing units and 57,220 jobs as of 2023. The proposed Project estimates an overall increase of 43,820 residents, 16,610 housing units, and 6,110 jobs in the EIR Study Area by 2040. As shown in Table 3.14-3, *Proposed General Plan 2025 Growth Projections,* this equates to a 50 percent increase in total population, 50 percent increase in housing units, and 10 percent increase of jobs over the 20-year horizon of the proposed Project.

Table 3.14-3 Proposed General Plan 2045 Growth Projections

	Existing Conditions (2023)	Buildout Estimates (2045)	Projected Growth 2025-2045 (Proposed Project)	Total Percentage Change
Population	87,930	131,750	43,820	50%
Housing Units	33,030	49,640	16,610	50%
Jobs	57,220	63,330	6,110	10%

Source: Esri 2024.

Note: Numbers are rounded from original sources.

The proposed Project is consistent with the Plan Bay Area goals including ensuring that residents and workers in the EIR Study Area have sufficient access to affordable housing. The proposed General Plan 2045 allows for housing and jobs in the Downtown PDA and TPA, the Isabel Avenue/BART Station Planning Area PDA and TPA, and the McGrath Southfront PDA and TPA, which are areas designated for growth under Plan Bay Area. Accordingly, the proposed General Plan 2045 is consistent with focusing on infill development, consistent with Plan Bay Area.

Approximately 28 percent of the projected housing units' growth for the proposed Project comes from the City's 2023–2031 RHNA allocation of 4,570 units, which is dictated by the California Housing Law and not by the City, and is derived from Plan Bay Area's regional forecasts (City of Livermore 2023). The 4,570 units required for the 2023-2031 Housing Element represent a 67 percent increase over the 2015-2022 RHNA, which was 2,729 units (City of Livermore 2015). Although the RHNA allocation is not a requirement to build units, the State legislature has enacted increasingly stringent requirements on cities to ensure they are doing everything possible to remove common barriers to housing construction. Furthermore, pursuant to Senate Bill 166, Housing Elements are required to include a "buffer" of additional sites to ensure that if the sites listed in the housing opportunity sites inventory are developed without housing, or are developed with less than the full amount of housing claimed in the inventory, there is remaining capacity to ensure an ongoing supply of sites for the full RHNA during the eight years of the Housing Element cycle. The proposed General Plan 2045 land use map includes enough land designated for housing to fulfill the City's 2023-2031 RHNA as well as future buffer sites identified through the 2023-2031 Housing Element.

The proposed Project's planning period also extends beyond the end of the 6th RHNA Cycle of the recently adopted Housing Element. Assuming continued eight-year RHNA cycles, and that the proposed General Plan horizon year is 2045, the proposed General Plan 2045 should designate sufficient residential land to accommodate the future 7th RHNA Cycle (2031–2039), and most of the 8th RHNA Cycle (2039–2047). The scale of future housing allocations is unknown and difficult to predict. If the 7th and 8th RHNA Cycles use the same percentage change as the 5th to 6th RHNA Cycle, it would call for approximately 7,642 new units by 2039

and 12,762 new units by 2047, for a total of 20,404 new units covering the years 2031 to 2047. This does not include any additional buffer density for the two future RHNA cycles. As such, the proposed Project is designed to proactively accommodate the current and future RHNA cycles and expected growth throughout the buildout horizon.

The Land Use (LU) Element of the proposed General Plan 2045 contains the following goals and policies that designed to minimize unplanned population growth:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.3: General Plan Environmental Impact Report**. Use the General Plan Environmental Impact Report as a foundation for future discretionary actions. When development exceeds planned thresholds of 49,640 residential units, 131,750 population, and 63,330 jobs, conduct additional environmental reviews to evaluate the impacts of continued growth.
  - **Policy LU-1.5: Annexation Prior to Urban Development.** Annex land within the Urban Growth Boundary before urban development occurs to align with City standards and service delivery systems.
  - **Policy LU-1.9: Infill and Reinvestment.** Prioritize development for locations in or in close proximity to transit, nodes for active transportation, or major commercial sites or other activity centers. Update the Development Code and Specific and Neighborhood Plans accordingly.
- **Goal LU-2:** Establish a coherent and logical pattern of urban uses that protects and enhances open space and agricultural uses by providing a clear and permanent boundary for urban uses within the City's Planning Area. The provisions of the North Livermore Urban Growth Boundary Initiative, and as readopted by the South Livermore Urban Growth Boundary Initiative, shall be amended only by a vote of the people.
  - **Policy LU-2.1: Urban Growth Boundary.** Urban development and uses inconsistent with the city's General Plan land use designations shall not be permitted beyond the Urban Growth Boundary as described in Appendix A. Limit residential development to areas within the Urban Growth Boundary. Non-urban uses, such as agriculture, parks, and open space, and other uses consistent with the city's general plan land use designations may be permitted within and beyond the Urban Growth Boundary.
  - **Policy LU-2.2: Limit Urban Uses Outside the Urban Growth Boundary.** Beyond the City limits, discourage and oppose any urban uses and other uses that are inconsistent with the city's general plan land use designations.
  - **Policy LU-2.3: Urban Services and the Urban Growth Boundary.** Extend urban services only to areas within the Urban Growth Boundary, except as provided for in the South Livermore Urban Growth Boundary Initiative and North Livermore Urban Growth Boundary Initiative.

  - **Policy LU-2.6: Compatible Development Along the City's Urban Edge.** Facilitate compatible urban development on the city's edges consistent with the City's General Plan and Livermore's unique qualities such as vineyards, ranches, natural habitats, and open space.
- **Goal LU-19:** Collaborate with other public agencies on regional and local land use issues.
  - **Policy LU-19.3: Regional Long-Range Plans.** Remain engaged in current and future long-range plans prepared by Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG), and other regional organizations to influence and be aware of projected growth assumptions for Livermore and regional priorities for transportation, infrastructure, and the economy that could affect the city.
  - **Policy LU-19.6: Planning Area Applications.** Provide input to Alameda County and the Cities of Dublin and Pleasanton on land use planning, policy development, and applications in the Planning Area for discretionary land use approvals, both through the environmental review process and by commenting on referrals from the County or other cities. Ensure projects in the Planning Area align with City values, vision, and policy.

Specifically, proposed Policy LU-19.3 requires the City to remain engaged in current and future long-range plans, such as those prepared by ABAG/MTC, to influence and be aware of projected growth assumptions. Proposed Policy LU-1.3 requires the City to use this General Plan EIR as a foundation for future discretionary action and to require additional environmental reviews to evaluate the impacts of continued growth if development exceeds the projected buildout of the proposed Project. Proposed Action LU-A-1.1 would further support these policies by preparing development monitoring reports to track growth in the EIR Study Area.

Furthermore, the proposed Project would accommodate future growth by providing for infrastructure and associated public services to accommodate projected growth (see also Section 3.15, *Public Services, Parks, and Recreation*; Section 3.16, *Transportation*; and Section 3.17, *Utilities and Service Systems*). Future development would be required to comply with any required site-specific infrastructure improvements and to pay any project-specific impact fees.

As discussed, the proposed General Plan 2045 is the policy document that plans ahead to accommodate the amount of reasonably foreseeable growth given past growth trends and the ability of existing services and infrastructure to support future growth. Additionally, buildout of the proposed Project would be able to accommodate the potential 7th RHNA cycle and most of the potential 8th RHNA cycle, which extends beyond the buildout horizon of the proposed Project. Consequently, while buildout under with the proposed Project would serve to accommodate expected population, housing, and job growth in the EIR Study Area, this growth would not represent unplanned population growth for which inadequate planning has occurred. Therefore, this impact is **less than significant**.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than Significant. Buildout under the proposed Project is expected to result in an increase of approximately 16,610 housing units in the EIR Study Area over an approximately 20-year horizon. One of the purposes of the proposed Project is to adequately plan for and accommodate future growth through the distribution, location, and balance, of land uses. Implementation of the proposed General Plan 2045 would accommodate population growth through land use designations, goals and policies that provide a vision and guide growth in the EIR Study Area. Land use changes consistent with the proposed General Plan 2045 land use map would increase opportunities for housing in the EIR Study Area. The proposed land use map would provide land use designations for a variety of housing types and provide additional residential opportunities.

Future development would be required to comply with LMC Chapter 3.26 and pay affordable housing fees to provide affordable housing in the EIR Study Area. The proposed General Plan 2045 goals and policies identified under impact discussion (a), in addition to the following goals and policies from the Land Use (LU) Element, are designed to minimize impacts related to displacement:

- **Goal LU-1:** Create a well-integrated, sustainable, and livable community by locating new development in areas that can maximize the use of existing public services and facilities.
  - **Policy LU-1.2: Housing Choices and Employment Opportunities.** Plan for a range of housing choices and employment space that meets the needs of all Livermore's residents and workforce. Promote a citywide balance between jobs and housing (1.25-1.75) to support economic vitality and reduce commute-related impacts.
- **Goal LU-4:** Create neighborhoods that include a mix of uses and a range of housing types to meet the needs of all residents.
  - **Policy LU-3.1: Range of Housing Types.** Provide a range of housing types, sizes, and affordability levels in all Livermore neighborhoods.
- **Goal LU-8:** Protect the City's investments in public property and preserve public lands for the use of the whole community.
  - **Policy LU-8.5: Public Uses.** Acquire property for public uses such as housing, open space, utilities and infrastructure, and cultural and civic facilities.
  - **Policy LU-8.6: Support for Housing.** Consider residential development on quasi-public sites such as schools, places of worship, philanthropic organizations, and other facilities, consistent with the mission of these organizations and considering compatibility with surrounding land uses.

Specifically, proposed Policies LU-1.2 and LU-3.1 would require the City to provide for a range of housing types, sizes, and affordability levels and Policies LU-8.5 and LU-8.6 would encourage the City to acquire property for public uses, such as housing, and allow residential development on quasi-public sites.

The proposed Project is anticipated to result in a net increase in density and utilization of infill or underutilized sites in existing urban areas. Therefore, displacement of people or housing would be temporary as redevelopment occurs. While the proposed General Plan 2045 focuses on infill development which may occur as redevelopment, identified infill areas are predominantly non-residential, and the proposed Project does not call for any large-scale development that would result in substantial displacement of existing housing. The scale of temporary removal of housing would be typical for urban development projects. Further, redevelopment in the EIR Study Area would occur largely on sites that are underutilized and/or with older structures that are past their useful life, and small levels of displacement that may occur would be addressed through compliance with the LMC and the proposed General Plan goals and policies. Therefore, any potential displacement of persons in the EIR Study Area would not be substantial, and the impact would be **less than significant**.

3.14.5 Cumulative Impact Analysis

The following discussion considers the EIR Study Area's projected growth as it relates to the projected growth in ABAG/MTC's Plan Bay Area 2050 and the potential displacement of people or housing requiring the construction of replacement housing elsewhere, including outside of the EIR Study Area.

Would the project have a cumulative effect related to unplanned population growth or displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than significant. As shown in Table 3.14-1, Plan Bay Area 2050 forecasts a 54 percent increase in households and a 36 percent increase in jobs in Alameda County between 2015 and 2050. Under the proposed Project, the projected housing unit growth of 50 percent is slightly below the anticipated countywide increase of 54 percent, and the projected employment growth of 10 percent is substantially below the countywide forecast of 36 percent.[1] The RHNA allocation for each Bay Area city is consistent with the forecasted development pattern from Plan Bay Area 2050. Plan Bay Area 2050 aggregates forecast growth into a series of 34 "superdistricts"—Livermore is part of Superdistrict 15, East Alameda County, which also

[1] Although the forecast years differ from the proposed Project buildout horizon period (2023 existing conditions to 2045 buildout), the regional plan establishes the overall magnitude of growth anticipated within the County.

includes Pleasanton, Dublin, and the eastern portion of unincorporated Alameda County. This superdistrict is projected to grow by 60,000 households for a total of 132,000 households by 2050 (interim year forecasts are not provided). In addition, as detailed under impact discussion (a), the proposed Project provides sufficient residential land capacity to accommodate multiple projected RHNA cycles. A total of 31,005 units for the proposed Project and the surrounding jurisdictions' 2023-2031 RHNA would be around half of the forecasted total growth of 60,000 households, and future RHNA cycles within the buildout horizon would also be accommodated based on the RHNA for the 6th RHNA cycle.[2] In addition, proposed General Plan 2045 Policy LU-19.3, and similar policies for the other jurisdictions, would ensure coordination of regional planning efforts to plan for future growth.

While the proposed Project would accommodate projected population, housing, and job growth in the EIR Study Area, this growth would not represent unplanned population growth for which inadequate planning has occurred. The incremental contribution of the proposed Project to regional growth is consistent with the scale and distribution of growth anticipated in regional planning documents and local RHNA allocations. Therefore, the Proposed Project's contribution to cumulative population and housing growth would not be cumulatively considerable.

The general plans and other planning documents prepared by cities in the region, including Pleasanton and Dublin, would include land use plans that comply with State law and that would accommodate the existing and forecasted population, similar to the long-range planning guidance included as part of the proposed General Plan 2045. Consistent with State law, these planning documents would be required to provide adequate housing to accommodate forecasted numbers of people within the jurisdiction, and displaced housing, if any, would be replaced primarily within the jurisdiction, as required by State law. As discussed under impact discussion (b), the proposed Project does not call for any large-scale development that would be considered to result in substantial displacement of housing. The proposed Project is anticipated to result in a net increase in density and utilization of infill or underutilized sites in existing urban areas, where the scale of temporary removal of housing would be typical for urban development projects. The increased housing capacity allowed under the proposed Project would improve housing supply and reduce regional housing pressure that can contribute to displacement.

Implementation of the proposed Project would not induce a substantial amount of unplanned population growth or growth for which inadequate planning has occurred, or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The proposed General Plan 2045 goals and policies would provide adequate planning to accommodate the proposed new increase in growth in the EIR

[2] 16,610 units (growth under the proposed Project) + 5,965 units (Pleasanton RHNA) + 3,719 units (Dublin RHNA) + 4,711 units (unincorporated Alameda County, as a whole) = 31,005 units

Study Area. As such, cumulative development would not induce substantial unplanned population growth, either directly or indirectly and cumulative or result in the displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and cumulative impacts would be impacts would be **less than significant**.

3.14.6 References

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3.15 PUBLIC SERVICES, PARKS, AND RECREATION

This section evaluates the potential impacts to public services (fire, police, and schools), parks, and recreation associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential impacts to public services, parks, and recreation; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to public services, parks, and recreation were received during the EIR scoping period.

3.15.1 Regulatory Framework

STATE

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR). The California Building Code (CBC) is in Part 2 of Title 24. The CBC is updated on a three-year cycle. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the California Building Standards Commission. Commercial and residential buildings are plan-checked by City building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. School buildings are plan-checked by the Division of the State Architect.

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. This is the official Fire Code for the state and all political subdivisions. It is found in CCR Title 24, Part 9, and, like the CBC, it is revised and published every three years by the California Building Standards Commission. Also like the CBC, the CFC is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions.

The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire-flow requirements, and fire hydrant locations and distribution. Typical fire safety requirements include installation of sprinklers in all high-rise buildings; the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Wildland-Urban Interface Code

Prior to the 2025 code cycle, ignition-resistant construction standards for buildings in FHSZs and Wildland-Urban Interface (WUI) areas were primarily addressed in Chapter 7A of the CBC and Chapter 49 of the CFC. Effective January 1, 2026, these wildfire-related building and site design requirements are consolidated into the 2025 California Wildland-Urban Interface Code (CWUIC), Part 7 of CCR Title 24. The CWUIC supersedes the separate wildfire construction and WUI provisions formerly contained in CBC Chapter 7A and CFC Chapter 49.

The CWUIC establishes statewide standards for development in designated FHSZ/WUI areas, including requirements for ignition-resistant construction materials and methods for exterior wildfire exposure (e.g., roofing, vents, exterior walls, windows and glazing, exterior doors, decks, and appendages), protection of underfloor areas and projections, and standards for ancillary structures. The CWUIC also includes provisions related to site access and emergency access, water supply for fire protection, fire protection planning, and long-term vegetation management.

Mitigation Fee Act

The Mitigation Fee Act (California Government Code Sections 66000-66008), or Assembly Bill (AB) 1600, requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development project on which it is to be levied. This act became effective on January 1, 1989.

Mello-Roos Communities Facilities Act

The Mello-Roos Community Facilities Act of 1982 (California Government Code Section 53311 et seq.) provides an alternative method of financing certain public capital facilities and services through special taxes. This State law empowers local agencies to establish Community Facilities Districts (CFDs) to levy special taxes for facilities such as fire protection, police protection, schools, and libraries.

Senate Bill 50

Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 also provides for three levels of statutory impact fees. In setting the fees, school districts must prepare nexus studies to demonstrate a reasonable connection between new development and the need for school improvements. The fees may only be used to finance the construction or modernization of school facilities. The fee application level depends on whether state funding is available, whether the school district is eligible for state funding, and whether the school district meets certain additional criteria involving bonding capacity, year-round school, and the percentage of moveable classrooms in use.

The Quimby Act

The 1975 Quimby Act (California Government Code Section 66477) authorizes cities and counties to adopt ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to inhabitants can set a standard of up to 5 acres per 1,000 people for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 people. The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of City-owned parkland.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to public services, parks, and recreation. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to public services, parks, and recreation are in Title 2, *Administration and Personnel*; Title 3, *Revenue and Finance*; Title 12, *Streets, Sidewalks, and Public Places*; and Title 15, *Buildings and Construction*, as follows:

- **Chapter 2.36, *Police Department and Police Reserve*,** establishes that as long as the City receives aid from the State of California, the City will adhere to the standards for recruitment and training of the State of California's Penal Code.

- **Chapter 2.49, *Library Board of Trustees*,** establishes a Library Board of Trustees consisting of 5 Livermore residents. Duties and responsibilities include carrying out duties required by the California Education Code, advocating for the library, knowing the programs and needs of the library, keeping abreast of library standards and trends, supporting library staff, and assisting in establishing financial support and preparation of the annual budget.
- **Chapter 2.56, *Emergency Organization*,** provides for the preparation and carrying out of plans for the protection of persons and property within the City in the event of an emergency, the direction of the emergency organization, and the coordination of the emergency functions of the City with all other public agencies, corporations, organizations and affected private persons.
- **Chapter 2.60, *Public Library*,** establishes the Livermore Public Library (LPL).
- **Chapter 3.24, *School Facilities Financing*,** requires dedication of land for interim school facilities, or fees in lieu of such dedication, where it concurs with the governing body of a school district in finding that overcrowding exists in one or more attendance areas within the district. Because fees authorized by SB 50 may be inadequate to completely mitigate the effects of new development on the Livermore Valley Joint Unified School District (LVJUSD), this chapter also requires all future residential development within the boundaries of the school district to fully mitigate any impacts on school facilities.
- **Chapter 12.60, *Park Facilities Fee*,** implements the policies adopted in the General Plan and other planning documents requiring new development pay its fair share of improvements needed to accommodate that development, including parks and trails.
- **Chapter 15.02, *Building Code*,** adopts the International Building Code, as amended and set forth in the California Building Standards Code, CCR Title 24.
- **Chapter 15.06, *Fire Code*,** adopts the International Fire Code, as amended and set forth in the CCR, Title 24, Part 9.

Livermore Valley Joint Unified School District Facilities Master Plan

The 2021 LVJUSD Facilities Master Plan provides a vision for the future of the LVJUSD (LVJUSD 2021). The campus plans set a direction for each LVJUSD campus facility, imagining thoughtful and transformative design that will propel the LVJUSD 's campuses for the next 75 years. The LVJUSD Facilities Master Plan document is in the process of being refreshed in 2025 as best practice to continue to refine the vision to meet instructional goals.

Las Positas College Facilities Master Plan

The 2018 Las Positas College Facilities Master Plan guides the development of the campus for the next 15 years and beyond (Las Positas College 2019). The Plan includes design principles for the development of buildings, outdoor spaces, mobility and infrastructure upgrades, and other physical improvements envisioned for the campus.

Library Strategic Services Plan

The LPL 2020-2025 Strategic Services Plan contains objectives and strategies to make the LPL an inclusive and supportive education space, encouraging all community members to gather and learn from a variety of resources, including each other (LPL 2019). This plan guides library staff to balance limited resources in ways to meet public needs.

Parks, Recreation, and Trails Master Plan

The purpose of the Livermore Area Recreation and Park District (LARPD) Parks, Recreation, and Trails Master Plan (Master Plan) is to provide a realistic and visionary guide for the creative, orderly development and management of parks, trails, recreation facilities, open space, and programs for the LARPD, now and into the future (LARPD 2016). The Master Plan findings and recommendations are based on a combination of community input derived from community workshops, targeted surveys, input from professional staff, district records, participation data, and technical analysis, and, as such, they represent community expectations. This plan also includes a recreational facility needs assessment to determine the existing service level of the park, trails, and open space within the LARPD boundary and determine any deficiencies. The needs assessment was used to identify future recommendations and assisted in goal setting of the future of LARPD.

3.15.2 Existing Conditions

FIRE PROTECTION

Fire services are provided by the Livermore-Pleasanton Fire Department (LPFD). In 1996, the cities of Livermore and Pleasanton entered into a Joint Powers Authority, consolidating each City's fire department into the LPFD. 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 during State of California and federal incidents.

The LPFD provides core services to approximately 89,000 Livermore residents over an area of 26 square miles. These services include all-risk emergency response, such as fire, emergency medical services, automobile accidents, hazardous materials, and County and statewide mutual aid. Additionally, LPFD provides mandated emergency readiness training, fire prevention plan checks and inspections, community education, and Community Emergency Response Team (CERT) instruction and coordination. The LPFD also supports law enforcement to implement evacuation orders. LPFD has worked to adopt AC Alert and Genasys Protect (formally Zonehaven AWARE), a community emergency and evacuation interface tool, to facilitate successful emergency preparation and evacuation (LPFD 2025c).

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 cities to oversee the LPFD's 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 branch focuses on risk reduction to the community through a performance-based approach and application of the codes and laws pertaining to fire, hazardous materials, and use of buildings and facilities. The Fire Prevention branch is also responsible for the enforcement of codes and standards, including fire protection and suppression systems, hazardous materials inventory reporting, aboveground and underground storage of petroleum products, and community fire education programs. The Fire Prevention branch also oversees the Weed Abatement Program, Annual Fire Inspection Program, and the Veteran's Administration Hospital (outbuildings and grounds). The Disaster Preparedness Program Division facilitates and trains a disaster-resilient community through training, outreach, and public education. This division trains community-based disaster workers through the Livermore-Pleasanton Community Emergency Response Team (CERT). CERT workers are trained to respond to fire safety, disaster medical operations, and light search and rescue.

The Emergency Operation team prepares for, responds to, and provides all services related to emergency fire suppression; emergency medical service; traffic collisions; specialized rescue; and emergency hazardous materials response and property losses (i.e., water leaks, fallen trees, and downed wires). Additionally, Emergency Operations also conducts fire safety inspections for businesses and conducts public education outreach.

Staffing

As of April 2025, the LPFD has 128 full time-equivalent employees and four half-time employees. The LPFD does not have a target ratio for personnel-to-population. The LPFD has 0.65 firefighters per 1000 people, including firefighters not assigned to first-responder roles. The National Fire Protection Association does not specify a recommended number (LPFD 2025a).

Facilities and Equipment

The LPFD headquarters are in Pleasanton at 3560 Nevada Street. Five of the 10 fire companies are based in the EIR Study Area. Table 3.15-1, *Fire Stations in the EIR Study Area*, provides the fire station addresses in the EIR Study Area. Fire companies are strategically located to provide the best possible response time to emergency incidents. Each fire engine or truck is staffed with at least one paramedic, which allows the department to provide first responder advanced life support services.

Table 3.15-1 Fire Stations in the EIR Study Area

Fire Stations	Address
Fire Station 6	4550 East Avenue
Fire Station 7	951 Rincon Avenue
Fire Station 8	5750 Scenic Avenue
Fire Station 9	1919 Cordoba Street
Fire Station 10	330 Airway Boulevard

Source: LPFD 2025b.

Response Times and Performance

The LPFD has a reflex time standard of seven minutes over 90 percent of the time, which includes a one-minute call processing time, one-minute turnout time, and five-minute travel time. New development, population growth, traffic, and the Alameda County Fire Department's exiting a portion of its automatic aid agreement with the LPFD have led to increased response times in excess of LPFD's goal of 7 minutes or less 90 percent of the time. To meet their standard, LPFD believes more staffing, additional stations, changes to the deployment model, and more equipment may decrease the LPFD reflex time (LPFD 2025a).

Budget

In the 2023-25 fiscal year, fire services accounted for roughly 21 percent of the City's Municipal General Fund expenditures, which included funding for employee salaries, purchasing fire suppression equipment, and various other basic funding needs (City of Livermore 2023). Administrative costs for the LPFD are shared 50/50 between the cities of Livermore and Pleasanton, whereas cost-share formulas are used for support services, such as payroll, personnel, risk management, and dispatch. Fire Prevention expenses are shared based on units of service provided (the number of new construction and tenant improvement permits issued per city, per calendar year). Fire operations and suppression expenses are shared between the partner cities based on the number of firefighters each city requires. To maintain current service levels with contractual and inflationary operation costs, the LPFD's budget will need to increase over time (LPFD 2025a).

POLICE PROTECTION SERVICES

The Livermore Police Department (LPD) provides police services within the City Limit. Outside the City Limit, police services are provided by the Alameda County Sheriff's Office or the adjacent Pleasanton Police Department. In the instance that an unusual occurrence becomes or is beyond the control of the LPD, the LPD's Chief of Police or their designee may request mutual aid from the Operational Area Law Enforcement Coordinator, also known as the Alameda County Sheriff. The operational area is a county with political subdivisions. Moreover, in

response to a law enforcement mutual-aid request, the Sheriff will coordinate within the operation area to activate mutual aid.

The LPD operates through an Area Policing model. This 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. Police agencies practicing this model build long-lasting and more effective relationships with the community and respond proactively to the unique issues within each area. 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 developing key partnerships to community members and understanding the unique issues in their Area Command. In the EIR Study Area, there are four Area Command Districts.

LPD is organized into three divisions: Support Services, Operations, and Special Operations.

The Support Services Division supports multiple teams:

- **Communication Center:** This team provides a vital communication link between those in the community who need help and personnel who provide emergency services.
- **Records Unit:** This team manages and maintains the integrity of department codes. The Records Unit also provides information assistance and other services to the public, police personnel, and other governmental agencies.
- **Business Services:** This team creates and monitors the department's budget, administers grants, contracts, and other financial functions.
- **Information Technology Unit:** This team operates, manages, and plans for technology systems and resources necessary to support the mission of the department. This unit is also responsible for supporting 9-1-1 Computer-Aided Dispatch (CAD), mobile and field reporting technologies, and Command Center/Emergency Operations Center readiness 24 hours a day, year-round.
- **Volunteer and Reserve Officers:** Reserve officers are professionals who serve their communities in ways that exceed typical volunteer opportunities. Reserve officers are commissioned, and hold at a minimum, California Peace Officer Standards and Training (POST) Level-11 certifications, and volunteer more than 16 hours per month as sworn officers.
- **Facilities and Fleet Services:** This unit ensures the physical infrastructure and vehicles are fully operational and safe.
- **Professional Standards Unit:** This unit maintains the integrity, accountability, and professionalism of the LPD through internal investigations; policy compliance and oversight; audits; early intervention systems; and backgrounds and recruitment.

The Operations Division consists of the Patrol Bureau, Animal Services, Field Training, Cadet program, and the Explorer Program. The Patrol Bureau is the largest division of the LPD and is made up of uniformed individuals who patrol in traditional black-and-white police vehicles.

The Special Operations Division supports the following teams:

- **Traffic Unit:** This team increases traffic safety in the community through outside-the-box global approach and application of the three Es of traffic safety: Education, Engineering, and Enforcement.
- **Criminal Investigations Bureau (CIB):** This team investigates cases that include, but are not limited to, forcible rape, aggravated assaults, robberies, homicide, and crimes against juveniles. CIB also investigates burglaries and grand, vehicle, and identity thefts. The Special Operations Unit is a part of CIB and investigates drug and gang-related crimes while aiding CIB.
- **School Resource Officer Unit:** This team addresses juvenile crime and safety concerns in local schools. The program places police officers on campus at the schools where they are more accessible for both school administrators and students alike.
- **Crime Prevention Unit:** This team educates the public in areas of crime prevention, empowering citizens to protect themselves against crimes of opportunity and potential violent crimes. Additionally, this unit administers the Crime-Free Multi-Housing program, the volunteer program, the neighborhood watch program, and community events.
- **Homeless Liaison Officers:** This team addresses the complex needs of individuals experiencing homelessness. Their primary purpose is to build trust, provide support, and connect unhoused individuals with services, while also addressing public safety concerns.
- **The Mobile Evaluation Team (MET):** This team provides field-based intervention, de-escalation, and stabilization services to community members in acute mental health crisis. The MET is a co-responder model and is comprised of a licensed clinician and a police officer.
- **Training Unit:** This unit provides department-wide training.

Staffing

As of April 2025, the LPD employs 100 sworn officers and 53 professional staff members, supported by over 100 volunteers (LPD 2025). As shown in Table 3.15-2, *Livermore Police Department Staff Service Ratios*, the LPD does not meet national police ratio standards for total sworn officers per 1,000 residents.

Table 3.15-2 Livermore Police Department Staff Service Ratios

Service Ratio	National Average	Livermore Police Department
Law Enforcement Employees per 1,000 inhabitants	0.71	1.78
Sworn Officers per 1,000 inhabitants	2.17	1.17

Source: LPD 2025.

Although the LPD does not meet national standards for sworn officers, the LPD indicated the current staffing ratios are currently acceptable. However, LPD notes that anticipated growth from future development projects may require an increase in staffing by at least three officers and one professional staff per year. LPD also anticipates the need for additional professional staff in the near future to accommodate the administrative demands from recent national and state police reform legislation such as the Public Records Act requests, Racial and Identity Profiling Act, National and State Incident-Based Report Systems, Use of Force tracking, and body-worn camera and in-care camera footage (LPD 2025).

Facilities and Equipment

There is one main LPD station at 1110 South Livermore Avenue. The station is adjacent to the Livermore Civic Center Library and City Hall. The LPD needs 33,000 square feet of property and a total of 44,000 square feet of space for additional storage, training, and office facilities over the next decade. A three-phase project was recommended to meet the LPD facilities and equipment deficiencies. The first phase of the project was included in the 2019-2021 Capital Improvement Program as Police Facility Expansion, Project No. 2000-28. The following phases are being addressed in the proposed CIP Budget to be completed 2025-2026 and 2026-2027 budget years (LPD 2025).

Response Times and Call Volumes

LPD prioritizes responses to calls based on the following factors:

- **Priority 1** indicates a response is immediate; red lights and sirens are authorized. There is either a serious crime in progress or just occurred, serious injury accident, or any crime where a citizen is detaining a suspect with a potential for violence.
- **Priority 2** calls are urgent, but do not authorize lights and sirens unless specific expectations are noted. These calls may include any non-serious crimes in progress.
- **Priority 3** calls are routine and may hold, depending on higher-priority needs.

In 2024, the LPD had an average response time of 6 minutes and 51 seconds for Priority 1 phone calls, 18 minutes and 7 seconds for Priority 2, and 49 minutes and 37 seconds for Priority 3. The LPD's response time to calls for service is acceptable given the City's geography, population, residential and commercial areas, the retail/restaurant/shopping draw, the entertainment/social

opportunities downtown, and police staffing. Local traffic conditions also impact response times. To reduce response times, the LPD had indicated the need to increase staffing levels (LPD 2025).

Budget

The LPD is funded primarily by the City's Municipal General Fund. In fiscal year 2023 to 2024, police services accounted for roughly 30 percent of the City's Municipal General Fund expenditures, which funded employee salaries, police equipment, and other needs (City of Livermore 2023). The LPD also received funding from Police Grant Funds and Horizons funds. The Police Grant Fund accounts for various federal, State, and local grants used for police programs. The Horizon Fund supports the LPD Horizons Youth and Family Services Division.

SCHOOLS

Livermore Valley Joint Unified School District

The LVJUSD serves more than 13,050 students from transitional kindergarten through 12th grade at 10 elementary campuses, 2 K-8 schools, 3 middle schools, 3 comprehensive high schools, and 2 alternative schools. These schools offer specialized programs, including International Baccalaureate Programs; Green Engineering Academy; Dual Immersion Programs; and Science, Technology, Engineering, Arts, & Math (STEAM) pathways. The school names, student enrollment, and school capacity of each school are shown in Table 3.15-3, *Livermore Valley Joint Unified School District Schools*.

Table 3.15-3 Livermore Valley Joint Unified School District Schools

Schools	Student Enrollment	School Capacity	Student Enrollment of School Capacity
Altamont Creek Elementary	620	680	91%
Arroyo Seco Elementary	584	708	82%
Christensen Elementary	592	965	61%
Del Valle High	87	185	47%
East Avenue Middle School	581	725	80%
Emma C. Smith Elementary	648	744	87%
Granada High School	2,157	2,850	76%
Jackson Avenue Elementary	489	668	73%
Joe Michell (K-8)	786	795	99%
Junction Avenue (K-8)	801	1,125	71%
Lawrence Elementary	494	520	95%
Leo R. Croce Elementary	537	828	65%
Livermore High	1,827	2,325	79%

Table 3.15-3 Livermore Valley Joint Unified School District Schools

Livermore Adult Education	160	384	42%
Marylin Avenue Elementary	430	525	82%
Rancho Las Positas Elementary	586	630	93%
Sunset Elementary	759	796	95%
Vineyard Alternative School	92	384	25%
William Mendenhall Middle School	876	1,175	75%

Source: LVJUSD 2025.

Schools in the LVJUSD are operating within the existing capacity; however, there are five schools close to meeting school capacity: Altamont Creek Elementary, Joe Mitchell (K-8), Lawrence Elementary, Rancho Las Positas Elementary, and Sunset Elementary. As of the 2024-25 school year, these schools have over a 90-percent student enrollment to school capacity ratio. Capacity is regularly reviewed and adjusted as changes in program impact the number of students that can be served.

Funding

LVJUSD funding primarily comes from the State Local Control Funding Formula, property taxes, federal revenue, other state revenue, Measures J and G, and other local revenue (City of Livermore 2022). Approximately 80 percent of the school district's funding is from state revenue.

The Livermore community has financially supported students in the LVJUSD through the passage of Measure J, a general obligation bond, and Measure G, a parcel tax. Measure J, the facilities bond provides financial support to upgrade school sites, and create infrastructure and systems needed to outfit twenty-first century classrooms to maximize student success. Measure G, the parcel tax enhances STEAM programs and opportunities funds elementary school specialists who deliver hands-on lab experiences for students, supports the Project Lead the Way program throughout K-12 grade levels. These programs incorporate computer science, design, and engineering experiences and engage all age groups in captivating curriculum.

Las Positas College

Las Positas College is a community college within the Chabot-Las Positas Community College District (District) and serves 9,000 annual students. The college provides a variety of occupational, transfer, and professional development courses while they prepare students for four-year institutions, continued education, career opportunities, or specialized training.

Las Positas College is within Alameda County and has benefited from two County-approved measures: Measure A and Measure B. Measure A, through the sale of $950 million of capital

improvement bonds, helped the District fund major projects in Las Positas College, which includes modernizing the existing campus with new and remodeled buildings, new sports and recreational facilities, improved landscaping and outdoor spaces, enhanced sustainability, upgraded infrastructure, and improved mobility and parking. By October 2018, 15 building projects on Las Positas College's campus were funded by Measure B. Seven major projects have already been preapproved, such as a new academic Support Office, Public Safety Complex, and New Agricultural Science: Horticulture Building. Las Positas College has divided the future development of their campus into two phases: Phase 1 and Phase 2. Phase 1 projects include projects that will accommodate immediate needs and account for current funds available. Phase 2 projects will accommodate longer-term growth and may require securing additional funding. Projects in Phase 1 include a new STEAM building, student center, auxiliary gymnasium, and new soccer and softball fields. Phase 2 projects include, but are not limited to, renovation of Building 1800, additional classroom space, greenhouse, and shade house expansion (City of Livermore 2022).

LIBRARIES

There are three library locations in the LPL system and a Digital Library. The library locations are Civic Center Library, Rincon Library, and Springtown Library. The Civic Center Library is the Main Library while the Rincon and Springtown Libraries are considered branches. All branches offer books and audio-visual materials, public computers, wireless internet access, and study spaces.

Facilities and Services

The main Civic Center Library is approximately 56,000 square feet and was opened in 2004. The Civic Center Library is home to 190,000 items and includes study rooms, computer areas for children and adults, wireless internet access and printing, a large reading room, open study and seating areas, a café, and a Library Friends' bookstore. The Civic Center Library is open seven days per week for a total of 65 hours. Approximately 70 percent of the LPL's circulation is conducted through the Civic Center Library, which receives over 340,000 visits per year (City of Livermore 2022).

The Springtown Branch Library is a 2,400-square-foot library that opened in 1986. This branch features approximately 20,000 items with access to four public computers, wireless Internet access, and one small seating and study area. The library is open 1.5 days per week for a total of 11 hours. In addition, Civic Center Library staff are borrowed to staff the Springtown Library. To supplement the 11 hours of full staff library hours, this branch features an "Easy Access Library," a complete self-service portion of the branch open seven days a week from 8:00 a.m. to 8:00 p.m. with an Easy Access keycard. The self-service portion of the branch offers book checkouts, DVDs, and items on hold, and check-ins through the materials return system. Approximately 4 percent of the library's circulation is conducted through this branch, which receives over 14,000

visits per year (City of Livermore 2022). The building is aging and will likely require a remodel (LPL 2025)

The Rincon Branch Library is a 4,200-square-foot library that opened in 1992. The Rincon Branch Library is a neighborhood library in May Nissen Park next to Marylin Avenue STEAM Academy. The Rincon Branch Library features public computers, wireless Internet access, several small seating and study areas, and one meeting room used for library programming. Using trained volunteers, this library operates a successful homework center throughout the school year. Additionally, this library branch contains the LPL's largest collection of Spanish language material to serve the surrounding Spanish-speaking population. In 2019, the Rincon Branch Library expanded its service days from three to five days per week for a total of 31 hours. Approximately 5 percent of the LPL's circulation is conducted through this branch and receives over 30,000 visits per year (City of Livermore 2022). The Rincon Branch Library needs exterior building repairs and general maintenance updates. The building is aging and will likely require a remodel (LPL 2025).

The LPL has an online branch called the Digital Library, a virtual collection of nearly 34,000 items, including eBooks, downloadable audiobooks, research databases, periodicals, online classes, business data, test preparation, a museum pass program, and more. Approximately 21 percent of the library's circulation is conducted through the Digital Library and electronic content in the Digital Library is used over 200,000 times per year (City of Livermore 2022).

Staffing

The Livermore Library Services Department staffs approximately 28 positions (City of Livermore 2023). The employee allocation is as follows:

- One Administrative Assistant
- One Administrative Clerk I/II
- One Administrative Technician
- One Assistant Library Services Director
- Ten Librarian I/Librarian II
- Eight Library Assistants
- One Library Clerk
- One Library services Director
- Three Supervising Librarians
- One Supervising Library Assistant

In addition to the 27 full-time employee library staff, the LPL system features hourly on-call staff and is supported by 16,000 hours of volunteer help per year to assist library staff.

Funding

In the 2023-25 fiscal year, library services accounted for approximately 5 percent of the City's Municipal General Fund expenditures, which included funding for employee salaries and various other basic funding needs (City of Livermore 2023). Additionally, LPL programs are funded by the Friends of the LPL, a 501(c)(3) nonprofit organization created to support the LPL (LPL 2019).

PARKS AND RECREATION

The Livermore Area Recreation and Park District (LARPD) is a Special District that serves Livermore with parks, trails, recreation programs, and facilities. The LARPD was created in 1947 via Livermore voters and is a completely independent governmental agency and is governed by a five-person, elected Board of Directors, each of whom serves a four-year term. LARPD's jurisdictional boundary includes 243.5 square miles bounded by Contra Costa County to the north, San Joaquin County to the east, Santa Clara County to the south, and the cities of Pleasanton and Dublin to the west.

Facilities and Services

LARPD currently manages approximately 1,949 acres of parks, trails, and open space lands (LARPD 2025). LARPD breaks down the acreage into three functional categories.

Neighborhood Parks

Neighborhood Parks are intended to serve LARPD residents who live nearby; however, they also contribute to the overall park system available to the entire community. Ideally, everyone in the district would live within convenient walking distance (typically one-half mile) of a Neighborhood Park. This is defined as the "service radius" or "service area" of a Neighborhood Park. Neighborhood Pocket Parks and Downtown Parks are subcategories of the Neighborhood Park group because these smaller parks provide important accessible recreation opportunities to the residents in their immediate vicinity. LARPD generally does not manage these types of parks due to their small size, limited scope, and the loss of recreational use of downtown parks to commercial interests. Neighborhood Parks address daily recreation needs of the surrounding neighborhood; features of Neighborhood Parks might include playgrounds, multipurpose open turf areas, practice sports fields, picnic tables and/or picnic shelters, walking paths, attractive landscaping, and recreation features, such as tennis and basketball courts.

Community Parks

Community Parks can provide a broad range of both passive and active recreational opportunities, but their primary purpose is to provide active recreational opportunities for use by a larger segment of the population than Neighborhood Parks. Community Parks are generally considered to serve several neighborhoods within a two-mile radius. If a Community Park is

within a residential area, it can also serve a Neighborhood Park function and, therefore, is included in the service area analysis for Neighborhood Parks. Recreation buildings or centers are important features in some Community Parks. These buildings may contain features such as gymnasiums, multipurpose rooms, classrooms, and offices for recreation staff. Other facilities often found at Community Parks might include sports fields, sports courts, amphitheaters, swim pools, restrooms, and group picnic areas. Large special events, such as concerts and festivals, might also be held in larger Community Parks. The ideal size for a community park is about 30 to 50 acres, allowing for adequate community-oriented facilities, parking, and open areas for flexible park programming.

Special-Use Facilities/Parks

Special-Use Facilities generally possess a unique character or function focused on a single type of activity. Sports fields, equestrian facilities, BMX courses, skate parks, community gardens, historic sites, or community buildings (without an associated park), and trail facilities are considered Special-Use Facilities. These parks may serve second or third uses, such as meeting spaces or alternative transportation corridors, but the primary use is prioritized with regard to design, maintenance, and function. Size requirements for special-use parks vary depending on the functions, activities, and required parking/service space. For example, many sports parks exceed 60 acres in size, but a swimming facility could be constructed on three to five acres of property.

Recreation

LARPD also provides over 50 programs and services to the community. LARPD programming caters to youth, teens, adults, and seniors. Programs range from high-intensity and impact activities, such as sports, to low-intensity and low-impact activities, such as flower arranging and baking. Other programs include camping and nature programming, swimming, and language learning. LARPD also provides a variety of services, such as curbside meals, real estate planning, senior services, and health insurance counseling. Even though the LARPD assessment determined no significant gap in programming, there is difficulty in meeting the programming needs for all user groups in the district.

Regional Parks

While there are no regional parks in the EIR Study Area, the East Bay Regional Park District (EBRPD) manages regional parks throughout Alameda and Contra Costa Counties. The two regional parks closest to the EIR Study Area are the Brushy Peak Regional Preserve to the northeast and the Shadow Cliffs Regional Recreation Area to the southwest (EBRPD 2025a).

The 1,979-acre Brushy Peak Regional Preserve shares a border with the city of Livermore. Brushy Peak offers hiking, biking, running, nature study, and dog walking. Visitors desiring to access the top of Brushy Peak and the northern part of the preserve are directed to contact LARPD for information on guided tours. This preserve can be accessed by the portion of the Dryer Ranch Trail that is inside the City Limit. According to the EBRPD map, Brushy Peak Regional Preserve currently has parkland areas just inside the EIR Study Area that are not publicly accessible at this time as they are designated as "parklands in planning" (EBRPD 2025b).

Shadow Cliffs Regional Recreation Area is as close as 1.5 miles to the southwest border of EIR Study Area. This area is made up of a 266-acre park, including an 80-acre lake. Shadow Cliffs Regional Recreation Area offers boating, picnicking, swimming, hiking, biking, running, nature study, and dog walking (EBRPD 2025c).

Park Service Standard

LARPD oversees approximately 153 acres of Neighborhood Park land, 152 acres of Community Park space, and 199 acres of Special-Use facilities/parks, totaling approximately 504 acres of parkland (LARPD 2016). The LARPD park service standard is 2 acres per 1,000 residents for each parkland category, totaling 6 acres per 1,000 residents. The LARPD is in the process of recertifying its service level goals and standards, including proposed regional targets to reflect the community's growing need for access to open space and natural areas. The LARPD Board of Directors is expected to confirm these goals, which will also be revisited as part of the upcoming Parks, Recreation, and Trails Master Plan update.

Table 3.15-4, *Livermore Area Recreation and Park District Service Standards*, summarizes the LARPD park service standards.

Table 3.15-4 Livermore Area Recreation and Park District Service Standards

Park Category	Service Standard	Total Acres
Neighborhood	2 acres per 1,000 residents	153
Community	2 acres per 1,000 residents	152
Special-Use	2 acres per 1,000 residents	199
Total	**6 acres per 1,000 residents**	**504**

Source: LARPD 2016.

Note: Numbers rounded from original source.

Based on the 2023 population of 87,930, LARPD is currently not meeting the established service standards of 175 acres of each parkland category, specifically for Neighborhood and Community Parks.

Funding

LARPD's General Fund is funded in primarily two ways: property taxes and earned income. Residents within the district are taxed based on the value of their property. The earned-income category relates to the various programs and services (i.e., classes, adult sports, LARPD's Camp Shelly at Lake Tahoe, youth sports, etc.) provided by the district to the public. Often, these services and programs result in a net income for the district. In the 2023-24 fiscal year, property taxes (57 percent), and earned income (43 percent) made up most of the operating income of the LARPD (LARPD 2023). The rest of the budget consists of various taxes (i.e., Special Tax 97.1, Special Assessment Tax, Residual Property Taxes, and Redevelopment Fiscal Impact).

The EBRPD is primarily funded through a combination of property taxes, special assessments that support specific park services, voter-approved bond measures for major improvements and land acquisitions, grants from State, federal, and nonprofit sources, and usage fees from parking, facility rentals, and program participation. The EBRPD's Board of Directors approves an operating budget and a five-year project and program budget annually (EBRPD 2025d). In 1992, LARPD entered into an agreement with the EBRPD in which LARPD agreed to share a portion of its property tax revenue for the purposes of EBRPD's acquisition and development of new regional parks, open space, and trails within LARPD's service area.

3.15.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to public services and parks and recreational facilities if it would:

a) 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 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

b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

c) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.15.4 Project Impact Analysis

a) Would the project 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, to maintain acceptable service ratios, response times, or other performance objectives?

Less than Significant.

Fire Protection

Fire services in the EIR Study Area are provided by the LPFD. As described in Section 3.15.2, *Existing Conditions*, the LPFD reported response times in excess to the goal of 7 minutes or less 90 percent of the time. Future development would be required to comply with Title 24 of the CCR, as outlined in Section 3.15.1, *Regulatory Setting*. The CBC, and CCR require typical fire safety requirements such as the installation of sprinklers in all high-rise buildings; establishment of fire-resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The CWUIC establishes standards for development in designated FHSZ/WUI areas, including requirements for ignition-resistant construction materials and methods for exterior wildfire exposure (e.g., roofing, vents, exterior walls, windows and glazing, exterior doors, decks, and appendages), protection of underfloor areas and projections, and standards for ancillary structures. The CWUIC also includes provisions related to site access and emergency access, water supply for fire protection, fire protection planning, and long-term vegetation management. Compliance with these regulations, as applicable, would ensure future development meets the most current building and fire codes, thereby increasing safety of the buildings, and reducing the likelihood of a fire emergency, subsequently reducing demand on LPFD fire services.

Additionally, the Safety (S) Element of proposed General Plan 2045 contains the following goal and policies that are designed to reduce impacts on LPFD services and facilities and ensure that services and facilities keep pace with development:

- **Goal S-4:** Maintain a safe environment in Livermore through effective fire prevention, emergency response, and collaboration with regional partners and the community.
  - **Policy S-4.1: Livermore-Pleasanton Fire Department.** Continue to participate in the Joint Powers Authority agreement governing the consolidated Livermore-Pleasanton Fire Department.
  - **Policy S-4.2: Coordinated Fire Protection.** Continue to cooperate with State and County fire protection agencies in fire prevention, management, and response. Request notification from Alameda County regarding development projects in the unincorporated part of Livermore that could call for fire protection services from the City.
  - **Policy S-4.3: Automatic-Aid Agreements.** Maintain an automatic-aid agreement with Alameda County to provide adequate fire protection to unincorporated parts of Livermore.
  - **Policy S-4.4: Fire Department Performance.** Continuously strive to improve performance and efficiency in the Fire Department. Monitor traffic conditions, call volume, and development in Livermore to determine if any fire stations need to be relocated, or if there is a need for a new station(s), to maintain adequate response times.
  - **Policy S-4.5: Fire Fighting Equipment and Staffing.** Continue to provide firefighting equipment, facilities, and staffing sufficient to ensure:
    a. Response to all calls by the "first due" company in 7 minutes or less 90 percent of the time
    b. Availability of additional companies for serious fires
    c. Capability for handling simultaneous fires
    d. A water system capable of sustaining prerequisite fire flow at all times
  - **Policy S-4.6: Fire Station Sites.** Locate future fire stations on sites at least 5/8 to 3/4 acre in size. Consider larger sites if a central office, multipurpose community meeting room, training center, maintenance yard, or fire prevention bureau is to be included as a part of the station.
  - **Policy S-4.7: Fire Apparatus Roadway Access.** Build and require roadways that facilitate access by firefighting apparatus.
  - **Policy S-4.8: Water Supply for Firefighting.** Maintain a reliable supply of water for firefighting purposes through long-term water supply planning and installation and maintenance of fire hydrants, storage tanks, and other necessary infrastructure. Coordinate with the California Water Service Company regarding the effects of planned water system improvements on fire flows.
  - **Policy S-4.9: Addresses and Signage.** Require visible home and street addresses and signage to assist with a timely fire response.

- **Policy S-4.10: Fire Inspections.** Regularly conduct fire inspections of commercial, industrial buildings, multifamily, and apartment complexes.

Specifically, proposed Policies S-4.4 and S-4.5 would require the City to strive to improve performance and efficiency of the LPFD by monitoring traffic conditions, call volume, and development to determine if any fire stations need to be relocated, or if there is a need for a new station(s), and provide firefighting equipment, facilities, and staffing sufficient to maintain adequate response times and meet performance standards.

As the City receives development applications for subsequent development, those applications will be reviewed by the City for compliance with existing regulations and the policies and programs of the proposed General Plan 2045, to ensure that fire protection services keep pace with new development. In addition to the proposed General Plan 2045 goal and policies identified, see Section 3.18, *Wildfire*, for a complete list of goals and policies that would minimize risk of wildfire, thereby reducing demand on LPFD fire services.

Police Protection

Future development would be served by the LPD. As described in Section 3.15.2, *Existing Conditions*, the LPD staffing ratio of 1.08 sworn officers to 1,000 residents is below the national staffing average of 2.4 sworn personnel per 1,000 residents.

In addition, the Safety (S) Element of proposed General Plan 2045 contains the following goal and policies that are designed to reduce impacts on LPD services and facilities and ensure that police protection services keep pace with new development:

- **Goal S-3:** Maintain a safe environment in Livermore through enforcement of the law, prevention of crime, and the function of partnerships with the community.
  - **Policy S-3.1: Law Enforcement Coordination.** Request notification from Alameda County of development projects in the unincorporated part of Livermore that could call for law enforcement services from the City.
  - **Policy S-3.2: Police Department Staffing.** Annually review Livermore Police Department staffing levels and development trends to determine whether additional police staffing or facilities are needed.
  - **Policy S-3.3: Crime Prevention Information.** Continue to disseminate information on crime prevention to the community.
  - **Policy S-3.4: Crime Rates.** Continue to monitor Livermore's crime rates and types of crime to determine the most appropriate methods to target and reduce crime in the city.
  - **Policy S-3.5: Crime Prevention Programs.** Maintain adequate crime prevention programs to serve the full diversity of Livermore's existing population and businesses, as well as expected future growth.

Specifically, proposed Policy S-3.2 would require annual review of the LPD staffing levels and development trends to determine whether additional police staffing or facilities are needed. A three-phase project was recommended to meet the LPD facilities and equipment deficiencies. The first phase of the project was included in the 2019-2021 Capital Improvement Program as Police Facility Expansion, Project No. 2000-28. The following phases are being addressed in the proposed CIP Budget to be completed 2025-2026 and 2026-2027 budget years (LPD 2025), and implementation of this policy would ensure that adequate police staffing and facilities are provided for.

As the City receives development applications for subsequent development, those applications will be reviewed by the City for compliance with existing regulations and the policies and programs of the proposed General Plan 2045, to ensure that police services keep pace with new development.

Schools

Future development would be served by LVJUDS and Las Positas College. As described in Section 3.15.2, *Existing Conditions*, schools in the LVJUSD are operating within the existing capacity; however, there are five schools that are close to meeting school capacity.

Future development would incrementally pay for any needed facility upgrades and expansions, which, pursuant to SB 50, has been deemed sufficient to provide full and complete school facilities mitigation for the impacts of a project, regardless of whether the fees are adequate to fully fund the expansion or construction of needed facilities. Future development would also be subject to LMC Chapter 3.24, which requires dedication of land for interim school facilities, or fees in lieu of such dedication, where it is found that overcrowding exists in one or more attendance areas within the school district. LMC Chapter 3.24 requires all future residential development within the boundaries of the school district to fully mitigate any impacts on school facilities.

Furthermore, the Community Services (CS) Element of proposed General Plan 2045 contains the following goals and policies that are designed to reduce impacts on school services and facilities and ensure that school facilities keep pace with development:

- **Goal CS-1:** Facilitate education facilities that meet the needs of Livermore residents.
  - **Policy CS-1.1: School District Coordination and Facility Planning.** Coordinate with the Livermore Valley Joint Unified School District on an ongoing basis to share information about planned residential development and General Plan Updates. Provide the District with opportunities to review and comment on proposed projects and identify the general type of school facilities that may be needed to serve anticipated population growth.

- **Policy CS-1.2: School Facility Development.** Ensure that school facilities needed to serve new development are available in a timely manner, concurrently with demand, to the extent allowed by State law.
- **Policy CS-1.3: School Funding.** Support efforts to expand funding of the public school system, as long as it is not to the detriment of municipal funding.
- **Policy CS-1.4: School Site Location.** Work with the Livermore Valley Joint Unified School District to identify appropriate locations for new schools (or expand existing schools) that are near the populations they will serve; avoid noise and traffic hazards; permit access by pedestrians, bicyclists, and public transit; minimize impacts to surrounding residential areas; and integrate with parks and community recreation facilities wherever possible.
- **Policy CS-1.5: Student Generation Rates.** Assist the Livermore Valley Joint Unified School District in tracking changes in student generation rates by reporting projected residential growth by housing type, including actively coordinating efforts to update student generation rates from all types of new housing.
- **Policy CS-1.6: Local Access to Regional Higher Education.** Maintain and expand partnerships with Las Positas College to offer job-readiness courses that align with local employment needs, while also supporting multimodal access to the campus, expanding nearby housing opportunities, and enhancing access to services and amenities that benefit students, faculty, staff, and the broader community.

Specifically, proposed Policy CS-1.1 would require coordination with LVJUSD to allow the district with opportunities to review and comment on future development projects and identify the type of school facilities that may be needed to serve the anticipated population growth.

As the City receives development applications for subsequent development, those applications will be reviewed by the City for compliance with existing regulations and the policies and programs of the proposed General Plan 2045, to ensure that school services keep pace with new development.

Parks

As discussed in Section 3.15.2, *Existing Conditions*, the LARPD manages approximately 504 acres of parkland, distributed across three categories including Neighborhood Park land, Community Park space, and Special-Use facilities/parks. Each of these park categories have a park service standard of 2 acres per 1,000 residents, or a total of 6 acres per 1,000 residents. LARPD is currently not meeting the established service standards, specifically for Neighborhood and Community Parks.

Implementation of the proposed Project could introduce up to 43,820 new residents. To meet the standard of 2 acres of parkland per 1,000 residents (total of 6 acres per 1,000 residents), the City would need a total of approximately 264 acres of each parkland category (approximately

792 acres of total parkland) to serve the projected buildout population of 131,750 total residents by 2045.[1] As shown in Table 3.15-5, *Parkland at Buildout*, the City currently has approximately 504 acres of developed parkland, which means approximately 288 net new acres would be needed to meet the established park service standard.

Table 3.15-5 Parkland at Buildout

Park Category	Service Standard	Existing Parkland Acres [1]	Future Parkland Acres Needed to Achieve Standard (2045)	Surplus or Deficit Acreage
Neighborhood	2 acres per 1,000 residents	153	264	-111
Community	2 acres per 1,000 residents	152	264	-112
Special-Use	2 acres per 1,000 residents	199	264	-65
Total	**6 acres per 1,000 residents**	**504**	**792**	**-288**

Future development would be required to build new parks or pay in-lieu fees for the City to dedicate parkland elsewhere pursuant to LMC Chapter 12.60. This would result in the incremental addition of parkland as new development is proposed.

Additionally, the Open Space and Conservation (OS) Element of proposed General Plan 2045 contains the following goal and policies that are designed to reduce impacts on park services and facilities and ensure that parks and recreational facilities keep pace with new development:

- **Goal OS-5:** Provide parks, recreational programs, and facilities that are equitably distributed so that all residents can experience the physical and mental health benefits of parks and open space.
  - **Policy OS-5.1: Comprehensive Park and Recreation System**. Work with the Livermore Area Recreation and Park District to provide a comprehensive system of parks and recreation facilities in Livermore that are efficient, accessible to all users, well-maintained, and equitably distributed throughout the community.
  - **Policy OS-5.2: Park and Trail Master Plan Update**. Coordinate with the Livermore Area Recreation and Park District on preparing and updating the District's Park and Trails Master Plan, including the identification of sites for future parks, trails, and recreation facilities. Ensure alignment with the Citywide Active Transportation Plan to create an integrated network of parks, trails, and corridors that support walking, biking, and other forms of non-motorized mobility.

[1] 131,750 residents/1,000 = 131.75; 2 x 131.5 = 263.5 acres

- **Policy OS-5.3: Livermore Area Recreation and Park District Park Coordination**. Coordinate with the Livermore Area Recreation and Park District regarding the timing of completion of park improvements and to develop adequate neighborhood, community, and other appropriate park space and facilities in Livermore to serve foreseeable population increases.
- **Policy OS-5.4: Regional Park Development Coordination**. Coordinate with the Livermore Area Recreation and Park District and the East Bay Regional Park District in developing adequate regional park space around Livermore to serve the existing community and foreseeable population increases in Livermore and its environs.
- **Policy OS-5.5**: **Future Community Park Site**. If the Livermore Area Recreation and Park District cannot identify an appropriate future community park site in the urban growth boundary, support the efforts of the Livermore Area Recreation and Park District to seek a community park site outside the urban growth boundary, in accordance with the North Livermore Urban Growth Boundary Initiative.
- **Policy OS-5.6: Park Access**. Ensure all neighborhoods are within a half mile of a park, open space, or outdoor recreational area. In denser (average of 20 dwelling units per acre or greater) Specific Plan areas, such as Downtown, Isabel Neighborhood Specific Plan, and Midtown Specific Plan, ensure all units are within a quarter mile of a park, open space, or outdoor recreational area.
- **Policy OS-5.7: Establish Park Service Standards**. Implement a standard of publicly owned parkland per thousand population that is consistent with Livermore Area Recreation and Park District standards.
- **Policy OS-5.8: Implement Park Service Standards**. Coordinate with the Livermore Area Recreation and Park District to identify sites to maintain park service standards, prioritize new parks and park improvements in park-deficient neighborhoods, and identify funding sources for park acquisition and improvements.
- **Policy OS-5.9: Park Development Fees**. Require developers to provide land or in-lieu fees for parks, as governed by the terms of the Quimby Act.
- **Policy OS-5.10: Park Fees**. Collaborate with the Livermore Area Recreation and Park District on updates to the in-lieu park fee ordinance and park facility fees to ensure they reflect current needs and support the development of parks, trails, and recreational facilities.
- **Policy OS-5.11: Park and Public Facility Colocation**. Where feasible and safe, incorporate recreational facilities into sites planned for new public facilities to maximize land use efficiency, provide community benefit, and achieve park service standards.
- **Policy OS-5.12: Park Water Conservation and Shade Provision**. Provide water conservation and shade provision when designing or redesigning parks and/or advising the Livermore Area Recreation and Park District on park design/redesign.

- **Policy OS-5.13: Recreational and Cultural Facilities and Activities**. Provide a full range of recreational and cultural facilities and activities in Livermore's park system.
- **Policy OS-5.14: Trail Access**. Continue to encourage public access to, and maintenance of, existing recreational trails in Livermore. Prioritize gap closures and trail connections to denser neighborhoods (20 dwelling units per acre [du/ac] or more) to facilitate safe and convenient nonmotorized access to parks and open space.
- **Policy OS-5.15: Creekside Recreational Opportunities**. Develop public recreational opportunities and trails along the arroyos and creeks while ensuring that increased public access is managed to protect these areas from adverse environmental impacts, such as erosion or water pollution.

Although the City's existing parkland acreage does not meet the adopted service standard, the proposed General Plan 2045 includes policies requiring that new development provide land, in-lieu fees, and coordinated planning with LARPD to ensure that park facilities expand proportionally with population growth in a planned and coordinated manner which will avoid any significant environmental impacts. Specifically, proposed Policy OS-5.7 would require implementation of parkland standards that are consistent with the LARPD standards. Proposed Policy OS-5.9 would require developers to provide land or in-lieu fees for parks, which would help facilitate the construction of parks. Proposed Policies OS-5.8 and OS-5.10 would require coordination with LARPD to identify sites to maintain park service standards, prioritize new parks and park improvements in park-deficient neighborhoods, and identify funding sources for park acquisition and improvements and to update the in-lieu park fee ordinance and park facility fees to ensure they reflect current needs and support the development of parks, trails, and recreational facilities, which would ensure new residents have access to parks, stopping potential over usage of existing parks and recreational facilities.

As the City receives development applications for subsequent development, those applications will be reviewed by the City for compliance with existing regulations and the policies and programs of the proposed General Plan 2045, to ensure that park services keep pace with new development.

Library

As described in Section 3.15.2, *Existing Conditions*, the EIR Study Area is served by LPL's three existing library facilities (Civic Center Library, Springtown Branch Library, and Rincon Branch Library).

The Community Services (PS) Element of proposed General Plan 2045 contains the following goal and policies that are designed to reduce impacts on library services and facilities and ensure that such facilities keep pace with development:

- **Goal CS-4:** Provide library services that meet informational, cultural, and educational needs of the Livermore community.
  - **Policy CS-4.1: Library Facilities and Staffing.** Continue to maintain a comprehensive system of library facilities, services, and staffing, distributed equitably throughout the community, to help the community discover, enjoy, connect, and learn.
  - **Policy CS-4.2: Library Services and Programs.** Provide diverse and quality library services and programs to the community promoting literacy and lifelong learning.
  - **Policy CS-4.3: Library Funding.** Maintain City funding of library operations or expand funding as the City budget allows to meet the community's needs.
  - **Policy CS-4.4: Library Programming.** Provide sustainable and scalable library programming based on staffing levels available at Livermore libraries.
  - **Policy CS-4.5: School District Partnership.** Partner with the Livermore Valley Joint Unified School District to promote access to library materials, services, and resources in the pursuit of students' lifelong learning and academic success.

Specifically, proposed Policy CS-4.3 requires the maintenance of City funding of library operations or expansion of funding, as the City budget allows, to meet the community's needs; this funding would allow the expansion of staffing and facilities to serve future buildout, as needed.

As the City receives development applications for subsequent development, those applications will be reviewed by the City for compliance with existing regulations and the policies and programs of the proposed General Plan 2045, to ensure that library services keep pace with new development.

Summary

In summary, it is expected that new growth under the proposed Project would most likely occur incrementally over the next 20 years. The potential need for new or physically altered governmental facilities would be assessed as development occurs. Mandatory adherence to the proposed General Plan 2045 goals and policies would minimize impacts to public services and governmental facilities and ensure facilities and staffing for public services keep pace with development. Furthermore, since the proposed General Plan 2045 is a long-term planning document with no specific projects identified, the projected buildout is speculative and represents a conservative assumption for the purposes of this program-level EIR. The proposed Project is not a commitment to construct specific development projects or public service facilities. The specific location and design of future public service facilities is not known at this time because the site-specific locations and designs of future new or expanded facilities are not known. As the City proceeds with the construction or alteration of public service facilities, those projects would be reviewed for compliance with the policies and programs of the General Plan and LMC and such construction would be subject to separate project-level environmental

review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures, if needed. Furthermore, as the City receives development applications for future development, those applications will be reviewed by the City for compliance with the policies and programs of the General Plan 2045 to ensure that other facilities keep pace with new development. Therefore, the physical effects on the environment from the construction of new or expanded facilities would be **less than significant**.

b) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant. As described in Chapter 2, *Project Description*, the overall purpose of the General Plan 2045 is to create a policy framework that articulates a vision for the City's long-term physical form and development, while preserving and enhancing the quality of life for Livermore residents, which includes recreational opportunities. Two objectives that support the vision are to preserve and improve open spaces, including open space for recreation, and to provide public services, which includes the LARPD, that support the health, welfare, and civic engagement of all members of the community. Therefore, one of the many reasons the proposed Project is being implemented is to ensure that existing recreational facilities are maintained for the residents and visitors to Livermore.

While implementation of the proposed Project would result in an increased population with an increased demand for parks and recreational facilities, buildout would occur incrementally throughout the next approximately 20 years. LMC Chapter 12.60 would require payment of pay in-lieu fees for the City to dedicate parkland elsewhere, helping to ensure that individual park and recreation facilities are not overburdened by use. Also, the EBRPD manages their own funding of which the residents of Livermore contribute, which goes to support their ongoing maintenance of EBRPD facilities.

Additionally, the same proposed General Plan 2045 goal and policies from the Open Space and Conservation (OS) Element identified under impact discussion (a) under the "Parks" subheading would also ensure adequate parks and recreational facilities are available to serve the community and keep pace with development. Specifically, proposed Policies OS-5.1 and OS-5.3 require coordination with LARPD to provide a comprehensive system of parks and recreation facilities that are efficient, accessible to all users, well-maintained, and equitably distributed throughout the community and to develop adequate neighborhood, community, and other appropriate park space and facilities in Livermore to serve foreseeable population increases.

As the City receives development applications for future development, those applications will be reviewed by the City for compliance with the policies and program of the General Plan to ensure that parks and recreational facilities keep pace with new development. In addition, development consistent with proposed Project would be required to pay in-lieu fees in

accordance with LMC Chapter 12.60. Therefore, through implementation of the proposed Project, the City would continue to provide adequate parkland to ensure that the use of existing parkland or recreational facilities would not result in substantial physical deterioration. Impacts would be **less than significant**.

c) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than significant. As stated under impact discussion (b), one of the many reasons the proposed Project is being implemented is to ensure adequate recreational facilities are provided to the residents and visitors of Livermore. As described under impact discussions (a) and (b), it is anticipated that the increase of population over the 20-year buildout horizon will require the maintenance and expansion of existing parks, as well as the construction of new parks. As previously stated, buildout would occur incrementally throughout the buildout horizon of the proposed Project.

Additionally, the same proposed General Plan 2045 goal and policies from the Open Space and Conservation (OS) Element identified under impact discussion (a) under the "Parks" subheading would also ensure adequate parks and recreational facilities to serve the community. Specifically, proposed Policies OS-5.1 and OS-5.3 require coordination with LARPD to provide a comprehensive system of parks and recreation facilities that are efficient, accessible to all users, well-maintained, and equitably distributed throughout the community and to develop adequate neighborhood, community, and other appropriate park space and facilities in Livermore to serve foreseeable population increases.

The estimated timing or location of such facilities or the exact nature of these facilities are not known, so project-specific environmental impacts that would occur from their construction and operation cannot be determined at this time. However, depending on the type, size, and location of new recreational facilities, the construction or expansion of new recreational facilities would be subject to environmental review and the mitigation as needed to ensure the impacts from the construction would be less than significant. Construction or expansion of recreational facilities would require permitting and review in accordance with City standards, which would ensure that any environmental impacts are disclosed and mitigated. Therefore, the physical effects on the environment from the construction of new or expanded parks and recreational facilities would be **less than significant**.

3.15.5 Cumulative Impact Analysis

The geographic scope of the cumulative impact analysis for public services is delineated by the local service areas, i.e., the services areas for the LFD, LPD, LVJUSD, Las Positas College, LPL, LARPD, and EBRPD. Cumulative demand for each service is based on projected population and employment growth within these service areas through 2045, as reflected in the proposed General Plan 2045 and regional growth forecasts.

Would the project have a cumulative effect related to public services and recreation?

Less than Significant.

Fire Protection

As described under impact discussion (a), the LPFD provides services to the cities of Livermore and Pleasanton as well as mutual aid during State of California and federal incidents. The analysis considers growth from future development within the EIR Study Area combined with the estimated growth in the service area of the LPFD. As described under impact discussion (a), construction of additional LPFD facilities may be needed to meet reflex time goals. Future development within the LPFD service area would be required to comply with applicable City ordinances and General Plan policies and programs that address fire protection services. As the LPFD requires new equipment or staffing, the funds for such improvements would be provided through the Livermore General Fund and through shared costs with Pleasanton. Future development would be required to comply with all ordinances and policies, including those in place to ensure provision of adequate services.

Police Protection

As described under impact discussion (a), the LPD provides services to the city of Livermore. As stated in Section 3.15.2, *Existing Conditions,* outside the City Limit, police services are provided by the Alameda County Sheriff's Office, and in unusual circumstances the LPD may request mutual aid from the Alameda County Sheriff's Office. As described under impact discussion (a), construction of additional LPD facilities may be needed to meet staffing ratios and to provide better coverage and service. As the LPD requires new equipment or staffing, the funds for such improvements would be provided through the Livermore General Fund and through grants such as the Police Grant Fund and the Horizon Fund, when available. Future development would be required to comply with all applicable regulations, ordinances, and policies, including those in place to ensure provision of adequate services.

Schools

As described under impact discussion (a), construction of additional school facilities may be needed to meet the needs of the school services in the LVJUSD and Las Positas College service areas. As the LVJUSD requires new equipment or staffing, the funds would be provided through the State Local Control Funding Formula, property taxes, federal revenue, other state revenue, Measures J and G, and other local revenues. As new development occurs, developer impact fees pursuant to SB 50, which are only be used to finance the construction or modernization of school facilities, would be applied to fund new construction or improvements. Las Positas College, like the LVJUSD, is within Alameda County and has benefited from two County-approved measures: Measure A and Measure B, which would ensure that school facilities within the applicable service areas can accommodate future students.

Parks

As described under impact discussion (a), construction of additional parks will be needed to meet the needs of the LARPD. As described in Section 3.15.1, *Regulatory Setting*, as the LARPD requires new parks and upgrades to existing parks, the funds would be provided through the General Fund and various taxes. As new development occurs, developers would be required to pay in-lieu fees for the City to dedicate parkland elsewhere pursuant to LMC Chapter 12.60. This would result in the incremental addition of parkland to ensure the City meets their standard of parkland to residents.

Library

As described in Section 3.15.1, *Regulatory Setting*, as new libraries and/or upgrades to existing libraries within the LPL service area are needed, funds would be provided through the General Fund and in some cases the Friends of the LPL. As the LPL requires new libraries or staffing, the funds for such improvements would be provided through the Livermore General Fund and Friends of the LPL, when available. Future projects within the LPL service area would be required to comply with City ordinances and other policies that address library facilities and services, including payment of fees to provide for the provision of adequate facilities and staffing.

Recreation

The City would need to expand and construct additional parks and other recreational facilities to meet the increased demand and maintain existing service levels within the LARDP service area. Future projects within the LARPD service area would be required to comply with City ordinances and General Plan policies and programs that address provision of adequate parks and recreational facilities such as the payment of fees. Compliance with proposed General Plan 2045 goals and policies listed under impact discussion (a) and other applicable regulations would ensure the provision of adequate parklands along in the LARPD service area.

Summary

Future development would be required to undergo project review at the time of project application, and each proposed development would be assessed for impacts to fire protection services, police services, school services, library services, and park and recreation services. Construction or alteration of public service facilities would also be reviewed for compliance with the policies and programs of the General Plan and LMC of the appropriate jurisdiction, and such construction would be subject to separate project-level environmental review pursuant to CEQA, as required, to identify potential environmental impacts and mitigation measures, if needed. With adequate planning in place in both the EIR Study Area and the areas served by the service providers, the proposed Project would not result in a cumulatively considerable impact on public services, parks, and recreation and cumulative impacts would be **less than significant**.

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3.16 TRANSPORTATION

This section evaluates the potential transportation impacts associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential transportation impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This analysis is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the information provided herein has been updated to reflect this.

As summarized in Chapter 3, *Environmental Analysis,* concerns related to the increase in vehicle miles traveled (VMT) and the need for multimodal transportation improvements were provided during the EIR scoping period.

3.16.1 Regulatory Framework

FEDERAL

Federal Highway Administration

The Federal Highway Administration (FHWA), a division of the United States Department of Transportation (USDOT), provides guidance and funding to state and local agencies for the planning, design, construction, and maintenance of the National Highway System through the Federal Aid Highway Program. Federal investments in roads, bridges, and transit are primarily supported by the Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law.

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equal opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the United States (U.S.) Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created Public Right-of-Way Accessibility Guidelines (U.S. Access Board 2024). These guidelines address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, transit stops and shelters, and other components of public rights-of-way.

STATE

California Department of Transportation

The California Department of Transportation (Caltrans) is the primary State agency responsible for transportation issues. One of its duties is the construction and maintenance of the State highway system. Caltrans adopted the Transportation Impact Study Guide (TISG) as a part of the Local Development-Intergovernmental Review program for environmental review of land use projects and plans (Caltrans 2020). As owner/operator of the State highway system, Caltrans may review projects and plans as a commenting agency or responsible agency under CEQA. This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis. Beyond or in addition to the use of the VMT metric, determining how the State highway system may otherwise be affected by a land use project may still be necessary at times, particularly as it relates to the safety of the traveling public. Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and focuses on multi-modal conflict analysis as well as access management issues. With this guidance Caltrans will transition away from requesting level of service (LOS) or other vehicle operations analyses of land use projects.

For projects that may physically affect facilities or require access to a State highway, Caltrans requires encroachment permits before such activity may be undertaken. Additionally, the following Caltrans procedures and directives are relevant to transportation improvements in Livermore:

- **Caltrans Project Development Procedures Manual.** This manual outlines pertinent statutory requirements, planning policies, and implementing procedures regarding transportation facilities. It is continually and incrementally updated to reflect changes in policy and procedures. For example, the most recent revision incorporates the Complete Streets policy from Deputy Directive 64-R1, which is detailed below.
- **Caltrans Deputy Directive 64 (2001).** This directive requires Caltrans to consider the needs of non-motorized travelers, including pedestrians, bicyclists, and persons with disabilities, in all programming, planning, maintenance, construction, operations, and project development activities and products. This includes incorporation of the best available standards in all of the Department's practices.
- **Caltrans Deputy Directive 64-R1 (2014).** This directive requires Caltrans to provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. Caltrans supports bicycle, pedestrian, and transit travel with a focus on "complete streets" that begins early in system planning and continues through project construction and maintenance and operations.

- **Caltrans Director's Policy 22 (2001).** This policy establishes support for balancing transportation needs with community goals. Caltrans seeks to involve and integrate community goals in the planning, design, construction, and maintenance and operations processes, including accommodating the needs of bicyclists and pedestrians.
- **Context Sensitive Street Design.** Caltrans promotes "context-sensitive solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context-sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders. Context-sensitive solutions meet transportation goals in harmony with community goals and natural environments. They require careful, imaginative, and early planning and continuous community involvement.

California Complete Streets Act

The term "complete streets" refers to a balanced, multimodal transportation network that meets the needs of all street users—including bicyclists, children, and persons with disabilities, motorists, movers of commercial goods, pedestrians, public transportation, and seniors—and provides safe and convenient travel in a manner that is suitable to the local context.

The California Complete Streets Act of 2008 (Assembly Bill [AB] 1358) mandates any substantive revision of the circulation element of a city or county's general plan must identify how the jurisdiction will safely accommodate the circulation of all users of the roadway including transit riders, pedestrians, bicyclists, individuals with disabilities, seniors, and motorists. A key goal of the General Plan update is to review and, where necessary, modify the City's current circulation network plan and policies to ensure that "complete streets" are provided.

Provision of safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to Caltrans's vision: "improving mobility across California." The successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give households the option to lower transportation costs by using transit, walking, or bicycling rather than driving to reach their destinations. Caltrans is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system.

Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law. The State legislature found that, with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of greenhouse gas (GHG) emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). Additionally, AB 1358, described above, requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32, and AB 1358, SB 743 added Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code (PRC).

The Governor's Office of Land Use and Climate Innovation (LCI), formerly known as the Office of Planning and Research, updated CEQA guidelines and criteria to use VMT as the metric for evaluating the significance of traffic impacts. Pursuant to PRC Section 21099(b)(2), "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment." LCI's Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), published in December 2018, provides guidance on VMT assessment, methodologies, and suggested metrics (LCI 2018). A key environmental aspect of VMT is its relationship to GHG emissions, and the recommended VMT significance thresholds included in the Technical Advisory are based on mandated GHG emissions reduction targets established by the State.

REGIONAL

Plan Bay Area

The Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050 on October 21, 2021 (ABAG and MTC 2021). Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of the Sustainable Communities and Climate Protection Act (SB 375). The current Plan Bay Area projects growth and development patterns through 2050.

The following strategies have been adopted as a part of Plan Bay Area that will have an impact on the Livermore transportation network:

- **Maintain and optimize the existing transportation system:** As a part of this strategy, the plan proposes investments along the I-580 corridor that include various interchange improvements and the provision of express lanes.

- **Create healthy and safe streets:** Plan Bay Area envisions a well-connected network with 10,000 new miles of protected bike lanes and off-street paths, with emphases on connections to transit and investments in Equity Priority Communities. The strategy also focuses on the advancement of a regional Vision Zero Policy.
- **Build a next-generation transit network:** Plan Bay Area identifies funding to implement new rail service between the Dublin/Pleasanton BART station and San Joaquin Valley/Lathrop.

Plan Bay Area 2050 is currently undergoing an update, which is called Plan Bay Area 2050+. Plan Bay Area 2050+ contains 35 strategies representing public policies and investments that can be implemented in the Bay Area by 2050 to help the region build more homes, reduce commute times, and create vibrant downtowns and natural areas for everyone to enjoy. The strategies in Plan Bay Area 2050+ also aim to keep people safe from natural hazards, support a strong economy, and provide stable housing for those who need it most. Unique to the Plan Bay Area 2050+ cycle is the parallel Transit 2050+ planning effort, which culminated in the first-of-its-kind plan to re-envision the future of Bay Area public transit, in partnership with transit operators across the region. While not in effect at the time of this Draft EIR, it is anticipated that the Plan Bay Area 2050+ will be in effect over the course of the General Plan 2045 horizon.

Alameda Countywide Transportation Plan

The Alameda Countywide Transportation Plan (CTP) establishes near-term projects, programs, and strategic priorities, details a 30-year transportation vision, and guides the decision-making of the Alameda County Transportation Commission (CTC) (Alameda CTC 2020). The CTP is updated approximately every four years to accommodate changing conditions and new demands placed on the transportation system. The following list of projects are identified as the 10-year priority projects that are significant for Livermore:

- Interstate (I-) 580/First Street Interchange Modernization
- I-580/Vasco Road Interchange Modernization
- Iron-Horse Regional Trail Improvements
- Rail Project–San Joaquin Valley to East Dublin BART Station

Alameda Countywide Multimodal Arterial Plan

The Alameda Countywide Multimodal Arterial Plan intends to use complete streets concepts to address the needs and mobility of all travel modes (Alameda CTC 2016b). The plan provides a framework for designing, prioritizing, and implementing improvements in the context of the surrounding land use to address the needs of all modes on the county's arterial roadways. It provides a basis for the integrated management of major arterial corridors and identifies a priority list of short- and long-term improvements and strategies.

Alameda Countywide Transit Plan

The Alameda Countywide Transit Plan establishes a framework for Alameda CTC and Alameda County's jurisdictions and transit agencies to align transit, land use, and economic development goals and objectives (Alameda CTC 2016a). The plan identifies needs and near- and long-term transit capital and operating priorities for fixed route and paratransit services. The Transit Plan is designed to work in concert with the Multimodal Arterial Plan, which lays out the approach to accommodating all modes traveling on major streets within the county.

Alameda Countywide Active Transportation Plan

The Alameda Countywide Active Transportation Plan (County ATP) provides a vision, goals, and priorities to improve walking and biking throughout the 15 diverse jurisdictions in Alameda County (Alameda CTC 2019). The County ATP was developed to establish countywide priorities that further local agencies' efforts. The plan further provides resources and recommendations that could be used by local jurisdictions.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse transportation impacts in Livermore. The LMC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to transportation are in Title 12, *Streets, Sidewalks, and Public Places*, as follows:

- **Chapter 12.24, *Tri-Valley Transportation Development Fee*,** establishes the Tri-Valley transportation development fee (TVTD fee) to finance transportation improvement projects needed to reduce the traffic-related impacts caused by future development in the Tri-Valley Development Area, including the City of Livermore. The transportation improvement projects are all necessary to accommodate new development projected within the Tri-Valley Development Area, including development within the City of Livermore. Section 12.24.040, *Imposed*, states that a TVTD fee shall be charged and paid for each land use entitlement granted for each single-family residential unit and each multifamily residential unit within the City of Livermore by the date that the building permit is issued for any such residential building or structure, or as otherwise permitted by State law. A TVTD fee shall be charged and paid for each land use entitlement granted for industrial, office, retail and other uses within the City of Livermore by the date that the building permit is issued for any building or structure which fits within the definition of industrial, office, retail, or other uses, or as otherwise permitted by State law.

- **Chapter 12.30, *Traffic Impact Fee on Development*,** imposes a traffic impact fee to mitigate for the increase in traffic volumes which can exceed the capacity of the existing citywide circulation system to provide acceptable levels of service. The traffic impact fee is required for each development within the city for which a building permit or other entitlement for development is issued on or after the effective date of the ordinance codified in this chapter and each development within the city for which a building permit or other entitlement for development is issued before the effective date of the ordinance codified in this chapter which permit or entitlement was issued subject to a condition requiring the developer to pay a traffic impact fee to be imposed upon all new residential, commercial and industrial development within the city.

Livermore Design Standards and Guidelines

The Livermore Design Standards and Guidelines is a policy document and an implementation tool developed to preserve, protect, and promote public health, safety, and general welfare, as allowed by State law (City of Livermore 2004). The guidelines address the need to provide adequate automobile circulation in the community, while ensuring the City's transportation corridors are well designed and convey a positive image of the city through attractive landscaping and appropriate pedestrian components.

Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan

The Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan (Livermore ATP), updated in 2024, carries the vision of a vibrant community where people can comfortably walk, bicycle, and access trails for transportation and recreation forward with a strategy to realize a safer, more comfortable active transportation environment with a thriving walking and bicycling culture (City of Livermore 2024). The Livermore ATP identifies challenges and recommends implementation strategies to improve walking, biking, and trails in Livermore. The plan proposes enhancements to the existing network to close gaps and increase safety, comfort, and connectivity. The Livermore ATP prioritizes network and programmatic improvements, explores options for project phasing, and identifies funding opportunities.

Livermore Active Transportation Plan Design Guidelines

The Livermore ATP Design Guidelines present design guidelines and best practices recommended for the City of Livermore to use for pedestrian, bicycle, and equestrian facilities, to be used in conjunction with the City's Design Standards and Guidelines (City of Livermore 2018). This document follows the design standards and guidelines of national best practice documents, as well as California-specific guidance.

Livermore Transportation Impact Analysis Guidelines

The City of Livermore is in the process of drafting transportation impact analysis guidelines to provide guidance to City staff, developers, and consultants on the requirements to evaluate transportation impacts for land use and transportation projects in Livermore (City of Livermore 2025). It is intended to:

- Promote conformance with applicable city and state regulations.
- Provide evaluation consistent with CEQA.
- Ensure consistency in preparation of studies by applicants and consultants.
- Provide predictability in content for staff and the public in reviewing studies.

3.16.2 Existing Conditions

ROADWAY NETWORK

Roadways

In the EIR Study Area, I-580, running east-west across the northern portion of Livermore, is part of the interstate system. Other National Highway System routes within the City Limits include Isabel Avenue (State Route 84), Stanley Boulevard, First Street, and Holmes Street (FHWA 2020).

The City of Livermore owns and maintains approximately 310 centerline miles of paved streets. Many of the major streets in central Livermore, including Livermore Avenue, First Street, East Stanley Boulevard, Holmes Street, Murrieta Boulevard, and East Avenue, converge in the Downtown. Streets in Downtown follow a traditional grid pattern, but the Downtown and the "lettered" streets northwest of it are not oriented north-south. The major streets and collectors in other areas of the city are oriented north-south or east-west, so they intersect the Downtown grid at a diagonal. Many local neighborhood streets are curvilinear.

Vehicle Miles Traveled

A common indicator used to quantify the amount of motor vehicle use in a specified area is VMT. One VMT is defined as any type of motor vehicle being driven a distance of one mile. Many factors affect VMT, including the average distance residents commute to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. Areas that have a diverse land use mix and ample facilities for non-automobile modes, including transit, tend to generate lower VMT than auto-oriented suburban and rural areas farther from metropolitan centers.

TRANSIT SYSTEM

Public transportation in the EIR Study Area is mainly provided by the Livermore Amador Valley Transit Authority (LAVTA) bus service and Altamont Corridor Express (ACE) passenger rail service.

Livermore Amador Valley Transit Authority

LAVTA provides bus service to Livermore, with routes to and from San Ramon, Dublin, and Pleasanton. The Livermore Transit Center in Downtown Livermore serves as a major hub for LAVTA bus service and provides transfer for downtown Livermore ACE station. It provides the following transportation services: Fixed Route (Wheels) Service, Bus Rapid Transit (Rapid) Service, Demand Responsive Paratransit Service (Dial-A-Ride) to senior and disabled persons, and on-demand services throughout the area.

Altamont Corridor Express

The ACE commuter rail service runs from San Jose to Stockton during peak hours and has two stops in Livermore—one in Downtown and another at Vasco Road near Patterson Pass Road. The ACE rail service is managed by the San Joaquin Regional Rail Commission (SJRRC). In 2019, SJRRC developed an Altamont Corridor Vision to establish a universal rail corridor connecting the San Joaquin Valley and the Tri-Valley to San Jose, Oakland, San Francisco, and the Peninsula. This vision complements similar investments being planned for the northern California region, including the new Transbay Crossing, which would allow for passenger trains to flow from Oakland to San Francisco and Valley Rail and which will connect Merced and Sacramento.

Planned Transit Improvements

On January 1, 2018, the Tri-Valley–San Joaquin Valley Regional Rail Authority (Authority) was established to plan and deliver cost-effective and responsive transit connectivity between the BART system in the Tri-Valley and the ACE. The Final EIR (State Clearinghouse No. 2018092027) was certified on May 12, 2021 (Tri-Valley–San Joaquin Valley Regional Rail Authority 2021). The project proposes a new 42-mile passenger rail project with two stations in Livermore along the I-580 corridor: one at Isabel Avenue and another potentially along Southfront Road between First Street and Vasco Road.

Since certification of the Valley Link project's Final EIR in 2021, the Authority has refined the project to include a two-phase construction approach for Phase 1, with Phase 1A extending from the Dublin/Pleasanton BART Station to the Vasco Road ACE Station via a modified alignment that departs the I-580 median east of First Street. Phase 1A is targeted for completion in 2032, with the schedule for future project phases contingent on future funding.

BICYCLE NETWORK

Caltrans classifies and defines four classes of bicycle facilities.

- **Class I: Multi-use Paths.** A path physically separated from motor vehicle traffic by an open space or barrier, used by bicyclists, pedestrians, joggers, skaters, and other non-motorized travelers. Because the availability of uninterrupted rights-of-way is limited, this type of facility may be difficult to locate and expensive to build relative to the types of bicycle and pedestrian facilities, but inexpensive compared to new roadways. Prime locations for bike paths are areas such as power-line easements, utility easements, canal banks, river levees, drainage easements, railroad or highway rights-of-way, or regional community parks.
- **Class II: Bicycle Lanes.** A travel lane on a roadway that has been set aside by striping and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are intended to promote an orderly flow of bicycle and motor vehicle traffic. This type of facility is established by using appropriate striping, legends, and signs.
- **Class III: Bicycle Routes.** Bicycle routes designated by signage where bicyclists share travel lanes with motor vehicle traffic. Bicycle routes must be of benefit to the bicyclists and offer a higher degree of service than adjacent streets. Class III bikeways are often designated on low-volume local residential streets. Additionally, many cities have installed an enhanced type of Class III Bicycle Routes, referred to as a "Bicycle Boulevard." Bicycle Boulevards are generally installed on relatively low-volume streets and often include elements to facilitate bicycle travel, such as reorienting stop signs to reduce delays to cyclists, and/or discouraging use by motorists making through trips, such as through the inclusion of traffic calming measures.
- **Class IV: Separated Bikeway.** A Class IV bikeway is for the exclusive use of bicycles and includes a separation between the bikeways and adjacent vehicle traffic. The physical separation may include flexible posts, grade separation, inflexible physical barriers, or on-street parking. Separated bikeways generally operate in the same direction as vehicle traffic on the same side of the roadway. However, two-way separation bikeways can also be used, usually in lower speed environments (35 miles per hour or less).

In addition, the Alameda CTC has adopted a set of subclassifications for each Caltrans classification. These subclassifications were designed to harmonize with previously existing local classification systems within Alameda County and to incorporate emerging bikeway typologies.

PEDESTRIAN NETWORK

Most streets in the EIR Study Area provide sidewalk coverage, accessible curb ramps, and crosswalks, including pedestrian signals at signalized intersections. Enhanced crosswalks and/or bulbouts are included at specific crosswalks, such as in the Downtown, to reduce crossing distances. Sidewalks in the EIR Study Area vary in width from five to ten feet, depending on the adjacent land use.

The Livermore ATP identified 44 miles of roadways that have a sidewalk on only one side, and 32 miles that lack sidewalks entirely. Sidewalk gaps are primarily found on high-speed arterials, collectors, and state routes, especially on the edge of the city and away from residential development. Small sidewalk gaps that exist sporadically throughout the city impede or discourage pedestrian activity.

Most pedestrian improvements or projects are developed at the neighborhood level or combined with a roadway project. The Livermore ATP proposes six miles of sidewalk improvements and 76 crossing improvements throughout the city.

3.16.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to transportation if it would:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and pedestrian facilities.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d) Result in inadequate emergency access.

3.16.4 Project Impact Analysis

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and pedestrian facilities?

Less than significant. As discussed in Section 3.16.1, *Regulatory Framework*, programs, plans, ordinances, and policies relevant to the transportation largely focus on aligning the City's transportation network with State, regional, and local efforts. In general, the overarching goals of these policy documents are to ensure a safe, efficient, and accessible multi-modal transportation network for all users that also reduces VMT to improve air quality and reduce GHG emissions.

The California Air Resources Board recognizes that reducing VMT is a key objective to meeting California's GHG emission-reduction goals. The greatest potential for reducing GHG emissions is in reducing transportation-related emissions through measures that help to reduce vehicular

trips and increase the use of non-automobile modes of transportation (i.e., transit, bicycle, and pedestrian modes).

Transit

As described in Section 4.15.1.2, *Existing Conditions*, transit services are provided by LAVTA and ACE. Future development is anticipated to contribute to an increased use of transit due to growth in population and employment.

The Mobility (MO) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to directly and indirectly improve the transit network and support an increase in transit use, thus supporting regional goals to reduce VMT and GHG emissions, as well as support programs, plans, ordinances, or policies addressing the transit system:

- **Goal MO-2:** Reduce the number and length of single-occupancy vehicle trips.
  - **Policy MO-2.1: Transportation Mode Choice.** Support and provide viable transportation alternatives to reduce vehicle miles traveled.
  - **Policy MO-2.2: Transportation Priorities.** Make transit and active transportation safe and feasible choices for residents by prioritizing transportation modes as follows: (1) public transit and active transportation, (2) zero-emission vehicles, and (3) fossil fuel vehicles. Support this prioritization through funding, development standards, education, and other allocation of resources.
  - **Policy MO-2.5: Mobility Hubs.** Plan for mobility hubs that bring together public transit, bike share, car share, and other mode options within a half-mile radius of existing or emerging mobility centers, such as Downtown and future regional rail stations.
  - **Policy MO-2.6: Traffic Signal Priority for Alternative Modes.** Evaluate, and as appropriate implement, transit and bike signal priority along transit and bike corridors, Leading Pedestrian Interval, and passive pedestrian detection or other innovative technologies.
- **Goal MO-4:** Make transit a viable option by supporting frequent, reliable, cost-efficient, and connected service.
  - **Policy MO-4.1: Local Transit Ridership.** Increase local transit ridership and service as an alternative to driving by supporting Livermore Amador Valley Transit Authority and Altamont Corridor Express services.
  - **Policy MO-4.2: Transit Service.** Collaborate with transit providers to explore and implement new and alternative transit options, such as microtransit and on-demand services, that improve connections between Livermore and regional job and housing centers.

- **Policy MO-4.3: Passenger Rail Service.** Participate in the development of the Valley Link passenger rail service and support continued coordination with the ACE to enhance regional transit options. Improve multimodal access to Valley Link, ACE, BART, and other regional rail stations by prioritizing first- and last-mile connections, including pedestrian, bicycle, transit, and shared mobility infrastructure.
- **Policy MO-4.4: Transit-Supportive Street Design.** Apply street design and development standards that incorporate transit-supportive facilities and transit priority elements, such as bus shelters, benches, lighting, sidewalks, convenient access to bus stops, and transit signal priority.
- **Policy MO-4.5: Transit Infrastructure Improvements.** Collaborate with transit providers to promote real-time information for transit, increase the comfort of stops and stations, and improve the convenience of wayfinding maps and payment systems.
- **Policy MO-4.6: Future Transit Use.** Ensure roadway and land use improvements preserve opportunities for future transit service and infrastructure.

- **Goal MO-7:** Develop and maintain a Downtown circulation system that is pedestrian-oriented and supports Downtown as a destination.
  - **Policy MO-7.3: Downtown Active Transportation Modes.** Encourage alternative modes of travel to and in the Downtown area, including transit and bicycles.
- **Goal MO-11:** Build a values-driven regulatory, management, and partnership framework that flexibly encourages beneficial transportation technologies in service of City and community goals.
  - **Policy MO-11.5: Intelligent Transportation Systems.** Evaluate and deploy Intelligent Transportation Systems measures to efficiently manage traffic operations and incident response, enhance transit service efficiency, and better detect and prioritize the travel and safety of people walking and biking.

Implementation of these proposed General Plan 2045 goals and policies would support plans and programs to increase travel by transit. Specifically, proposed Policy MO-2.2 promotes safe and feasible alternative transportation facilities to encourage ridership, and proposed Policies MO-4.2, MO-4.3, and MO-4.4 encourage collaboration with other transit providers to improve and expand transit connections. Proposed Actions MO-A-4.1 and MO-A-4.2 would further support these policies by providing strategies to spur the development of transit-supportive infrastructure and regional transportation improvements. The exact location and nature of such facilities are not known, but their construction and operation would be subject to environmental review, and mitigation would be identified to reduce potential impacts, as applicable.

Because the proposed Project is the primary planning document for the City of Livermore and the proposed update is intended to ensure consistency between the General Plan, Zoning Ordinance, and federal and State laws, implementation of the proposed Project would not

create inconsistencies with any City plans related to transit. The proposed Project is generally consistent with and would not obstruct the transit-related goals and policies in Plan Bay Area because it supports transit facilities and transit-oriented development. Implementation of the proposed Project would not result in conflicts with adopted policies, plans, or actions or otherwise decrease the performance or safety of transit facilities or services.

Roadway

The proposed Project is generally consistent with and would not obstruct the transportation-related goals and policies of Plan Bay Area because it continues to encourage a shift away from drive-alone commuter vehicle trips, which are a primary contributor to commuter GHG emissions and localized transportation impacts.

The Mobility (MO) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to directly and indirectly result in VMT reduction, and thus would support regional goals to reduce VMT and GHG emissions, as well as support programs, plans, ordinances, or policies addressing the roadway network:

- **Goal MO-1:** Design and maintain streets that are safe, comfortable, convenient and accommodate all users.
  - **Policy MO-1.1: Complete Streets Approach.** Plan for Complete Streets that support all transportation systems throughout the city and consider and balance the needs of all users, including vulnerable road users and underserved communities.
  - **Policy MO-1.2: Complete Streets Incorporation.** 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 MO-1.3: Complete Streets Design Standards.** Design Complete Streets to accommodate:
    i. Different modes of travel in rights-of-way
    ii. Land use and circulation network design objectives
    iii. A Desired Operating Speed that is context-sensitive, sustainable, people-centric, and self-enforcing
    iv. Facilities such as bicycle lanes, tree shade, and pedestrian amenities based on the street context.
  - **Policy MO-1.4: Context-Sensitive Transportation Design.** Use context-sensitive approaches to promote a strong sense of place and to accommodate different modes of travel to fit the public right-of-way, surrounding uses, and values of the community.

- **Policy MO-1.5: Complete Streets Outreach.** Involve residents, merchants, and other stakeholders early in the process of evaluating the design and implementation of Complete Streets plans. Use outreach and engagement methods that are culturally sensitive and encourage broad representation.
- **Policy MO-1.6: Complete Streets Coordination.** Cultivate relationships and actively participate in decision making and policy work with other agencies, transit districts, and other jurisdictions to facilitate multi-modal transportation infrastructure and increase connectivity across jurisdictional boundaries.

- **Goal MO-2:** Reduce the number and length of single-occupancy vehicle trips.
  - **Policy MO-2.1: Transportation Mode Choice.** Support and provide viable transportation alternatives to reduce vehicle miles traveled.
  - **Policy MO-2.2: Transportation Priorities.** Make transit and active transportation safe and feasible choices for residents by prioritizing transportation modes as follows: (1) public transit and active transportation, (2) zero-emission vehicles, and (3) fossil fuel vehicles. Support this prioritization through funding, development standards, education, and other allocation of resources.
  - **Policy MO-2.3: Vehicle Miles Traveled as Performance Measure.** Evaluate transportation conditions with performance measures that emphasize the efficient movement of people and reduce rates of vehicle miles traveled.
  - **Policy MO-2.4: Transportation Demand Management (TDM) Implementation.** Promote and implement Transportation Demand Management strategies to reduce vehicle miles traveled and reliance on single-occupancy vehicles across all development types.
    A. New Development: Require Transportation Demand Management measures through development agreements, partnerships with Transportation Management Associations (TMAs), and collaboration with regional stakeholders.
    B. Existing Development: Encourage adoption of Transportation Demand Management measures by offering incentives such as grants, tax benefits, or reduced fees.
    C. Organizational Support: Provide technical assistance for the formation and operation of Transportation Management Associations and other entities that facilitate Transportation Demand Management programs.
- **Goal MO-5:** Provide a local circulation system that supports the reliable and efficient movement of people and goods while balancing safety with acceptable levels of service.
  - **Policy MO-5.1: Vision Zero.** Use a Safe Systems Approach for transportation planning, street design, operations, emergency response, and maintenance to eliminate traffic fatalities and serious injuries on our roadways.
  - **Policy MO-5.2: Roadway Operations.** Maintain acceptable roadway operations for all intersections and roadways for all modes in the city.

- **Policy MO-5.3: Level of Service Standards and Exception.** Maintain intersection service levels above the mid-range of Level of Service (LOS) D for development-related traffic studies, roadway design, and capital improvement priorities.
- **Policy MO-5.4: Downtown, Midtown and Isabel Neighborhood Specific Plan Area.** Exempt from Level of Service standards to support a walkable, multimodal environment (see General Plan Land Use Map).
- **Policy MO-5.5: Intersections Near Freeway Interchanges.** Selected intersections under the City's jurisdiction and near freeway ramps may operate at Level of Service (LOS) E, as identified in the City's Transportation Impact Analysis (TIA) Guidelines.
- **Policy MO-5.6: Regional Cut-Through Corridors.** Certain intersections along major east-west corridors with high volumes of regional traffic may exceed Level of Service standards, as specified in the City's Transportation Impact Analysis Guidelines.
- **Policy MO-5.7: Level of Service Improvements.** Improve intersections that are allowed to exceed the City's established Level of Service, as established in the City's Transportation Impact Analysis Guidelines, to the extent feasible to minimize impacts and support the community character.
- **Policy MO-5.8: Street Classification Standards.** Maintain engineering design standards for each street classification. Incorporate bicycle and pedestrian-oriented improvement into the design of traffic congestion management improvements wherever feasible. Update these standards periodically in response to changing transportation needs and new technology.
- **Policy MO-5.9: Residential Traffic.** Provide a street system that minimizes traffic on local streets to create and preserve a high-quality residential environment.
- **Policy MO-5.10: Traffic Calming.** Use traffic-calming methods to reduce local cut-through traffic, where appropriate.
- **Policy MO-5.11: Speed Management.** Manage vehicle speeds on residential streets by evaluating opportunities to lower posted speed limits and applying traffic-calming measures where appropriate to enhance safety and livability in neighborhoods.
- **Policy MO-5.12: Roadway Right-of-Way.** Pursue and protect adequate right-of-way to accommodate future circulation system improvements.
- **Policy MO-5.13: Citywide Traffic Model.** Maintain, update, and validate a citywide traffic model, at a minimum five-year increment, for purposes of evaluating development-related and external traffic impacts on the City's existing and proposed circulation system.
- **Policy MO-5.14: Roadway Linkages.** Construct missing roadway links to complete the roadway system designated in the Mobility Element when warranted by roadway operating conditions.

  - **Policy MO-5.15: Transportation Technology Infrastructure**. Install fiber-optic cabling and other infrastructure and technology as needed to maximize the efficient operation of the transportation system.
- **Goal MO-11:** Build a values-driven regulatory, management, and partnership framework that flexibly encourages beneficial transportation technologies in service of City and community goals.
  - **Policy MO-11.1: Emerging Transportation Technologies**. Adopt new mobility technologies that meet City goals for safety, climate, and equity, including intelligent transportation systems, autonomous vehicles, connected vehicles, low- and zero-emission vehicles, and supporting infrastructure.
  - **Policy MO-11.3: Zero-Emission Vehicle Education**. Collaborate with local and regional partners to provide incentives, rebates, and education on zero-emission vehicles and charging/fueling infrastructure.
  - **Policy MO-11.4: Level 3 Electric Vehicle Chargers**. Require all new and significantly remodeled gas stations to include a Level 3 electric vehicle charger at a minimum.

Implementation of these proposed General Plan 2045 goals and policies would support programs to reduce overall vehicle usage and VMT. Specifically, proposed Policy MO-2.2 would provide safe and feasible alternative transportation, and Policy MO-2.4 would promote implementation of transportation demand management (TDM) to reduce VMT. Proposed Actions MO-A-2.1, MO-A-5.1, and MO-A-8.4 would further support these policies through the adoption of a transportation demand management ordinance for new developments, which would incorporate tiered trip reduction and VMT reduction targets; implementation of the City's Vision Zero Plan to make roadways safer through street ., speed management, and safe crossings; and amending the LMC to establish curbside management requirements. Discretionary actions that could result in environmental impacts would be subject to environmental review, and mitigation would be identified to reduce potential impacts, as applicable.

As described in Section 3.16.1, *Regulatory Framework*, Plan Bay Area seeks to reduce GHG emissions from transportation sources in the Bay Area. The proposed Project is generally consistent with and would not obstruct the transportation-related goals and policies of Plan Bay Area because it continues to encourage a shift away from drive-alone commuter vehicle trips, which are a primary contributor to commute-related GHG emissions and localized transportation impacts. Implementation of the proposed Project would not result in conflicts with adopted policies, plans, or actions or otherwise decrease the performance or safety of roadway facilities or services.

Bicycle and Pedestrian Facilities

As described in Section 3.16.1, *Regulatory Setting*, the Livermore ATP identifies challenges and recommends implementation strategies to improve walking, biking, and trails in Livermore. The Livermore ATP analyzes existing conditions, incorporates community objectives, and policies, and recommends network improvements and programs that address limitations and challenges to active transportation. The plan proposes improvements that will be implemented in the existing network to close gaps and increase safety, comfort, and connectivity.

The proposed General Plan 2045 goals and policies identified above, in addition to the following goals and policies from the Mobility (MO) Element, are designed to improve the bicycle and pedestrian network and support an increase in bicycle and pedestrian travel, thus supporting regional goals to reduce VMT and GHG emissions:

- **Goal MO-3:** Provide comfortable access to jobs, schools, recreation, shopping, and transit on foot or by bicycle as part of daily life in a healthy and active community.
  - **Policy MO-3.1: Active Transportation Plan.** Regularly update and implement the City's Active Transportation Plan as a guide for developing pedestrian, bicycle, and trail networks.
  - **Policy MO-3.2: Bicycle/Pedestrian Connectivity.** Improve connectivity for cyclists and pedestrians between and through neighborhoods and to and from activity centers in collaboration with the community and stakeholders.
  - **Policy MO-3.3: Safe Routes to School.** Develop and implement a Safe Routes to School program aimed at protecting the safety of students walking to and from school and that addresses physical improvements, including gaps in the sidewalk network.
  - **Policy MO-3.4: Bicycle Parking.** Provide adequate safe and convenient short- and long-term vehicle and bicycle parking for all land uses in the city.
  - **Policy MO-3.5: Integration of Active Transportation Improvements in Public Works Projects.** Coordinate the planning and implementation of public works and capital improvement projects to incorporate active transportation improvements, including trails, sidewalks, and bicycle facilities. Where such projects precede adopted active transportation plans, proactively acquire easements, property, or right-of-way, where feasible, to support the future development of planned facilities.
  - **Policy MO-3.6: Active Transportation across I-580 Barriers.** Ensure that adequate roadway, trails, and paths, and other connections, are provided between areas north of Interstate 580 and areas south of Interstate 580. Collaborate with Caltrans and other agencies as appropriate to ensure that freeway interchanges, overpasses, and other grade separations are designed and constructed to be safe for bicycles and pedestrians.

  - **Policy MO-3.7: Smart Multimodal Street Design.** Design and retrofit streets to safely integrate bike lanes, bus stops, crosswalks, curb ramps, and other roadway features using context-sensitive and nationally recognized design practices that enhance safety, comfort, and accessibility for all users.
- **Goal MO-7:** Develop and maintain a Downtown circulation system that is pedestrian-oriented and supports Downtown as a destination.
  - **Policy MO-7.1: Pedestrian-Oriented Downtown.** Design and maintain a safe and interconnected pedestrian-oriented Downtown circulation system. Promote pedestrian activity as the primary mode of travel on First Street in Downtown Livermore.
  - **Policy MO-7.2: Downtown Roadway Priority Users.** Provide a roadway system that is subordinate to the pedestrian environment, except for Livermore Avenue, L Street, Railroad Avenue, and Fourth Street, where pedestrian, bicycle, and vehicular traffic needs are balanced to ensure adequate access to the Downtown Area for all modes of travel.
- **Goal MO-8:** Use parking, enforcement, and curb management strategies to effectively administer parking supply and maximize use of public assets.
  - **Policy MO-8.4: Bicycle Parking.** Require on- and off-street bicycle parking facilities near places of work, residential, commerce, education, recreation, and other destinations. Ensure safety and convenience of the bicycle parking.
  - **Policy MO-8.6: Downtown Bicycle Access and Parking.** Continue to improve bicycle access into, through, and around the Downtown area and provide adequate and safe bicycle parking in appropriate locations for cyclists to park and become pedestrians.

Implementation of these proposed General Plan 2045 goals and policies would improve the bicycle and pedestrian network and support programs to increase bicycle and pedestrian travel. Specifically, proposed Policy MO-3.2 aims to improve connectivity for bicycle and pedestrians, and Policy MO-3.7 encourages multimodal street design that integrates bike lanes, bus stops, crosswalks, curb ramps, and other roadway features. Proposed Actions MO-A-5.1, MO-A-7.1, and MO-A-8.3 further support these policies by implementing the City's Vision Zero Plan to make roadways safer through street design, speed management, and safe crossings; developing and implementing a parking strategy for the downtown area; and installing bicycle racks and bicycle storage facilities in areas where more bicycle parking would be beneficial. Discretionary actions that could result in environmental impacts would be subject to environmental review, and mitigation would be identified to reduce impacts, as applicable. Implementation of the proposed Project would not result in conflicts with adopted policies, plans, or actions or otherwise decrease the performance or safety of bicycle or pedestrian facilities.

Overall Circulation System

The proposed General Plan 2045 goals and policies identified above, in addition to the following goals and policies from the Mobility (MO) Element, are designed to ensure that the proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system:

- **Goal MO-6:** Develop and maintain a circulation system consistent with the Land Use Element.
  - **Policy MO-6.1: Coordinated Land Use and Circulation System**. Plan, manage, and develop the local circulation system to support the Land Use Element. Consider the impacts to the existing and proposed circulation system when making changes in land use.
  - **Policy MO-6.2: High-Traffic Generating Land Uses**. Locate high traffic-generating land uses along or close to major streets.
  - **Policy MO-6.3: Local Transportation Analysis Guideline**. Develop a Local Transportation Analysis Guideline to evaluate the transportation impacts from new development, including to vehicular, transit, bicycle, and pedestrian modes, and identify acceptable mitigation measures. The guideline should include both Vehicle Miles Traveled and Level of Service analysis as well as a Vehicle Miles Traveled reduction toolbox.
  - **Policy MO-6.4: Cut-Through Traffic**. Recognize that increasing capacity on major streets leading to Interstate 580 could increase regional cut-through traffic and maintain a balance between serving local and regional needs.
  - **Policy MO-6.5: Roadway System Improvement Considerations**. Consider a range of factors, not just regional cut-through traffic, when planning roadway improvements, including cost, community needs, and overall benefit to the local network.
  - **Policy MO-6.6: Rural Roadway Improvements**. Design and evaluate future improvements to designated special rural routes in a way that protects and enhances the "wine country" character of the area in coordination with Alameda County.
- **Goal MO-12:** Ensure a well-coordinated regional transportation system that serves Livermore and the surrounding region.
  - **Policy MO-12.1: Regional Coordination.** Coordinate with the Caltrans, MTC, Alameda CTC and neighboring jurisdictions to align Livermore's transportation planning, funding priorities, and performance measures with regional goals. Advocate for local projects in regional transportation plans and funding programs, including freeway interchange improvements, and urge Caltrans to prioritize these improvements to maintain Level of Service E or better. Participate in regional initiatives that support equity, sustainability, and multimodal mobility.

- **Policy MO-12.2: Interstate 580 High-Occupancy Vehicle/Toll Lanes**. Preserve right-of-way adjacent to Interstate 580 to allow widening for High-Occupancy Vehicle/Toll lanes, auxiliary lanes, and Valley Link.
- **Policy MO-12.3: Regional Transportation Impact Evaluation.** Identify operational deficiencies on regional as well as local transportation facilities when evaluating proposed developments and land use decisions.
- **Policy MO-12.4: Transportation Air Quality.** Advance regional air quality objectives through effective management of Livermore's transportation system.
- **Policy MO-12.5: State Route 84 Improvements**. Work with State and regional efforts to improve State Route 84 (along Isabel Avenue) to expressway standards between Interstate 580 and Interstate 680 that enhance safety, reduce congestion, and incorporate multimodal transportation opportunities (transit, bicycle, and pedestrian facilities), and provide broad community benefits, including improved regional connectivity, access to jobs and services, and reduced environmental impacts.
- **Policy MO-12.6: Subregional Arterial Alignments**. Cooperate and work with Alameda County in the planning of subregional arterial alignments. Also, cooperate and work with Contra Costa County in the planning of the Vasco Road alignment.
- **Policy MO-12.7: Corridor Right-of-Way Protection,** protect and acquire right-of-way necessary to support planned and future transportation infrastructure improvements, including freeway interchanges, arterial extensions, and multimodal corridors.

Implementation of these proposed General Plan 2045 goals and policies would generally improve the circulation system. Specifically, proposed Policy MO-6.1 would ensure consistency between circulation and land uses, and Policy MO-6.3 would develop transportation impact guidelines to mitigate transportation impacts of future projects. Proposed Policies MO-12.1 and MO-12.3 require coordination with other transportation agencies and neighboring jurisdictions to align transportation planning. Implementation of the proposed Project would not result in conflicts with adopted policies, plans, or actions or otherwise decrease the performance or safety of the overall circulation system.

Summary of Consistency with Transportation Plans

In summary, the proposed Project supports public transit and improvements to bicycle and pedestrian facilities. It would promote and direct the City to expand the pedestrian and bicycle network, close gaps in the transportation network, and coordinate with regional agencies to improve the transit network. The proposed Project supports the regulatory programs that address the circulation system. As such, the proposed Project is consistent with the existing adopted policies, plans, and programs regarding public transit, bicycle, or pedestrian facilities and consequently reducing VMT and GHG emissions, and impacts would be **less than significant**.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than significant. State CEQA Guidelines Section 15064.3(b)(1) states that VMT exceeding an applicable threshold of significance may indicate a significant impact from a land use project. VMT can be measured in different ways: as total VMT; or as an efficiency metric, such as VMT per capita, VMT per employee, and VMT per service population on a typical day. Total VMT represents the overall VMT generated within a given geographical area, while VMT per capita or VMT per employee quantifies the amount of VMT generated per person who lives and/or works in the area on an average day. VMT per capita is used to evaluate residential projects, VMT per employee for non-residential projects, and VMT per service population for a combination of land uses. For this analysis, VMT per capita and VMT per employee are used.

Lead agencies have ultimate discretion to establish their own significance thresholds per CEQA Guidelines Section 15064.7, but substantial evidence is required to support those thresholds. State CEQA Guidelines Section 15064.3(b)(1) states that a land use project that decreases VMT compared to existing conditions should be presumed to have a less-than-significant impact. Therefore, the use of a "no net increase" threshold aligns with guidance from LCI. This analysis considers the impact for the proposed Project to be significant if it results in either:

- A net increase in VMT per capita when compared to the existing citywide average, which equates to an impact threshold of 27.8 VMT per capita, for residential uses.
- A net increase in VMT per employee when compared to the existing nine-county Bay Area regional average, which is 18.1 VMT per employee, for office uses.

The VMT analysis relies on the City of Livermore Travel Demand Model. The City of Livermore Travel Demand Model is adapted from the Alameda Countywide Travel Model, with a focus on Livermore.

A summary of the VMT analysis is shown in Table 3.16-1, *VMT Summary*. Table 3.16-1 provides changes in VMT per capita and per employee related to implementation of the proposed Project compared to existing conditions and 2045 No-Project (i.e., existing General Plan remains in place) conditions for Bay Area Regional Average. The VMT metrics are evaluated for the total of all land uses in the EIR Study Area.

Table 3.16-1 VMT Summary

Scenario	VMT Per Capita	VMT Per Employee
Bay Area Regional Average		
Existing Bay Area Average	*19.8*	*18.1* [1]
2045 No-Project	18.9	18.0
EIR Study Area		
Existing Citywide Average	*27.8* [2]	*14.7*
2045 No-Project	23.4	13.9
Proposed General Plan 2045	**23.9**	**14.5**
Exceeds Threshold?	No	No

Source: Kittelson & Associates, Inc. 2025.

Note: VMT = Vehicle Miles Traveled. Grey fill indicates the relevant threshold.

1. The Bay Area regional average VMT per employee under existing conditions is used as a threshold of significance for nonresidential uses.

2. The citywide average VMT per capita under existing conditions is used as a threshold of significance for residential uses.

As shown in Table 3.16-1, VMT per capita and VMT per employee are expected to decrease in comparison to existing conditions. For 2045 conditions, VMT per capita would decrease by approximately 14 percent, from 27.8 to 23.9. VMT per employee would decrease by approximately 20 percent, from 18.1 to 14.5 in comparison to the Bay Area regional average.

The anticipated changes in VMT from the baseline conditions to the projected 2045 conditions indicate that future development, especially mixed-use projects, could be successful in reducing VMT by increasing access to job opportunities and essential services within shorter distances. As a result of the reduced distances, there would be a decrease in VMT per capita. Moreover, these shorter trips would also reduce VMT by promoting the use of alternative modes of transportation such as bicycling and walking. New developments would also be encouraged to include TDM measures in their planning applications. Currently, the extent of vehicle trip reduction achieved through the implementation of the City's existing TDM requirements cannot be precisely quantified at the program level. As a result, the VMT estimates provided for the proposed Project are conservative (i.e., represent a "worst case scenario") because they do not account for potential reduction in VMT resulting from the incorporation of TDM measures.

In addition, the same proposed General Plan 2045 goals and policies from the Mobility (MO) Element identified under impact discussion (a) would also serve to minimize impacts related to VMT. These goals and policies would promote alternative modes of transportation, such as public transit, bicycling, and walking, encouraging more individuals to choose non-auto modes of transportation, decreasing their reliance on private vehicles.

Because VMT per capita and per employee would be below thresholds of significance and future development would be required to comply with the proposed General Plan 2045 goals and policies, which would further reduce VMT, impacts would be **less than significant**.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant. While adoption and implementation of the proposed Project would not directly result in any physical development projects or construction activities, the proposed Project recommends various transportation and green infrastructure improvements. These would facilitate movement throughout the circulation system and accommodate existing and proposed local development. Individual development projects would involve features such as driveways, on-site circulation features, and sidewalk and streetscape improvements. This program-level analysis does not include a project-level evaluation of such improvements. Future development, including any new associated roadway, bicycle, pedestrian, and transit infrastructure improvements, would be subject to and designed in accordance with City standards and specifications, which would address potential design hazards, including sight distance, driveway placement, and signage and striping. Additionally, any new transportation facilities or improvements to such facilities associated with future development would be subject to the relevant federal, State, and local design standards and constructed based on industry design standards and best practices consistent with the LMC and building design and inspection requirements.

Furthermore, the same proposed General Plan 2045 goals and policies from the Mobility (MO) Element identified under impact discussion (a) would also support the design of a transportation system that is safe for all modes of travel. Specifically, proposed Policy MO-5.8 would require the City to maintain engineering design standards for each street classification.

Implementation of the proposed General Plan 2045 goals and policies would promote improvements to the transportation network that are designed to be safe for all modes of travel. Compliance with State regulations on roadway and facility design, materials, and signage would further minimize the potential for impact. Therefore, implementation of the proposed Project would not substantially increase hazards due to a design feature or incompatible uses, and impacts would be **less than significant**.

d) Would the project result in inadequate emergency access?

Less than significant. As described under impact discussion (c), though adoption of the proposed Project would not directly result in any physical improvements, the proposed Project recommends various transportation and green infrastructure improvements. Future development would be subject to the requirements in the Livermore Development Code, which includes requirements for emergency access, and would be reviewed by public safety officials for compliance with applicable safety, fire, and building codes as part of the City's standard entitlement process.

Furthermore, the same proposed General Plan 2045 goals and policies from the Mobility (MO) Element identified under the "Roadway" subheading in impact discussion (a) would also ensure adequate emergency access. The provision of adequate emergency access would be accomplished by considering access routes, developing and updating emergency response plans, and incorporating emergency access considerations in the design of future street improvements. See impact discussion (a) in Section 4.18, *Wildfire*, for an additional discussion of potential impacts and proposed General Plan 2045 goals and policies related to emergency response and evacuation.

Additionally, emergency responders maintain response plans, which include use of alternate routes, sirens, and other methods to bypass congestion and minimize response times. In addition, California law requires drivers to yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicle passes to ensure the safe and timely passage of emergency vehicles.

Therefore, implementation of the proposed Project would not result in inadequate emergency access and impacts would be **less than significant**.

3.16.5 Cumulative Impact Analysis

The following discussion considers how buildout of the EIR Study Area and region has the potential to cumulatively impact bus transit, bicycle and pedestrian facilities, and roadways related to the Alameda County Transportation Commission, MTC, California Department of Transportation, and Federal Highway Administration. The cumulative setting considers the proposed Project's potential cumulative contribution to the adverse effects of automobile, bicycle, pedestrian, and transit systems in the MTC transportation network. For land uses evaluated under an efficiency metric (i.e., VMT per capita or VMT per employee), a project the results in VMT below the threshold would result in less than significant cumulative VMT impacts.

Would the project have a cumulative effect related to transportation?

Less than Significant. Implementation of the proposed Project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. As identified under the "Summary" subheading in impact discussion (a), the proposed General Plan 2045 includes goals and policies that would require coordination with Caltrans, MTC, Alameda CTC, and neighboring jurisdictions to ensure a cohesive regional transportation network. Therefore, the proposed Project would not result in a cumulative impact related to conflicts with a program, plan, ordinance, or policy addressing the circulation system.

The proposed Project would result in a VMT per capita of 23.9, which is below the threshold of 27.8 and a VMT per employee of 14.5, which is below the threshold of 18.1. Pursuant to the LCI guidance for land uses evaluated under an efficiency metric (i.e., VMT per capita or VMT per employee), a project that results in VMT below the threshold would result in less than significant cumulative impacts. In other words, a project that results in VMT below an efficiency-based threshold would have no cumulative impact distinct from the project impact. Because the proposed Project's VMT is below both thresholds, it would not generate a cumulative impact related to VMT.

The proposed Project would not substantially increase hazards due to a geometric design feature or incompatible uses, nor would it result in inadequate emergency access. Implementation of the proposed General Plan 2045 goals and policies would ensure that the design of future development would avoid hazards, incompatible uses, and inadequate emergency access, consistent with federal, State, and local regulations. Therefore, the proposed Project would not result in a cumulative impact related to roadway safety and emergency vehicle access.

In summary, compliance with existing federal, State, and local regulations, as well as implementation of the proposed General Plan 2045 goals and policies would ensure that the proposed Project would not have a cumulatively significant impact related to transportation, and impacts would be **less than significant**.

3.16.6 References

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3.17 UTILITIES AND SERVICE SYSTEMS

This section evaluates the potential impacts to utilities and service systems associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential utilities and service systems impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts. Impacts to hydrology (e.g., flooding) and water quality can be found in Section 3.10, *Hydrology and Water Quality*. The regulatory framework and existing conditions for electricity and natural gas facilities can be found in Section 3.6, *Energy*.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022b). Where more recent data is available at the time of preparation of this Draft EIR, the information provided herein has been updated to reflect this.

Public services and utilities are provided in the EIR Study Area by the providers listed in Table 3.17-1*, Utility Providers*.

Table 3.17-1 Utility Providers

Utility	**Agency Name**
Water	California Water Service – Livermore District Livermore Municipal Water Zone 7 Water Agency
Wastewater Collection and Treatment	Livermore Public Works Department Livermore Water Reclamation Plant
Storm Drainage Infrastructure	City of Livermore, Water Resources Division Zone 7 Water Agency
Solid Waste Collection	Livermore Sanitation
Solid Waste Disposal (Landfills)	Vasco Road Landfill Altamont Landfill and Resource Recovery
Electricity	Pacific Gas & Electric (PG&E) and Ava Community Energy (Ava Energy)
Natural Gas	PG & E
Telecommunications	Comcast/Xfinity, AT&T, Dish Network, Zayo, Astound, Earthlink Fiber

Terminology

The following terminology is used throughout this section:

- **AFY.** acre-feet per year
- **BMPs.** best management practices
- **LID.** low impact development
- **MGD.** millions of gallons per day
- **MS4.** municipal separate storm sewer system
- **NPDES.** National Pollution Discharge Elimination System
- **SWPPP.** stormwater pollution prevention plan
- **UWMP.** urban water management plan
- **WSA.** water supply assessment
- **WWTP.** wastewater treatment plant

3.17.1 Regulatory Framework

WATER

Federal

Safe Drinking Water Act

The Safe Drinking Water Act, the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The Act authorizes the United States Environmental Protection Agency (USEPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and human-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all public water systems in the United States to treat water to remove contaminants. In California, the State Water Resources Control Board (SWRCB) Division of Drinking Water regulates public drinking water systems. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

America's Water Infrastructure Act of 2018

America's Water Infrastructure Act was signed into law on October 23, 2018, and authorizes federal funding for water infrastructure projects; expands water storage capabilities; assists local communities in complying with the Safe Drinking Water Act and Clean Water Act (CWA); reduces flooding risks for rural, western, and coastal communities; and addresses significant

water infrastructure needs in tribal communities. Additionally, the Act requires that drinking water systems that serve more than 3,300 people develop or update risk assessments and emergency response plans. Risk assessments and emergency response plans must be certified by the USEPA within the deadline specified by the Act.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.) passed in California in 1969 and was amended in 2013. It is the basic water quality control law for California. Under this Act, the SWRCB has authority over state water rights and water quality policy. The Act divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional levels. RWQCBs engage in various water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The EIR Study Area is overseen by the San Francisco Bay RWQCB (Region 2).

Sustainable Groundwater Management Act

On September 16, 2014, a three-bill legislative package was signed into law collectively known as the Sustainable Groundwater Management Act (SGMA). Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins must form groundwater sustainability agencies that oversee the preparation and implementation of groundwater sustainability plans. The purpose of these plans is to ensure that groundwater aquifers meet sustainable levels of pumping and overdraft of the groundwater basins is prevented. The EIR Study Area lie above the Livermore Valley Groundwater Basin, which is managed by the Zone 7 Water Agency as a medium-priority basin and is not considered critically overdrafted.

Senate Bills 610 And 221

Senate Bills (SB) 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions and confirm that there is an adequate water supply for new development. Specific projects are required to prepare a water supply assessment (WSA). The WSA is composed of information regarding existing and forecasted water demands as well as information pertaining to available water supplies for the new development. The following projects subject to CEQA are required to prepare a WSA:

- Residential developments consisting of more than 500 dwelling units.
- A shopping center or business establishment employing more than 1,000 people or having more than 500,000 square feet of floor space.

- A commercial office building employing more than 1,000 people or having more than 250,000 square feet of floor space.
- A hotel or motel having more than 500 rooms.
- An industrial, manufacturing, or processing plant or industrial park with more than 1,000 employees, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.
- A project that would demand the amount of water equivalent to, or greater than, the amount of water required for a 500 dwelling-unit project.

SB 221 requires written verification that there is a sufficient water supply available for new residential subdivisions that include over 500 dwelling units. The verification must be provided before commencement of construction for the project.

SB 610 and SB 221 requirements apply to qualifying development projects and are not required for planning-level documents such as this General Plan. The bills clarify that water supply assessments and verifications are tied to project-level CEQA review and not to programmatic or long-range planning documents.

Urban Water Management Planning Act

The California Urban Water Management Planning Act and Section 10620 of the Water Code requires that every urban water supplier within California that provides over 3,000 acre-feet (AF) of water annually or serves more than 3,000 urban connections shall prepare and adopt an Urban Water Management Plan (UWMP) as well as update it every five years. The UWMP describes the service area of the water supplier, projected 20-year water supply and demand for the service area in normal years, dry years, and multiple dry years, a description of demand management measures, a water shortage contingency plan, and a discussion of the use of recycled water.

SWRCB Division of Drinking Water

The California Division of Drinking Water (DDW) regulates public water systems within California; oversees water recycling projects; permits water treatment devices; and supports and promotes water system security. The Division of Financial Assistance provides funding opportunities for drinking water system improvements; provides support for small water systems and for improving technical, managerial, and financial capacity; and certifies drinking water treatment and distribution operators. The Field Operations Branch of the Division of Drinking Water is responsible for the enforcement of the federal and California Safe Drinking Water Acts and the regulatory oversight of approximately 7,500 public water systems to ensure the delivery of safe drinking water to all Californians. In this capacity, Field Operations Branch

staff perform field inspections, issue operating permits, review plans and specifications for new facilities, take enforcement actions for noncompliance with laws and regulations, review water quality monitoring results, and support and promote water system security. All public water systems in Alameda County and the City of Livermore are under the purview of the DDW.

Water Conservation Act of 2009

The Water Conservation Act of 2009, also known as SB X7-7, requires all California water suppliers to increase their water-use efficiency. The goal of the bill was to reduce urban water usage by 20 percent by 2020. Urban water suppliers who did not meet the 20 percent by 2020 objective would be ineligible for state water grants or loans. Water suppliers must continue to calculate baseline water usage and set goals to meet specified water reductions. Compliance with the SB X7-7 requirements is reported in the UWMPs.

Mandatory Water Conservation

Following the declaration of a state of emergency on July 15, 2014, due to drought conditions, the SWRCB adopted Resolution No. 2014-0038 for emergency regulation of Statewide water conservation efforts. These regulations, which went into effect on August 1, 2014, were intended to reduce outdoor urban water use and persuade all California households to voluntarily reduce their water consumption by 20 percent. Urban water suppliers with 3,000 or more service connections were required to report monthly water consumption to the SWRCB.

In January of 2022, following the Governor's proclamation of a drought state of emergency for all counties, the SWRCB adopted the prohibited wasteful water uses emergency regulations. These include the prohibition of the following wasteful water use practices: 1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; 2) the washing of vehicles without an automatic shut-off nozzle; 3) the application of potable water to driveways and sidewalks; 4) the use of potable water in nonrecirculating ornamental fountains; and 5) the application of potable water to outdoor landscapes during and within 48 hours after at least 0.25 inch of rainfall. In June of 2022, additional emergency water conservation regulations were enacted prohibiting the irrigation of nonfunctional turf at commercial, industrial, and institutional accounts, and the implementation of conservation actions under Level 2 of urban water suppliers' WSCPs. As of June 5, 2024, the emergency regulations expired.

In October of 2023, AB 1572 was signed into law by the governor, prohibiting the irrigation of nonfunctional turf at commercial, industrial, and institutional sites (with exceptions for areas irrigated with recycled water or harvested rainwater). The irrigation prohibitions become effective in stages between 2027 and 2031, beginning with state and local government facilities. Under the law, urban water suppliers must adopt the same irrigation prohibitions into their local regulations.

Water Conservation Legislation 2018

In 2018, the California Legislature enacted two policy bills (SB 606 and Assembly Bill [AB] 1668) to establish long-term improvements in water conservation and drought planning to adapt to climate change and longer and more intense droughts in California. The framework applies to both urban and agricultural water use. The California Department of Water Resources (DWR) and the SWRCB were tasked with establishing new water use efficiency standards for:

- Indoor residential water use
- Outdoor residential water use
- Commercial, industrial, and institutional water use for landscape irrigation with dedicated meters
- Water loss

Urban water suppliers are required to stay within annual water budgets based on their standards for their service areas, and to calculate and report their urban water use objectives in an annual water use report. The indoor residential water use standard was established with the passage of SB 1157 in 2022. As a result, the California Water Code defines a 47-gallon-per-person daily standard for indoor residential use beginning in 2025 and further decreases to 42 gallons by 2030.

The outdoor residential and commercial water use standards are established as landscape efficiency factors (LEFs) and become progressively more efficient over time, with an LEF for residential and commercial account of 0.80 until 2035, at which time it decreases to 0.63 until 2040, and then establishes a LEF for residential outdoor accounts of 0.55 and a LEF for commercial outdoor accounts of 0.45 after 2040. The water loss standard is the maximum allowable "real" water loss measured in gallons per connection per day for each water purveyor's service area. Real losses are defined as the volume of annual leakage from the water purveyor's distribution system.

Collectively, the water use efficiency standards and local service area characteristics (such as population and landscape area) establish the Urban Water Use Objectives (UWUOs) per urban retail water supplier that cannot be exceeded on an annual basis. Urban retail water suppliers are required to calculate and report their UWUOs alongside their actual usage in an annual report. The first reports were due to the SWRCB on January 1, 2024, and are required to be submitted every January 1 thereafter. The final proposed "Making Conservation a California Way of Life" regulation was adopted by the SWRCB on July 3, 2024, and became effective on January 1, 2025.

The legislation also includes changes to UWMP preparation requirements. These changes include additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, and establishment of annual drought risk assessment procedures and reporting.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) requires cities and counties to adopt the State of California's Model Water Efficient Landscape Ordinance (MWELO) or a comparable landscape water conservation ordinance that is at least as effective as the State's MWELO in conserving water.

The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and to build resiliency for future droughts. The 2015 revisions to the MWELO increased water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture and by limiting the portion of landscapes that can be covered in turf. Each city and county is required to submit annual reports to DWR that document how the agency is achieving compliance with the State MWELO and how many projects were subject to the ordinance during the annual reporting period.

MWELO went through a round of revisions in 2024 to reduce ambiguity and improve clarity of the requirements as well as reorganize the content to better adhere to the landscape design process. The 2024 revisions did not modify or add new requirements to MWELO.

Recycled Water Regulations

Two State agencies have primary responsibility for regulating the application and use of recycled water: the California Department of Public Health and the SWRCB. Planning and implementing water recycling projects entail numerous interactions with these regulatory agencies prior to project approval. The California Department of Public Health establishes the statewide effluent bacteriological and treatment reliability standards for recycled water uses in Title 22 of the California Code of Regulations (CCR), Division 4, *Environmental Health*. Title 22 establishes standards for each general type of use based on the potential for human contact with recycled water. The SWRCB is responsible for establishing and enforcing requirements for the application and use of recycled water within California. Permits are required from the SWRCB for water recycling operations. As part of the permit application process, applicants are required to demonstrate that the proposed recycled water operation would not exceed the ground and surface water quality objectives in the basin management plan and that the operation is compliant with Title 22 requirements.

California Building Code: CALGreen

The California Building Standards Commission adopted the nation's first green building standards in July 2008, the California Green Building Standards Code, also known as CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California. The code establishes planning and design standards for sustainable site development, including water efficiency and water conservation measures that typically reduce water consumption by 20 percent.

CALGreen is updated every three years to allow for consideration and possible incorporation of new low flow plumbing fixtures and water efficient appliances. The mandatory provisions of CALGreen became effective January 1, 2011, and the latest version, the 2025 California Green Building Standards Code, became effective on January 1, 2026. The building efficiency standards are enforced through the local building permit process.

California Energy Code: Title 24, Part 6

Resource conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission, now the California Energy Commission, in June 1977 and most recently revised in 2025 (Title 24 CCR Part 6). Title 24 CCR Part 6 requires the design of building shells and building components to conserve energy, including that generated from water consumption. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2025 standards became effective and replaced the existing 2022 standards on January 1, 2026.

California Plumbing Code

The latest version of the California Plumbing Code was issued in 2025 and became effective on January 1, 2026. The California Plumbing Code is updated on a three-year cycle. It specifies technical standards for the design, materials, workmanship, and maintenance of plumbing systems. One of the purposes of the plumbing code is to prevent conflicting plumbing codes within local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems.

California Water Code

The California Water Code states that the water resources of the State must be put to beneficial use and that waste or unreasonable use of water should be prevented. The code is divided into several sections that include provisions regarding water quality, formation of irrigation districts and water districts, safe drinking water, and water supply and infrastructure improvements. The California Water Code also addresses water shortage emergencies, drought planning, conservation mandates, potable water reuse, appropriation of water, and water rights.

Regional

Cal Water Livermore District

Cal Water Service Company (Cal Water) Livermore District serves approximately 66 percent of the City of Livermore, mainly in the central portion of the EIR Study Area with a service area population of 59,814 in 2020 (Cal Water 2021).

2020 Urban Water Management Plan

Cal Water adopted its current 2020 UWMP in June 2021 in compliance with the Urban Water Management Planning Act, the Water Conservation Act of 2009, and Sections 10610 to 10656 of the California Water Code (Cal Water 2021). Cal Water is in the process of updating the UWMP and the 2025 UWMP is anticipated to be available by June 2026.

The Water Conservation Act of 2009, also known as SB X7-7, requires that urban water suppliers reduce per capita water use by 20 percent by 2020. As reported in the 2020 UWMP, Cal Water follows this goal with a per capita water demand of 143 gallons per capita per day (GPCD) in 2020 as compared to the target goal of 158 GPCD.

The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for normal years, single dry years, and multiple dry years. The UWMP also provides water supply contingency planning in case of shortage emergencies, demand management measures to increase water use efficiency, and current and planned water conservation efforts. The UWMP states that there will be sufficient supplies to meet existing and future demands through 2045 for all hydrologic conditions, including a five-year drought period and the impacts of climate change.

Water Shortage Contingency Plan

The Cal Water 2020 UWMP includes the WSCP as Appendix I which outlines stages of response to water shortages caused by drought or supply interruptions. The primary objective of the WSCP is to ensure that Cal Water has in place the necessary resources and management responses to protect health, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Water shortage levels range from 1 to 6, with goals to reduce water demand by 10 percent to over 50 percent, respectively. Stage 1 measures include: 1) limiting landscape irrigation to specific times, 2) prohibit the application of potable water to outdoor landscapes within 48 hours of measurable rainfall, 3) restaurants may only serve water upon request, and 4) prohibit the use of potable water for decorative water features that do not recirculate water. Stage 5, designated as an emergency shortage, requires net zero demand increase on new water service connections and prohibits single-pass cooling systems. Stage 6, which is classified as an extreme

shortage, enacts a moratorium on new water service connections and prohibits all landscape irrigation.

Water Supply Planning Documents

Cal Water uses a series of integrated planning processes and reports to support water resource and environmental sustainability efforts and updates them on a recurring basis to adjust to changing conditions and risks and ensure that there are sufficient water supplies for their customers. Pertinent plans and studies developed by Cal Water are summarized below:

- **Climate Change Risk Assessment and Adaptation Framework.** This study consists of Phase 2, which is intended to assist in understanding climate change risk across all Cal Water's districts, and identify the top risks to individual districts. High likely risks include decreased water quality, reduced supply reliability due to wildfire and damage to assets from riverine and urban flooding and wildfires.
- **Water Supply and Demand Assessment.** This document is an annual report submitted to DWR that requires each urban water supplier to prepare an annual assessment and an annual shortage report that evaluates the near-term water supply reliability and describes actions that are taken to address potential shortages, including implementation of the Water Shortage Contingency Plan.
- **Conservation Master Plans.** These plans are also included as an appendix to the UWMP and updated on a five-year cycle. The plans summarize the mix of conservation measures that Cal Water plans to implement, including the estimated water savings, costs, and effects on water demand, as well as progress toward reaching its conservation goals.
- **Infrastructure Improvement Plans.** These plans and studies evaluate the existing infrastructure and water quality as well as the need for infrastructure improvement projects. The improvement projects are funded by tri-annual rate adjustments, as approved by the California Public Utilities Commission (CPUC).
- **Water Supply and Facilities Master Plans.** These plans are prepared for each Cal Water district every ten years and contain an assessment of existing infrastructure and long-term needs, focusing on the critical facilities of each water system, including groundwater wells, booster/pump stations, water transmission and distribution mains, storage tanks, and water treatment facilities.

Livermore Municipal Water

Livermore Municipal Water serves the northern and eastern portions of the City of Livermore with a service area population of 30,830 in 2020 (City of Livermore 2021). The rest of the City is served by Cal Water Livermore District.

2020 Urban Water Management Plan

Livermore Municipal Water is in the process of updating the UWMP, and the 2025 UWMP is anticipated to be available by May 2026. As reported in the 2020 UWMP, Livermore Municipal Water complies with the SBX7-7 goal with a per capita water demand of 190 GPCD in 2020 as compared to the target goal of 192 GPCD (City of Livermore 2021).

The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for normal years, single dry years, and multiple dry years. The 2020 UWMP states that there will be sufficient supplies to meet existing and future demands through 2045 for all hydrologic conditions, including a five-year drought period.

Water Shortage Contingency Plan

Livermore Municipal Water's WSCP is provided in Appendix C of the 2020 UWMP. It outlines actions to be taken during various shortage levels or stages of a water shortage. There are six shortages levels, with Stage 1 being a shortage of up to 10 percent and Stage 6 being a shortage greater than 50 percent. Most of the actions are focused on reducing demand. For example, Livermore Municipal Water will implement conservation rates for the different stages to recover revenue based on the reduced volume of water during the shortages and also will restrict non-essential water uses.

Zone 7 Water Agency

Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency) is a wholesale water purveyor that provides treated potable water to the two water purveyors in the City of Livermore—Cal Water and Livermore Municipal Water. Zone 7 Water Agency also provides water to Pleasanton, Dublin, and a portion of San Ramon. Zone 7 Water Agency coordinates closely with the water retailers to estimate and provide water demands through the year 2045 (Zone 7 Water Agency 2021a).

2020 Urban Water Management Plan

The 2020 UWMP states that Zone 7 will be able to meet the water demands of all of the water purveyors within its service area, including demands during a five-year drought period, with a surplus of water supplies.

Water Shortage Contingency Plan

Zone 7 Water Agency also provides a WSCP as Appendix G of the 2020 UWMP and prepared a detailed study of the Tri-Valley municipal and industrial water demand, which includes the EIR Study Area. This study provides a regional, land use based water demand forecasting model for estimating water demand for each municipal water purveyor (Zone 7 Water Agency 2021b).

Local

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to water distribution and conservation. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to water distribution and conservation are in Title 13, *Public Services*, and Title 15, *Buildings and Construction*, as follows:

- **Title 13, Division I, *Water*,** contains general provisions (Chapter 13.04), service connections (Section 13.08), backflow prevention (Chapter 13.09), water main extensions (Chapter 13.12), water meters (Chapter 13.16), rates and charges (Chapter 13.20), Zone 7 connection charges (Chapter 13.24), the City's Water Efficient Landscape (Chapter 13.25), water conservation measures for City customers (Chapter 13.26), and mandatory drought conservation measures (Chapter 13.27).
- **Title 15, *Buildings and Construction*,** lists codes that are adopted by reference, including the most current Building Code (Chapter 15.02), Plumbing Code (Chapter 15.12), Green Building Standards Code (Chapter 15.26), and Civic Bay-Friendly Landscaping (Chapter 15.80).

Livermore Standard Specifications

The City of Livermore's standard specifications contain general requirements for the installation of water distribution systems, including piping specifications, backflow prevention assemblies, valves, fire hydrants, and water meters (City of Livermore 2015). It also includes detailed drawings for water service connections, fire hydrants, fire service lines, and meter installation.

Livermore Master Fee Schedule

The Master Fee Schedule is updated annually to assess service charges and connection fees, which provide the majority of the funding for the City's water distribution system. The service charges are set through the Proposition-218 compliant process every five years. The revenues generated from these fees finance the utility service funds, which are used for construction, reconstruction, operation, and maintenance of water distribution infrastructure.

Livermore 2017 Water Master Plan

The 2017 Livermore Municipal Water Master Plan includes a water demand analysis, hydraulic modeling to determine existing and future deficiencies in the water supply system, and recommendations for capital improvement projects and associated costs to meet buildout water system needs. Recommendations include an increase in water storage capacity, distribution system replacements to mitigate low pressure areas, and buildout for the Isabel neighborhood plan (City of Livermore 2017).

Livermore 2019 Community Services and Infrastructure Report

The 2019 Community Services and Infrastructure Report (CSIR) evaluates the existing and future needs of public services, including water supply and distribution. The report summarizes where the City's water supply comes from, projected demand, projects that have helped to increase water supply, and the different municipalities associated with providing water to the region (City of Livermore 2019).

Livermore 2025-2030 Capital Improvement Projects

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include water system improvements, including replacement of the City's Airway Pump Station as well as the replacement of 68 water service lines in the Springtown neighborhood (City of Livermore 2025d).

WASTEWATER

Federal

Clean Water Act

The federal CWA creates the framework for regulating pollutant discharge into the waters of the United States and provides water quality standards for surface waters. The CWA was initially enacted in 1948 but was significantly revised and expanded in 1972. Under the CWA, the USEPA established wastewater standards and made it unlawful to discharge pollutants from a point source to any navigable waters without obtaining a permit. Some of these point sources include pipes and man-made drainage channels that drain industrial facilities or commercial facilities.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established as part of the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permits generally identify effluent and receiving water limits on allowable connections and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a wastewater (sewage) treatment plant (WWTP).

State and Regional

State Water Resources Control Board

On May 2, 2006, the SWRCB adopted Statewide General Waste Discharge Requirements (Order No. 2022-0103-DWQ) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipes. The order provides a consistent statewide approach to reducing sewer system overflows (SSO). The Waste Discharge Requirements require public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans (SSMP) and report all SSOs to the SWRCB's online reporting system. The SWRCB has delegated authority to nine RWQCBs to enforce these requirements within their regions.

The San Francisco Bay RWQCB (Region 2) issues and enforces NPDES permits in the EIR Study Area. NPDES permits allow the RWQCB to regulate where and how wastewater is disposed, including the discharge volume and effluent limits of waste and the monitoring and reporting responsibilities of the discharger. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance. The City of Livermore submits annual NPDES and pretreatment reports to the San Francisco Bay RWQCB to verify that the Livermore Water Reclamation Plant is meeting the requirements of its NPDES permit.

The SSMP evaluates existing sewer collection systems and provides a framework for minimizing the frequency and impact of SSOs. The SSMP includes an overflow emergency response plan; a fats, oil, and grease control program; scheduled inspections and condition assessment; design and construction standards; capacity assessment and management; and a monitoring program.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse wastewater impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to wastewater are in Title 13, *Public Services*, as follows:

- **Chapter 13.28, *Wastewater Connection and Construction*,** describes rules and regulations, connection fees, and service laterals
- **Chapter 13.32, *Wastewater Collection and Treatment System*,** discusses various requirements, permitting, and monitoring system.
- **Chapter 13.36, *Sewer Service and Use Charges*,** describes types of customers, payments, and refunds.

Livermore NPDES Permit for Wastewater Treatment

The San Francisco Bay RWQCB most recently revised the NPDES permit for the City of Livermore Water Reclamation Plant in 2022 (Order R2-2022-0025). The order contains effluent limitations and discharge specifications, flow capacity increase limits, and the development of copper and cyanide action plans. It also provides monitoring and reporting requirements. This NPDES permit replaces the previous Order R2-2017-0018. Livermore is also regulated under two regional watershed permits for nutrient discharge (Order R2-2024-0013) and PCB and mercury discharge (Order R2-2017-0041).

Livermore Standard Specifications

The City of Livermore's standard specifications contain general requirements for sanitary sewer leakage testing, piping specifications, and manhole specifications as well as detailed drawings for sewer manholes, lateral connections, and sewage sampling stations (City of Livermore 2015).

Livermore Master Fee Schedule

The Master Fee Schedule is updated annually to assess service charges and connection fees. The revenues generated from these fees finance the utility service funds, which are used for construction, reconstruction, operation, and maintenance of the sewer system infrastructure. Most residential properties pay a fixed annual sewer service charge on their property tax bill, while all non-residential and some multifamily residential properties are billed monthly for sewer services. Sewer connection fees for new development are provided in the Master Fee Schedule under the Community Development Department Permit Center.

The Master Fee Schedule is updated annually to assess service charges and connection fees, which provide the majority of the funding for the City's water distribution system.

Livermore 2012 Water Reclamation Plant Master Plan

The 2012 Water Reclamation Plant Master Plan provides a roadmap for upgrading and expanding the plant in a manner that incorporates the appropriate technology, optimizes operations, and minimizes cost (City of Livermore 2012).

Livermore 2017 Sewer Master Plan

The 2017 Sewer Master Plan provides a description of the existing sewer collection system, the dry weather and wet weather flow rates, the collection system design and performance criteria, and a hydraulic model update to evaluate current and future capacities. It also provides recommended system improvements to meet existing and buildout collection system needs as well as projected capital improvement costs (City of Livermore 2017).

Livermore 2019 Community Services and Infrastructure Report

The 2019 CSIR evaluates the existing and future needs of public services, including wastewater collection and treatment. The report summarizes the status of the current sewer collection system and wastewater treatment plant, results of asset management plans, and recommended upgrades to the water reclamation plant. The report states that the City has adequate wastewater disposal capacity to meet the buildout sewer flow of the current General Plan (City of Livermore 2019).

Livermore 2025 Sewer System Management Plan

The 2025 City of Livermore SSMP complies with WDR Order No. 2022-0103-DWQ, which requires SSMPs to be audited at least every three years and updated every 6 years. The SSMP provides a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system, which is the responsibility of the Water Resources Division. The SSMP provides an operations and maintenance program to reduce and prevent SSOs and mitigate any SSOs that do occur. The SSMP includes scheduled inspections; design and performance standards; a spill emergency response plan; fats, oils, and grease program; system evaluation and a capital improvement program; and a monitoring program (City of Livermore 2025c).

Livermore 2025-2030 Capital Improvement Plan

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include replacing, upsizing, or extending sewer lines, improvements to the sewer lift stations, rehabilitation and process improvements at the Livermore Water Reclamation Plant, modifications to the computer system (SCADA) that monitors the facilities, and the South Livermore Sewer Extension (City of Livermore 2025d).

STORMWATER

Federal

National Pollutant Discharge Elimination System

The NPDES permit program was established by the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States from their municipal separate storm water systems (MS4). Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. The EIR Study Area is within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The San Francisco Bay RWQCB issues a NPDES Municipal Regional Permit (MRP) to the City of Livermore and 75 other co-permittees, covering stormwater management activities for most of the Bay Area (Order No. R2-2022-0018 and Amendment R2-2023-0019 and NPDES Permit No. CAS612008).

National Flood Insurance Act of 1968

The City of Livermore has been a regular member of the National Flood Insurance Program. In participating communities that adopt adequate floodplain management policies, the Federal Emergency Management Agency (FEMA) is allowed to make affordable insurance protection against losses from flooding available to property owners. Discount on flood insurance policies is possible through implementation of flood protection and community awareness for a Class 9 rating in the Community Rating System.

State

SWRCB General Construction Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (Order No. 2022-0057-DWQ). Under the terms of the permit, applicants must file permit registration documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMP) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a sampling program to ensure compliance with water quality standards, and on-site collection of samples and inspection of BMPs during a qualifying precipitation event.

SWRCB General Industrial Permit

The Statewide General permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ and amended by 2015-0122-DWQ (2018) implements the federally required stormwater regulations in California for stormwater associated with industrial activities that discharge to Waters of the United States. This regulation covers facilities that are required by federal regulations or by the RWQCBs to obtain an NPDES permit. Dischargers are required to eliminate non-storm water discharges, develop SWPPPs that include BMPs, conduct monitoring of stormwater runoff, and submit all compliance documents via the SWRCB's SMARTS program.

Regional

Municipal Regional Stormwater NPDES Permit

The Municipal Stormwater Program regulates stormwater discharges from municipal separate storm sewer systems (MS4). An MS4 is a conveyance system designed to collect and convey stormwater that is owned by a city, town, or other public entity.

Urbanized areas increase stormwater runoff because impervious surfaces like roads, parking lots, and rooftops prevent stormwater from infiltrating, or soaking, into the ground. Urbanization also increases the variety and amount of pollutants in stormwater runoff. MS4s collect and convey this urban runoff and, in most cases, discharge directly to surface waters without treatment. Urban runoff contributes significant quantities of suspended solids, heavy metals, petroleum hydrocarbons, and other pollutants to surface waters of the region. However, if runoff is properly managed, those stormwater pollutants can be attenuated, and stormwater can be a valuable resource for uses such as groundwater recharge.

San Francisco Bay RWQCB (Region 2) issued county-wide municipal stormwater permits in the 1990s to all municipalities and flood management agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and within Solano County, the cities of Fairfield, Suisun City, and Vallejo, and the Vallejo Flood and Wastewater District. In 2009, the Water Board reissued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit (MRP). The MRP (MRP 1) was reissued in 2015 (MRP 2) and again in 2022 (MRP 3). MRP 3 was amended in October 2023. The current permit, MRP 3, comprises Order Nos. R2-2022-0018 and R2-2023-0019.

San Francisco Bay RWQCB Post Construction Stormwater Management Requirements

The San Francisco Bay RWQCB requires post-construction stormwater management under the MRP (Order No. R2-2022-0018 NPDES Permit No. CAS612008), specifically, Provision C.3, which applies to new development or redevelopment projects that create or replace 5,000 square feet or more of impervious surface (10,000 square feet or more for single-family homes). The goal is to reduce pollutant runoff and manage stormwater flows through a combination of site design, source control, and treatment measures, often using Low-Impact Development (LID) features such as bioretention, infiltration areas, and pervious paving. Some projects may also need hydromodification management to prevent increased peak flows or runoff volumes.

Zone 7 Water Agency

As described in Section 3.10, *Hydrology and Water Quality*, Zone 7 Water Agency provides regional flood protection for 427 square miles of eastern Alameda County and currently owns and maintains approximately 37 miles of natural streams and flood control channels (City of Livermore 2019). Zone 7 Water Agency maintains approximately one-third of the creeks in the Livermore-Amador Valley. This includes portions of the Arroyo Las Positas, relocated Arroyo Las Positas, Altamont Creek, a portion of Arroyo Mocho, Arroyo Seco, and Collier Canyon Creek.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse stormwater impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to stormwater are in Title 13, *Public Services*, as follows:

- **Chapter 13.44, *Storm Drainage Facilities*,** describes construction, fees, and approval procedures
- **Chapter 13.45, *Stormwater Management and Control Program*,** discusses discharge, inspection, and violations
- **Chapter 13.46, *Stormwater System Enterprise Fund*,** determines revenue, calculation of service charges, and collection

Livermore Standard Specifications and Details

The City of Livermore's standard specifications and details contain general requirements for storm drain system leakage testing, piping specifications, fittings and valves (City of Livermore 2015). It also includes detailed drawings for manholes, stormwater curb inlets, lateral connections, and concrete pipe storm drain mains.

Livermore Stream Maintenance Program

The Livermore Stream Maintenance Program (SMP) was developed by the City of Livermore to improve and define the maintenance and management of the engineered and modified flood control channels and natural creeks within the city. The SMP provides guidance to conduct maintenance activities and minimize environmental impacts. It also outlines the permitting process to meet federal and state laws and regulations when conducting maintenance activities in streams, creeks, and designated wetland (City of Livermore 2023a).

Livermore 2019 Community Services and Infrastructure Report

The 2019 CSIR evaluates the existing and future needs of public services, including stormwater drainage and flood protection infrastructure. The report summarizes the status of the current storm drain collection system, a 100-year capacity evaluation of all creek culverts under public roadways, the City's ongoing maintenance program, and funding for storm drain expansion projects. In general, the storm drain pipes are fairly new and in good condition, with an average age of 40 years as compared to a service life of 100 years (City of Livermore 2019).

Livermore 2021 Citywide Asset Management Program

The Asset Management Program is a large-scale effort by the City of Livermore to document the age of all assets in the city, identify maintenance needs, and plan for replacement of facilities (City of Livermore 2025e). This program is ongoing and the effort involving the storm drain system is in progress. The project focuses on the renewal or replacement of storm drain assets based on age and condition. Storm drain improvements are funded by Urban Runoff Fees that are assessed to each property owner as part of the annual property tax bill along with an annual transfer from the City's General Fund. Developers pay separate storm drainage fees to cover the cost of any infrastructure necessary to connect new developments to the existing storm drain system.

Livermore 2022 Storm Drain Master Plan

The 2022 Storm Drain Master Plan (SDMP) focuses on storm drainage and flood management within the City. Storm drain design criteria set forth by the City of Livermore, in its 2015 standards and the Alameda County Hydrology and Hydraulic Manual (ACFC & WCD 2018) were used to analyze system performance. The information was used to create an integrated hydrologic and hydraulic model that represents storm drain systems, creeks, and ground surfaces throughout the City and the hydraulic capacity of each drainage system during storm events. The report identifies collection system and creek improvement projects to reduce future flooding events and includes a Capital Improvement Plan (CIP) along with costs to improve the storm drainage system (City of Livermore 2022a).

Livermore Annual Stormwater Reports

The City of Livermore, along with 75 other co-permittees to the NPDES MRP, is required to submit annual stormwater reports to the San Francisco Bay RWQCB documenting compliance with the MRP for water discharges through the City's stormwater system. The annual reports document what activities were conducted in the previous year to comply with Provisions C.2 through C.17 of the MRP, including a list of new development and redevelopment projects and the type of treatment processes implemented under Provision C.3 of the MRP (City of Livermore 2023b).

Livermore 2025-2030 Capital Improvement Projects

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include storm damage repairs, Collier Canyon culvert and drainage improvements, Arroyo Las Positas desilting through Las Positas Golf Course, installation of storm drain trash capture devices throughout the City, stream maintenance, and Springtown flood protection (City of Livermore 2025d).

SOLID WASTE

Federal

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations) Part 258 contains regulations for municipal solid waste landfills and requires states to implement permitting programs incorporating the federal landfill criteria. The federal regulations address landfill location, operation, design, groundwater monitoring, and closure.

State

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) required that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. The Act required that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity. In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is calculated as a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

Mandatory Commercial Recycling Requirements

AB 341 set a statewide solid waste diversion goal of 75 percent by 2020. AB 341, which was passed in 2011 and took effect July 1, 2012, mandates recycling for businesses producing four or more cubic yards of solid waste per week or multi-family residential dwellings of five or more units. Under AB 341, businesses and multi-family dwellings of five or more units must separate

recyclables from trash and either subscribe to recycling services, self-haul their recyclables, or contract with a permitted private recycler.

Mandatory Organics Recycling Act

AB 1826, enacted in 2014, mandates organic waste recycling for all businesses and multifamily dwellings with five or more units. Starting January 1, 2020, all generators of 2 cubic yards or more of garbage, recycling, and compost combined per week must recycle organic waste. Organic waste includes food scraps, food-soiled paper waste, yard trimmings, and landscape materials. Organic waste can be recycled through composting, mulching, and anaerobic digestion which produces renewable energy and fuel. In addition to recycling food scraps, donating surplus food to local food banks can be part of the AB 1826 compliance effort.

California Short-Lived Climate Pollutants Act

SB 1383 focuses on the elimination of methane gas created by organic materials in landfills and set targets to achieve a 50 percent reduction in the statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. Organic waste makes up half of what Californians send to landfills. SB 1383 requires all businesses and residents to divert organic materials (including food waste, yard waste, and soiled paper products) from the landfill. The regulation took effect on January 1, 2022, and requires that organics collection services be provided to all residents and businesses. The collected organic waste must be recycled into new products, such as compost, mulch, biofuel, and electricity. Each city and county have an annual procurement target based on its population. Also, an edible food recovery program must be established by 2025 with the goal of recovering 20 percent of currently disposed edible food that would otherwise be sent to landfills to feed people in need. Mandated food donors and food recovery organizations and services must keep records of the amount and dates of food donations and acceptances.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires development projects to set aside areas for collecting and loading recyclable materials. This act required CalRecycle to develop a model ordinance for adoption by any local agency to provide adequate areas for the collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt a model or an ordinance of their own that establishes standards, including space allocation, for the collection and loading of recyclable materials.

CALGreen Building Code

CALGreen establishes building standards for sustainable site development. Section 4.408 (Residential) and Section 5.408 (Nonresidential) pertaining to construction waste reduction, disposal and recycling mandate that a minimum of 65 percent of nonhazardous construction and demolition debris generated during most new construction must be recycled or salvaged. CALGreen requires developers to prepare and submit a Construction and Demolition Recycling and Waste Reduction Plan, which is submitted to the City for approval, or use a waste management company with verifiable documentation. The waste management plan must:

- Identify the materials to be diverted from disposal, recycled, reused on the project, or salvaged for future use or sale.
- Specify if materials will be sorted on-site (source-separated) or bulk mixed (single stream).
- Identify the diversion facilities where the material will be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted be calculated by weight or volume, but not by both.

The 2025 CALGreen Code became effective January 1, 2026, as part of California's triennial building code cycle. The California Building Standards Commission adopts updates to CALGreen as part of Title 24 of the CCR.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse solid waste impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to solid waste are in Title 8, *Health and Safety*, as follows:

- **Chapter 8.08, *Solid Waste Management*,** focuses on preventing public nuisance and health hazards through effective management of solid waste. It highlights the importance of a collection program for recyclable and compostable materials to achieve diversion goals, addressing solid waste collection, disposal, and the processing of recyclable and compostable materials. Section 8.08.2000 outlines the requirements for regulated haulers and facility operators to comply with SB 1383. It mandates that customer service representatives and account managers/recycling coordinators in Alameda County must undergo annual training on generator requirements and compliance resources from SB 1383, including training during the onboarding of new staff.
- **Chapter 8.20, *Disposable Foodservice Ware*,** prohibits expanded polystyrene disposable foodservice ware by food vendors and mandate the use of recyclable or compostable options to enhance environmental and economic health in Livermore.

OTHER UTILITIES

This section addresses existing electric, natural gas, and telecommunications services infrastructure, and supply and demand in the EIR Study Area.

Federal

The federal regulatory framework for energy is described in detail in Section 3.6, *Energy*.

State

The State regulatory framework for energy is described in detail in Section 3.6, *Energy*. This section provides a discussion of additional State regulations related to energy infrastructure.

California Energy Benchmarking and Disclosure

The Building Energy Benchmarking Program is mandated under AB 802 and requires owners of large commercial and multi-family buildings to report energy use to the California Energy Commission by June 1 annually. This program applies to all buildings with more than 50,000 square feet of gross floor area and owners of multi-family residential buildings with more than 50,000 square feet and 17 or more utility accounts. AB 802 requires each utility, upon the request and authorization of the owner, owner's agent, or operator of a building covered under the regulation, to deliver or provide aggregated energy usage data for a covered building. The required energy usage shall be reported to the California Energy Commission through the Energy Star Portfolio Manager.

California Public Utilities Commission Natural Gas Regulations

CPUC regulates natural gas utility rates and services as well as the transportation of natural gas over the extensive transmission and distribution pipeline systems. The CPUC also regulates gas storage facilities. The Gas Safety and Reliability Branch of the CPUC ensures that natural gas pipeline systems are designed, constructed, operated, and maintained according to the safety standards set by the CPUC and the federal government. The regulations are provided in the CPUC General Order No. 112-E and the Natural Gas Pipeline Safety Act of 2011.

California Energy Code: Title 24, Part 6

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and most recently revised in 2025 (Title 24 CCR Part 6). The California Energy Code requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The California Energy Commission adopted the 2025 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission. The 2025 standards became effective and replaced the existing 2022 standards on January 1, 2026. The 2025 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021). The Building Energy and Efficiency Standards and CALGreen undergo a triennial update with a goal to achieve zero net energy for new buildings by 2030.

California Green Building Standards Code: Title 24, Part 11

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Title 24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and non-residential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives from the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were most recently updated in 2024 (2025 CALGreen update). The 2025 CALGreen update became effective on January 1, 2026, and provides updates to the residential and non-residential voluntary measures. This includes the requirement to recycle and/or salvage for reuse a minimum of 65 percent of nonhazardous construction and demolition waste (Section 5.408) and nonresidential mandatory measures for electric vehicle (EV) charging requirements (Section 5.106.5.3).

Overall, the code is established to make buildings more efficient in the use of materials and energy and reduce environmental impact during and after construction. CALGreen provides design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their planned efficiency.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. They contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers,

washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The state aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The California Independent System Operator (CAISO) had a total energy storage capacity of more than 3,160 megawatts as of June 2022, and has increased this to over 16,942 megawatts storage capacity as of December2025 with an additional 8,600 megawatts of storage planned to come online by 2027 (CISO 2022; CEC 2025b; CESA 2025) .This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and thermal storage. CAISO is responsible for managing the electricity grid for much of California. The State projects that 52,000 megawatts of battery storage will be needed by 2045 to support growth projections in statewide and regional consumption and to meet State climate action goals (CPUC 2022).

The Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of Load Serving Entities (LSE), called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders, and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system.

When an individual battery energy storage system (BESS) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by CAISO (CPUC 2025).

The Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BESS facility or generation infrastructure is proposed, the developer submits an application to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid.

Once the BESS facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time.

Overall, the Interconnection Queue is an important mechanism for integrating new BESS facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system (CISO 2025).

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse impacts to other utilities. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to other utilities are in Title 13, *Public Services,* and Title 15, *Buildings and Construction*, as follows:

- **Chapter 13.48, Section 13.48.070, *Underground facilities: Plans required***, requires each utility to submit a plan to the city engineer prior to the designated hearing that details the location, alignment, depth, and nature of the work to underground its utility in the proposed district. The plan must indicate points of transition from overhead to underground and provide sufficient copies for coordination with other utilities or jurisdictions.
- **Chapter 13.52, *Cable System Regulations*,** describes the City's process to grant franchises to construct, operate and maintain cable systems within the City Limit.
- **Chapter 15.36, *Small Residential Rooftop Solar System Expedited Permitting*,** aims to establish a simplified solar permitting process in compliance with California's Solar Rights Act (Government Code Section 65850.5). It seeks to facilitate quick and economical installations of small residential rooftop solar systems by eliminating unnecessary obstacles, reducing costs for both property owners and the City, and enhancing property owners' capacity to install solar energy systems, all while ensuring public health and safety are maintained.

3.17.2 Existing Conditions

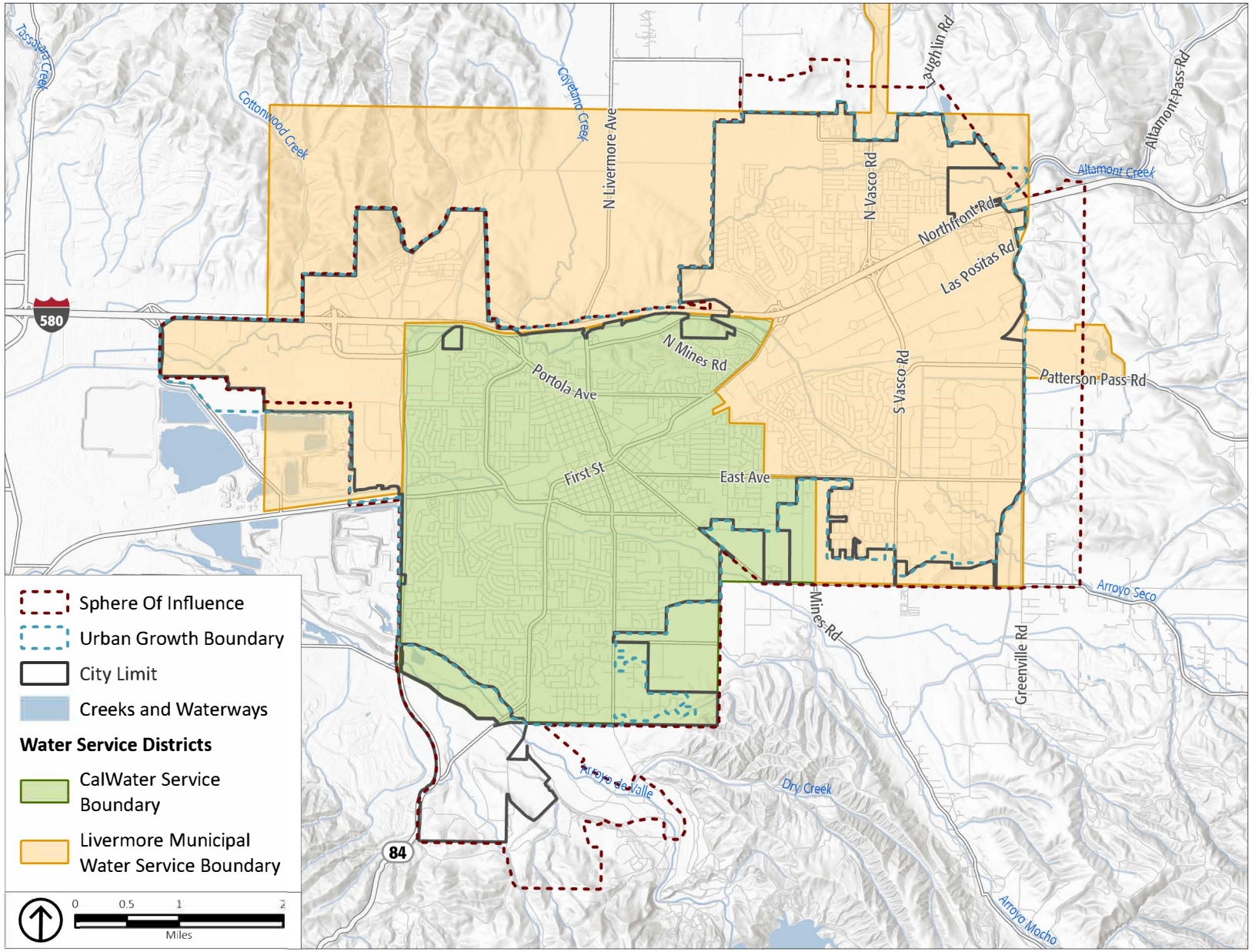
WATER

Zone 7 Water Agency provides wholesale water supplies to retail purveyors in the Tri-Valley, including California Water Service (Cal Water) and Livermore Municipal Water, which serve customers within the EIR Study Area (City of Livermore 2022b). As shown on Figure 3.17-1, *Water Service Districts,* Cal Water serves the downtown, central, and southern portions of the EIR Study Area, while Livermore Municipal Water serves the northwestern, northeastern, and eastern portions of the EIR Study Area. Cal Water and Livermore Municipal Water do not provide water service to the full EIR Study Area. Areas outside City jurisdiction are served by other water purveyors or rely on private wells.

The San Francisco Public Utilities Commission supplies water to the Lawrence Livermore National Laboratory and Sandia National Laboratory from the Hetch Hetchy Regional Water System. Livermore Municipal Water's service boundary extends across these areas and also provides water service to the laboratories (City of Livermore 2022a).

Cal Water serves a population of about 59,800 within its service area. The service area has about 18,500 connections and supplied 9,571 AFY to its customers in 2020. The service area includes a mix of low, medium, and high density residential, mixed use, commercial, public facilities, and parks/open space. Approximately 70 percent of Cal Water's water supply is treated water purchased from the wholesale Zone 7 Water Agency. Cal Water also pumps groundwater from nine active wells in the Livermore Valley Groundwater Basin, which supplies about 30 percent of Cal Water's annual water demand. The Livermore Valley Basin is not adjudicated and is not considered in critical overdraft (Cal Water 2021).

Livermore Municipal Water serves the northwest, north central, and northeast portions of the City with just over 10,000 service connections serving a population of 30,830 in 2020. Current land use in the service area is primarily residential, industrial, and open space, with some commercial use and community facilities. The 2020 UWMP assumed buildout to occur in 2040 and included the Isabel Neighborhood Specific Plan and portions of the South Livermore Valley Specific Plan within its service area in future demand calculations. Livermore Municipal Water's potable water supply is solely obtained from purchases of treated water from Zone 7 Water Agency. Livermore Municipal Water does not pump groundwater but does provide recycled water from the City's wastewater treatment facility that is used in Zone 1. In 2020, Livermore Municipal Water provided 8,728 AFY of water to its customers—6,549 AF was purchased water from Zone 7 Water Agency and 2,179 AF was recycled water provided to customers in Zone 1 (Kennedy Jenks 2021).



Source: CalWater 2023; City of Livermore, 2023.

Figure 3.17-1
Water Service Districts

The Zone 7 Water Agency provides wholesale water to the Tri-Valley water agencies, which include Dublin San Ramon Services District, City of Pleasanton, City of Livermore, and Cal Water Livermore District. Eighty per cent of Zone 7 Water Agency's water supply is from the State Water Project (SWP), with the remainder coming from pumped groundwater and local surface water from the Arroyo Valle watershed. All surface water is treated at its two water treatment plants prior to sale to the water retailers. Zone 7 Water Agency's future water supplies are expected to keep pace with water demands through 2045. The 2020 UWMP indicates that Zone 7 Water Agency will have a surplus of water supplies to serve its water retailers during normal, single dry years, and a five-year drought period (Zone 7 Water Agency 2021a). Zone 7 Water Agency also published the 2020 *Tri-Valley Municipal and Industrial Water Demand Study*, which provides a detailed model that predicts future water demands for each water retailer and the ability of Zone 7 Water Agency to provide the water supplies needed (Zone 7 Water Agency 2021b). In addition, Zone 7 Water Agency serves as the groundwater sustainability agency for the Livermore Valley Basin and has prepared the Groundwater Sustainability Plan, which was approved by DWR in 2019.

Water Distribution Systems

Cal Water pumps groundwater from ten active wells within the Livermore Valley Groundwater Basin. Treated surface water purchased from Zone 7 Water Agency is distributed via nine turnout connections. The distribution system consists of 19 storage tanks, nine booster pump stations, and approximately 222 miles of pipeline. Cal Water's capital improvements include water main replacements and projects to maintain water quality in the distribution system. Due to the impending water quality regulations regarding per- and polyfluoroalkyl substances (PFAS), Cal Water will add treatment to several well sites. In addition, Cal Water proposes well renewal projects to extend the life of existing groundwater wells and installation of a new well (Cal Water 2024).

Livermore Municipal Water's water system consists of over 160 miles of potable water pipelines that deliver water to eleven pressure zones within the City's three water service area zones. The water distribution pipelines range in size from 4 to 24 inches in diameter and consist primarily of 47 percent polyvinyl chloride (PVC), 31 percent asbestos cement, and 21 percent steel. The City also has four potable water storage tanks with a total capacity of 13 million gallons and five pump stations. Surface water is purchased from Zone 7 Water Agency and is conveyed through seven water supply turnouts to the City's service areas. The City also has several interties with the Cal Water distribution system, the Dublin San Ramon Services District, and the City of Pleasanton for emergency use only. The City also produces and distributes recycled water from the Livermore Water Reclamation Plant via 22 miles of distribution pipelines to customers within the City's Zone 1 (West Yost Associates 2017).

Water Supply Sources

Both Cal Water and Livermore Municipal Water rely primarily on purchased treated water from Zone 7 Water Agency for their water supplies. Zone 7 Water Agency's largest water source is imported water from the SWP, which accounts for over 80 percent of the water supplied to their customers. Zone 7 Water Agency also stores local runoff from the Arroyo Valle watershed in the Del Valle Reservoir, owned and operated by DWR. In addition, Zone 7 Water Agency relies on "banked" water supplies with agreements between Semitropic Water Storage District and Cawelo Water District in Kern County for additional flexibility in managing annual fluctuations in supply. During high demand periods or drought conditions, Zone 7 Water Agency may tap into its stored groundwater. However, Zone 7 Water Agency does not pump more groundwater than it artificially recharges, so there is no net change in the groundwater sustainable yield (Zone 7 Water Agency 2021a).

Zone 7 Water Agency operates two water treatment plants: the Del Valle Water Treatment Plant and the Patterson Pass Water Treatment Plant, with a combined treatment capacity of 48 million gallons per day. The 2020 UWMP indicates that Zone 7 Water Agency will have a surplus of available water during normal, single dry years, and multiple dry years through 2045.

In addition, Cal Water supplements its purchases from Zone 7 Water Agency by pumping groundwater from nine active groundwater wells in the Livermore Valley Groundwater Basin. Groundwater makes up about 30 percent of its water supplies, with an annual quota of 3,069 AFY. Cal Water pumped 1,066 AF in 2020 (Cal Water 2021).

Livermore Municipal Water also supplements its water supplies with recycled water from the Livermore Water Reclamation Plant (Kennedy Jenks 2021).

Existing Water Demand

Table 3.17-2, *Cal Water and Livermore Municipal Water 2020 Existing Water Demand (AF)*, presents the water demand for 2020, as presented in the respective 2020 UWMPs for the service areas. Single-family homes represent most of the 2020 total demand at 59 percent. Multi-family homes and commercial uses make up about 5 percent and 14 percent of the total demand, respectively. Other uses, including institutional, landscape, and losses collectively represent 21 percent of the total demand. In addition, Livermore Municipal Water provided 2,179 AF of recycled water in 2020 to Zone 1 for irrigation purposes as well as commercial and industrial uses and sold 95 AF of recycled water to the City of Pleasanton. Cal Water does not provide recycled water within its service area.

Table 3.17-2 Cal Water and Livermore Municipal Water 2020 Existing Water Demand (AF)

Use Type	Cal Water (AF)	Livermore Municipal Water (AF)[1]
Single-Family	6,580	2,995
Multifamily	439	436
Commercial	1,291	954
Institutional/Government	743	61
Landscape	6	1,353
Losses	501	669
Other	11	83
Total	**9,571**	**6,551**

Source: Kennedy Jenks 2021; Cal Water 2021.

Notes: AF = acre-feet

1. Volume was converted from million gallons to acre-feet.

Water agencies must also demonstrate compliance with their established water use targets, pursuant to SB X7-7. The calculated water use targets for Cal Water and Livermore Municipal Water are 158 GPCD and 192 GPCD, respectively. The actual 2020 demands for Cal Water and Livermore Municipal Water were 143 GPCD (Cal Water 2021) and 190 GPCD (City of Livermore 2021), respectively. Thus, both the City and SSCWD successfully met the 2020 targets.

Water Supply Reliability

Most of the water supplies for Cal Water and Livermore Municipal Water are purchased from Zone 7 Water Agency. Zone 7 Water Agency has evaluated the reliability of its supplies in the 2020 UWMP and in the 2020 Tri-Valley Municipal and Industrial Water Demand Study. The Water Demand Study developed a forecasting model based on the land use projected at buildout for each city in the Zone 7 Water Agency service area.

The Zone 7 Water Agency 2020 UWMP provides projections on supply and demand for normal years, single dry years, and multiple dry years for the Tri-Valley area, which includes Cal Water and Livermore Municipal Water's service areas. As shown in Table 3.17-3, *Zone 7 Water Agency Projected Supply and Demand for Years 2025-2045*, Zone 7 Water Agency anticipates that it will meet all the Tri-Valley water demands over the next 20 years, with surpluses during both normal and drought conditions. In addition, Zone 7 Water Agency is investigating future water supply projects to increase supplies and reliability. These projects include the Bay Area regional desalination project, the Delta conveyance project, potable reuse, the Sites Reservoir, and SWP transfers (Zone 7 Water Agency 2021a).

Table 3.17-3 Zone 7 Water Agency Projected Supply and Demand for Years 2025-2045

	AFY				
	2025	**2030**	**2035**	**2040**	**2045**
Normal Year					
Supply Total	76,700	90,700	84,700	83,200	83,200
Demand Total	50,300	52,800	53,800	55,300	550,300
Surplus	*26,400*	*37,900*	*30,900*	*27,900*	*27,900*
Single Dry Year					
Supply Total	65,600	92,100	94,200	92,500	92,300
Demand Total	50,300	52,800	53,800	55,300	55,300
Surplus	*15,300*	*39,300*	*40,400*	*37,200*	*37,000*
Multiple Dry Years					
First Year					
Supply Total	89,200	116,600	118,500	117,100	116,800
Demand Total	50,300	52,800	53,800	55,300	55,300
Surplus	*38,900*	*63,800*	*64,700*	*61,800*	*61,500*
Second Year					
Supply Total	74,800	105,800	108,000	106,600	106,800
Demand Total	51,700	53,360	54,200	55,300	55,300
Surplus	*23,100*	*52,440*	*53,800*	*51,300*	*51,500*
Third Year					
Supply Total	69,100	100,600	102,700	102,300	102,300
Demand Total	52,000	53,520	54,400	55,300	55,300
Surplus	*17,100*	*47,080*	*48,300*	*47,000*	*47,000*
Fourth Year					
Supply Total	63,600	96,700	99,500	98,900	99,200
Demand Total	52,250	53,580	54,700	55,300	55,300
Surplus	*11,350*	*43,120*	*44,800*	*43,600*	*43,900*
Fifth Year					
Supply Total	58,200	94,100	96,500	95,900	96,100
Demand Total	52,500	53,740	55,000	55,300	55,300
Surplus	*5,700*	*40,360*	*41,500*	*40,600*	*40,800*

Source: Zone 7 Water Agency 2021a.

Note: AFY = acre-feet per year

The 2020 UWMPs for Cal Water and Livermore Municipal Water also provide projections of water demand and supply under normal and drought conditions. The 2020 Cal Water UWMP summarizes projected water demand and supplies for customers in Livermore, as shown in Table 3.17-4, *Cal Water Projected Supply and Demand for Years 2025-2045.* These projections account for anticipated water-reduction efforts (i.e., increased appliance water efficiency, more efficient plumbing codes, and conservation and customer assistance programs).

Table 3.17-4 Cal Water Projected Supply and Demand for Years 2025–2045

	AFY				
	2025	**2030**	**2035**	**2040**	**2045**
Normal Year					
Supply Total	9,333	9,361	9,515	9,555	9,632
Demand Total	9,333	9,361	9,515	9,555	9,632
Surplus	*0*	*0*	*0*	*0*	*0*
Single Dry Year					
Supply Total	9,635	9,660	9,818	9,859	9,938
Demand Total	9,635	9,660	9,818	9,859	9,938
Surplus	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years					
First Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
Surplus	*0*	*0*	*0*	*0*	*0*
Second Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
Surplus	*0*	*0*	*0*	*0*	*0*
Third Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
Surplus	*0*	*0*	*0*	*0*	*0*
Fourth Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
Surplus	*0*	*0*	*0*	*0*	*0*

Table 3.17-4 Cal Water Projected Supply and Demand for Years 2025–2045

	AFY				
	2025	**2030**	**2035**	**2040**	**2045**
Fifth Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
Surplus	*0*	*0*	*0*	*0*	*0*

Source: Cal Water 2021.

Note: AFY = acre-feet per year

Cal Water projects that the service population will increase by 14 percent between 2020 and 2045, but that water demand will only increase by less than 1 percent during this same time (Cal Water 2021). Cal Water anticipates there will be sufficient supply to meet their projected demands (Cal Water 2021). In addition, Cal Water is not currently using their full allotment for groundwater pumping of 3,069 AFY. Cal Water only used 1,066 AFY in 2020. As needed in the future, Cal Water can use their full groundwater pumping quota and supplement the rest with potable water from Zone 7 Water Agency. Under contract with Cal Water, Zone 7 Water Agency will provide the necessary amount of water to meet demand under all conditions.

Livermore Municipal Water also provides water supply and demand for its service area in the 2020 UWMP, as shown in Table 3.17-5, *Livermore Municipal Water Projected Supply and Demand (2025-2045).* The population projections in the 2020 UWMP are based on Zone 7 Water Agency's Water Demand Study and assume that buildout occurs with a 54 percent increase in the service population by 2040, at which point the City's population becomes stable. The 2020 UWMP accounts for growth in the Isabel Neighborhood Specific Plan and the areas within the South Livermore Valley Specific Plan that are within Livermore Municipal Water's service area. The projections do not account for the use of recycled water in Zone 1, which could provide an additional 2,056 AF of water by 2040. The results provided in Table 3.17-5 indicate that Livermore Municipal Water has sufficient water supplies to meet the water demands during normal and drought conditions through 2045.

Table 3.17-5 Livermore Municipal Water Projected Supply and Demand (2025–2045)

	AFY[1]				
	2025	**2030**	**2035**	**2040**	**2045**
Normal Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*

Table 3.17-5 Livermore Municipal Water Projected Supply and Demand (2025–2045)

	AFY[1]				
	2025	**2030**	**2035**	**2040**	**2045**
Single Dry Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years					
First Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*
Second Year					
Supply Total	8,378	8,602	8,823	9,001	9,001
Demand Total	8,378	8,602	8,823	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*
Third Year					
Supply Total	8,424	8,645	8,869	9,001	9,001
Demand Total	8,424	8,645	8,869	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*
Fourth Year					
Supply Total	8,467	8,691	8,912	9,001	9,001
Demand Total	8,467	8,691	8,912	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*
Fifth Year					
Supply Total	8,513	8,734	8,958	9,001	9,001
Demand Total	8,513	8,734	8,958	9,001	9,001
Surplus	*0*	*0*	*0*	*0*	*0*

Source: Kennedy Jenks 2021.

Note: AFY = acre-feet per year

1. Converted from million gallons to acre-feet.

WASTEWATER

Wastewater Collection System

The City of Livermore's wastewater collection system consists of over 300 miles of gravity sewer pipes, three miles of force main, 7,220 cleanouts and manholes, and about 30,000 sewer service connections (City of Livermore 2022a). The wastewater collection system is shown on Figure 3.17-2, *Wastewater System*.

The collection pipes consist primarily of vitrified clay pipe (VCP) and polyvinyl chloride pipe (PVC), which comprise over 90 percent of the pipes in the sewer system. The pipes range in size from 4 inches to 60 inches, with the primary size being 8 inches in diameter. The average age of the pipes in the system is 29 years, which is well below the average for the Bay Area of 46 years and, when combined with a robust maintenance program, results in fewer SSOs than the Bay Area average (San Francisco Bay RWQCB 2025).

The approximately 30,000 sewer connections consist of about 3,000 permitted laterals, which typically contain a two-way cleanout near the curb. The City's wastewater system also includes two siphons and four lift stations with horsepower ratings ranging from 8 to 44. All lift stations have redundant pumps, and three have on-site backup power generators (City of Livermore 2025c).

The wastewater generated within the City Limit is collected and then routed for treatment at the Livermore Water Reclamation Plant (LWRP), which is owned and maintained by the City's Water Resources Division. The treated wastewater that is not recycled is sent through the Livermore Amador Valley Water Management Agency (LAVWMA) pipeline and the East Bay Discharger's Authority (EBDA) system for dechlorination prior to discharge into San Francisco Bay via an outfall and diffuser. A portion of the effluent is treated to tertiary recycled water standards and used as recycled water within the City.

Wastewater Treatment Plant

The LWRP provides wastewater treatment for City residents, local businesses, industry, and a few areas outside of the City Limit, including Sandia National Laboratory and the Ruby Hills development on the border of Pleasanton and Livermore. The LWRP treated an average of 5.7 million gallons per day (MGD) of wastewater in 2024 (City of Livermore 2025c). The LWRP, which was originally constructed in 1958, completed many expansions with the latest in July 1993 with a rated capacity of 8.5 MGD average dry weather flow. The LWRP treatment process consists of screening, grit removal, pre-aeration, primary clarification, activated sludge aeration, secondary clarification, and sodium hypochlorite disinfection. The LWRP also has an emergency storage basin with a capacity of 13 million gallons. The treated effluent is transported to the LAVWMA Export and Storage Facilities and is combined with the Dublin San Ramon Services District's treated effluent before being pumped through the LAVWMA pipeline to the EBDA

pipeline for dechlorination at EBDA's Marina Dechlorination Facility. The effluent is then discharged via pipeline into the San Francisco Bay via an outfall and diffuser. The LWRP can also provide tertiary treatment for up to 6.0 MGD of recycled water, which is used as process water at the plant and for irrigation, fire protection, and fire suppression in Zone 1 of the City's water service area.

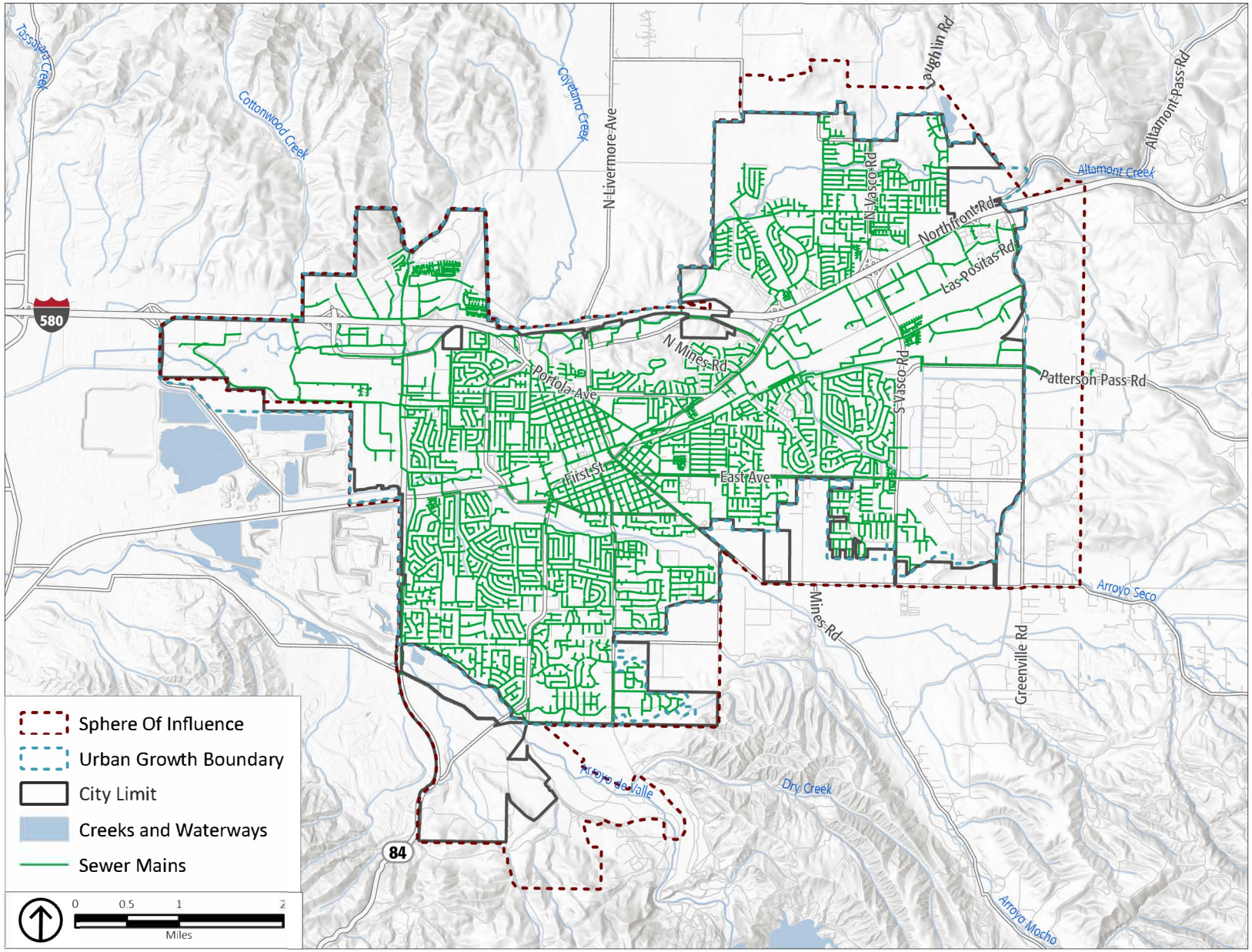
Sewer Capacity and Wastewater Treatment System Assessment

In general, the City's sewer system is sized appropriately and can accommodate sewage flows. The sewer collection pipes are relatively new and in better condition than most of the other districts within the Bay Area. As a result, there is not a significant issue with infiltration/inflow, and the SSO rate is well below Bay Area averages (San Francisco Bay RWQCB 2025). The City performs routine cleaning and maintenance on its collection system four days per week, which covers the entire collection system every three years. The entire collection system is inspected at a rate that covers the entire system every ten years. For hotspot areas and areas prone to frequent blockages, the City performs cleaning as frequently as monthly. When recurring deficiencies or problem areas are noticed, they are documented and discussed for inclusion in the CIP.

The City maintains a CIP that incorporates the findings of the Sewer Master Plan, Sewer Asset Management Plan, and staff observations. The hydraulic model is used to identify capacity deficiencies; video inspections and the Asset Management Plan are used to identify rehabilitation projects. Typically, the City budgets up to $600,000 each year to replace deteriorated pipes. Upcoming or in-progress projects include the Springtown trunkline replacement, upsizing and replacing existing sewer pipes along South S Street and Holmes Street, sanitary sewer replacement and improvements Phase 2, and airport lift station improvements (City of Livermore 2025c).

The LWRP recently completed the Primary and Secondary Treatment Improvements Project, which included modifications to the influent pump station, primary effluent pump station, primary clarifiers, secondary clarifier No. 2 and odor control system. A new ultraviolet (UV) disinfection system is anticipated to be completed in 2026. The SCADA server was recently replaced, and the SCADA network upgrade is scheduled for completion by spring 2026 (City of Livermore 2025a).

The 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 LWRP and construction of a new export pipeline between the Pleasanton pump station and the EBDA system. The expanded capacity ensures that the City has adequate wastewater disposal capacity to meet future needs (City of Livermore 2022b).



Source: City of Livermore, 2022.

Figure 3.17-2
Wastewater System

Proactive planning, aggressive line cleaning, recurring video inspection, proactive treatment plant operations and maintenance, and dedicated funding for repairs have resulted in a minimum of service interruptions within the Livermore wastewater service area (City of Livermore 2019).

STORMWATER INFRASTRUCTURE

Existing Stormwater System

The City of Livermore's storm drainage system covers 26 square miles and includes more than 200 miles of storm drain pipelines and three pump stations. The pump stations are not used to discharge runoff to creeks but are used to drain roadway underpasses with discharge into the adjacent storm drain systems. The storm drain piping is generally concrete, with some corrugated metal pipes. The average age of the storm drain pipelines is around 40 years compared to an estimated service life of 100 years. Overall, the storm drain infrastructure is relatively new and in good condition (City of Livermore 2019).

There are a few ditches or open channels within existing developed areas, such as the Granada Channel, which flows through a residential development and into Arroyo Mocho. Most of the drainage reaches are relatively short. Several new detention basins were constructed during the development of new subdivisions to maintain runoff levels to pre-development conditions and protect habitat for sensitive species.

Zone 7 Water Agency is responsible for regional flood protection for 427 square miles of eastern Alameda County and currently owns and maintains approximately 37 miles of natural streams and flood control channels. Zone 7 Water Agency owns and maintains approximately one-third of the creeks in the Livermore-Amador Valley. The City of Livermore owns and maintains approximately one-third of the channels and arroyos in the City Limits. The remaining one-third are owned by other agencies, districts, and private owners (City of Livermore 2019).

Zone 7 Water Agency's Development Impact Fee Program, funded by developer fees, provides revenue for new improvements to the existing system to accommodate growth. Zone 7 Water Agency flood control maintenance activities include routine maintenance and emergency repairs. Funding for flood control maintenance is obtained from local property taxes (City of Livermore 2019).

Of the City-owned creeks, approximately one-third are concrete-lined or engineered earth channels. The remaining creeks are natural arroyos with shallow banks and dense vegetation or are incised and sparsely vegetated with steep banks. A major cost of maintaining and improving the capacity of the creeks and arroyos is the environmental documentation and permitting process, as well as mitigation and monitoring required by environmental resource agencies. The City developed an SMP to allow for ease of permitting annual maintenance projects and obtained permits from the United States Army Corps of Engineers, California Department of Fish

and Wildlife, and RWQCB to expedite maintenance projects and repair damage from storm events (City of Livermore 2019).

The City of Livermore also has an ongoing maintenance program for storm drainpipes and inlets, which includes catch basin cleaning, line repairs, and maintenance of three pump stations. The documentation of routine inspections and creek maintenance are formalized as part of the City's asset management program. The maintenance program is partially funded through the City's Stormwater Management and Control Program by utility fees charged to businesses and residents on their property taxes. The remainder of the maintenance is funded by the City's general fund (City of Livermore 2019). Developers pay separate storm drainage fees to cover the cost of any infrastructure necessary to connect new developments to the existing storm drain system.

The 2022 SDMP identified improvements to the storm drain system to reduce flooding from the 10-year storm event to a depth of 0.5 foot and listed future projects as high, moderate, and low priority. Most of the identified projects involve upsizing existing storm drains to larger diameters and the installation of a new pump station at Las Positas Road near Mines Road to pump from the storm drain collection system into Arroyo Las Positas (City of Livermore 2022a). The stormwater system is shown in Figure 3.17-3, *Stormwater System*.

The SDMP also evaluated the existing creek system based on flood depths during a 100-year storm event. There are several problem areas that experience flooding on a regular basis. The City is awaiting final approval from FEMA to design and build a debris basin upstream of the Collier Canyon Road culverts. Arroyo Las Positas enters the Las Positas Golf Course at Airway Boulevard and overflows its banks during storm events, causing damage to the golf course. The City currently has a grant to design and improve the reach of Arroyo Las Positas through the golf course to mitigate this flood risk. Arroyo Las Positas crosses under Heather Lane and Bluebell Drive in the Springtown area. The culverts are undersized, which causes flooding in the adjacent neighborhood. Replacement and upsizing of these culverts as well as the construction of floodwalls are included in planned capital improvements (City of Livermore 2022a).

Capital Improvement Initiatives

The City has identified a five-year program for storm drain projects to address existing drainage problems, maintenance work along the arroyos, and new storm drain infrastructure needed with new development (City of Livermore 2025d). These projects include:

- Storm damage repairs to Cottonwood Creek
- Collier Canyon culvert, drainage, and road improvement
- Altamont Creek mitigation
- Arroyo Las Positas desilting through Las Positas Golf Course and golf course damage repairs

- Storm drain trash capture projects to complete the last phase of the City's Stormwater Trash Reduction Plan
- Stream maintenance by contractors
- Storm drains for ponding areas
- Golf course clubhouse parking lot drainage improvements
- Springtown flood protection
- Storm damage repairs and debris removal from 2023 winter storm event.

Stormwater user fees and general fund moneys are used to fund projects that fix existing deficiencies. Storm drain connection fees fund projects required to improve the system due to increased runoff from new development. The City is pursuing additional grant funding for storm system projects. FEMA funding has been obtained to repair storm damage and FEMA grants have been obtained to construct projects that reduce the risk of future flooding. Proposed improvements are consistent with the SDMP, the City's asset management program, current General Plan, and the Tri-Valley Hazard Mitigation Plan.

SOLID WASTE

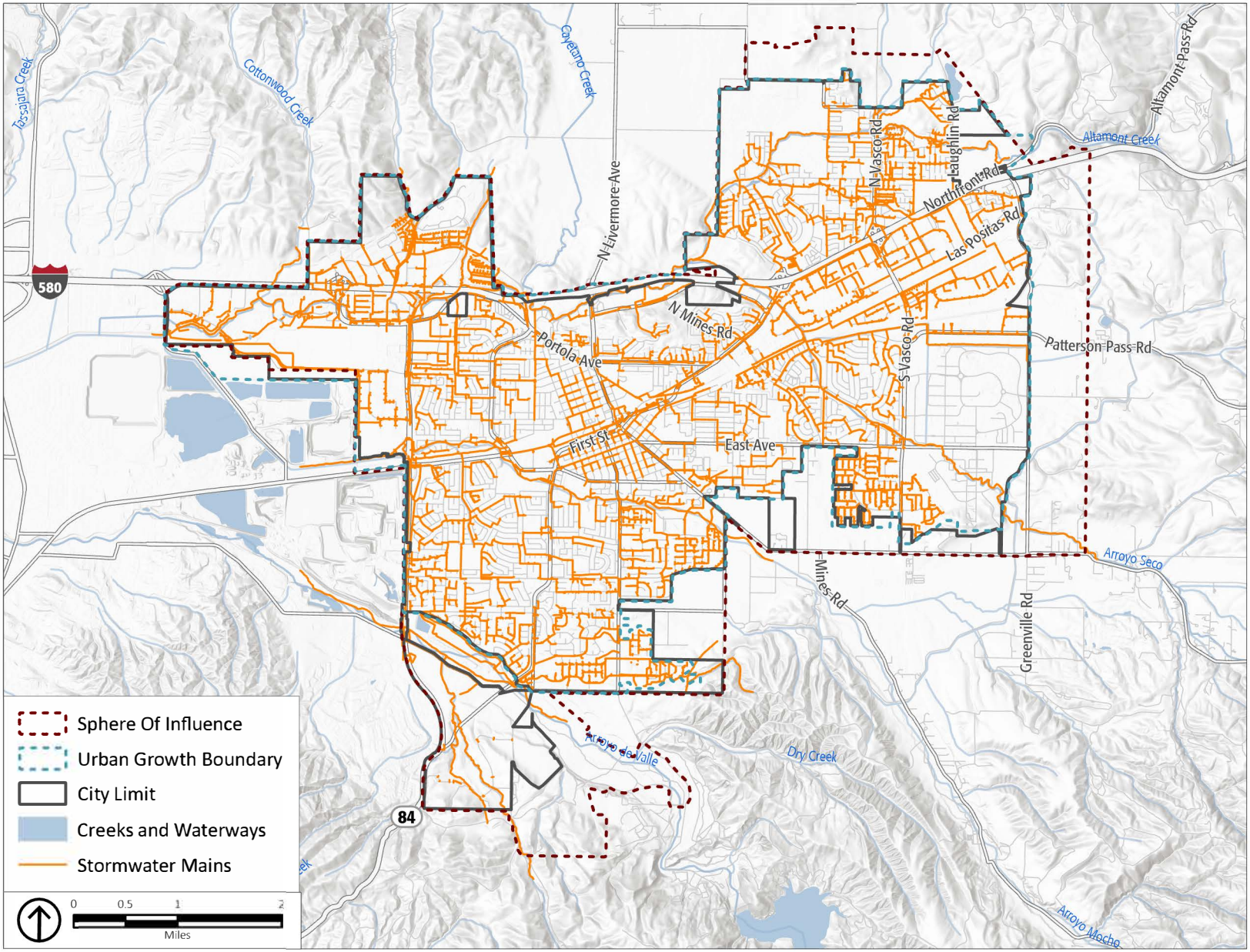
Solid Waste Collection

Curbside garbage, recycling, and organics collection services are provided under a franchise agreement with Livermore Sanitation, Inc., the City's designated solid waste hauler.[1] Service with Livermore Sanitation is mandatory for all residential and commercial properties, and it includes weekly collection of garbage, recyclables, and organic materials carts; additional services such as on-call bulky item pickups are also offered. Residents must subscribe to these services through the franchise hauler (City of Livermore 2025h; Livermore Sanitation Inc. 2025).

For materials that cannot go into regular carts (such as household hazardous waste), the City partners with Alameda County Household Hazardous Waste programs, which provide free drop-off and safe disposal of paints, batteries, motor oil, pesticides, fluorescent bulbs, and other hazardous items at County facilities in Livermore (Livermore Recycles 2025).

Livermore Sanitation is responsible for the collection and transportation of solid waste and delivers collected materials to permitted regional processing and disposal facilities, including the Republic Services Vasco Road Landfill, located at 4001 North Vasco Road, where municipal solid waste is accepted for final disposal (City of Livermore 2025g).

[1] Waste Connections US, Inc. (WCI/Waste Connections) recently acquired Livermore Sanitation, Inc. (LSI), and will continue to be known as and operate as Livermore Sanitation, Inc. (City of Livermore 2025f).



Source: City of Livermore, 2022.

Figure 3.17-3
Stormwater System

Construction and Demolition Diversion Requirements and Local Processing

Construction and Demolition (C&D) diversion is the process of diverting debris generated from construction, remodeling, and demolition projects away from landfills through recycling, reuse, or salvage. In California at least 65 percent of all C&D debris must be diverted from disposal, and 100 percent of inert materials such as concrete, asphalt, bricks, and uncontaminated soil, must be recycled or reused. C&D diversion requirements are implemented through compliance with state CALGreen standards (StopWaste 2025). As mentioned in Section 8.08.580, Construction and demolition site solid waste, it is the duty of the owner, agent, or contractor in charge of any construction or demolition site to have adequate containers on the site for the disposal of solid waste and to make appropriate arrangements for the collection of solid waste by franchise (Livermore Sanitation) or for transportation of such material to an authorized facility for final disposition.

Landfills

Solid waste is collected by Livermore Sanitation, the City's franchised solid waste hauler, and transported to permitted regional disposal and processing facilities. According to the most recent CalRecycle data, the primary disposal facility for municipal solid waste from the EIR Study Area is the Republic Services Vasco Road Landfill at 4001 North Vasco Road in unincorporated Alameda County, approximately 2 miles northeast of Livermore. The Vasco Road Landfill is a Class III municipal refuse disposal site owned and operated by Republic Services that accepts residential, commercial, and municipal solid waste for final disposal, with a permitted maximum intake of 2,518 tons per day (TPD) under its Solid Waste Facility Permit (City of Livermore 2025b; CalRecycle 2025a). The Vasco Road Landfill accepts approximately 81 percent of the solid waste collected from the city (CalRecycle 2025b).

In addition, the Altamont Landfill accepts waste for disposal from the nine Bay Area counties (Alameda, Marin, Sonoma, Napa, Solano, Contra Costa, San Mateo, San Francisco, and Santa Clara). The Altamont Landfill can accept unlimited tons for disposal from Alameda and San Francisco Counties and up to 25,000 tons annually of sludges, inert waste, and special waste from the other seven Bay Area counties. There are no specific tonnage or origin limits on non-disposal tonnage such as alternative daily cover reuse, recycling, or transfer materials (WM 2025). In 2019, the latest date on record at CalRecycle, approximately 10,170 tons (or 13 percent of the city's solid waste) was transported to Altamont Landfill (CalRecycle 2025b). Table 3.17-6, *Landfills Servicing the EIR Study Area*, provides information on landfill capacity.

Table 3.17-6 Landfills Serving the EIR Study Area

Landfill Name/Location	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (TPD)	Estimated Closing Year	Average Daily Disposal Rate (TPD)[1]	Residual Disposal Capacity (TPD)[2]
Republic Services Vasco Road Landfill *4001 N Vasco Rd* *Livermore, CA 94551*	11,560,000	2,518	2051	500	2,018
Altamont Landfill & Resource Recovery *10840 Altamont Pass Rd* *Livermore, CA 94551*	52,300,000	11,150	2060	3,111	8,389

Source: CalRecycle 2025a, 2025c, 2025d.

Notes: TPD = tons per day

1. Disposal rates for 2024 were used as the disposal rates for 2025 are not fully available. Average daily disposal rate determined by dividing the 2024 annual total by 312 disposal days per year (facilities open 6 days per week).

2. The residual daily disposal capacity is the difference between the maximum permitted daily capacity and the 2024 daily disposal rate.

In Alameda County, the Vasco Road Landfill and other county landfills such as the Altamont Landfill collectively provide sufficient capacity to satisfy the county's AB 939 15-year capacity requirement. Counties periodically report remaining landfill capacity in their integrated waste management planning documentation to CalRecycle and other regulatory bodies to demonstrate compliance with state diversion and capacity requirements (Alameda County Waste Management Authority 2022).

Solid Waste Diversion and Recycling

Compliance with AB 939 is measured by comparing the CalRecycle target disposal rates for residents and employees to actual disposal rates. The latest reported 2024 target disposal rates for Livermore were 8.3 pounds per day (PPD) for residents and 18.1 PPD for employees. The actual disposal rates were 5.3 PPD for residents and 7.8 PPD for employees. Therefore, the solid waste diversion goals for the City of Livermore have been met (CalRecycle 2025e).

ENERGY INFRASTRUCTURE

Electricity

Electric service within the EIR Study Area is provided through Ava Energy and PG&E, with Ava Energy supplying electricity generation and PG&E responsible for transmission, distribution, billing, and emergency response.

Ava Community Energy

Electricity generation for residential, commercial, and municipal customers in the EIR Study Area is provided by Ava Energy, a local, not-for-profit Community Choice Energy (CCE) provider. Ava Energy was formed in 2016 pursuant to state law that allows cities and counties to aggregate electricity demand to procure power on behalf of their communities. Ava Energy began providing electricity generation service to commercial and municipal customers in June 2018, followed by residential customers in November 2018. Ava Energy's electricity generation service replaces PG&E's generation service for participating customers, while PG&E continues to deliver electricity over its existing transmission and distribution infrastructure (Ava 2025a).

Within its service area, Ava Energy is the default electricity generation provider. Ava offers customers a choice of electricity service plans with varying rates and renewable energy content. Ava's Bright Choice plan provides electricity from a mix of sources and is planned to be carbon-free by 2030. The Renewable 100 plan supplies electricity from 100 percent renewable resources, such as wind and solar. Participation in Ava Energy is automatic for eligible customers; however, customers may opt out and continue receiving electricity generation service from PG&E (Ava 2025c).

As of 2025, Ava Energy reports a participation rate of approximately 91 percent, serving 33,456 total accounts, including 6,964 solar accounts, within Livermore. Of participating in customers in the City, approximately 97 percent are enrolled in the Bright Choice plan, and 3 percent are enrolled in the Renewable 100 plan (Ava 2025b).

PG&E

PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. PG&E's service territory is 70,000 square miles, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada to the Pacific Ocean (PG&E 2025b).

PG&E's distribution system includes 106,681 circuit miles of electric distribution lines (PG&E 2025b). Total electricity consumption in PG&E's service area was 75,338 gigawatt-hours (GWh) in 2024 (CEC 2025a). Sources of electricity sold by PG&E in 2024 include the following (PG&E 2025a):

- 23 percent renewable—geothermal, biopower, small hydroelectric, solar, and wind power
- 63 percent nuclear
- 12 percent large hydroelectric
- 1 percent natural gas

Natural Gas

Natural gas service in the EIR Study Area is also provided by PG&E. The natural gas system includes approximately 50,000 miles of natural gas pipelines, including 6,700 miles of transmission pipelines and 42,000 miles of distribution pipelines (PG&E 2025c). The transmission pipelines move natural gas from compressor stations and storage facilities to regulator stations. At the regulator station, the pressure in the pipeline is reduced before gas enters the distribution system, which consists of smaller diameter pipelines that deliver gas to residences and businesses. PG&E has approximately 4.5 million natural gas customer accounts (PG&E 2024).

California's demand for natural gas is forecasted to decline through 2040. This is primarily due to the goal of reducing greenhouse gas emissions and the ordinances of some cities for new construction to be all-electric. Total natural gas consumption in PG&E's service area was 11,967 million therms in 2023 (CEC 2025c).

OTHER UTILITIES: TELECOMMUNICATIONS

Numerous telecommunications and internet service providers serve the EIR Study Area, offering a range of technologies including cable, fiber, digital subscriber line (DSL), fixed-wireless, and satellite services. Major providers include Comcast/Xfinity and AT&T, which together provide broadband service to most homes and businesses in the EIR Study Area. Available providers include Comcast/Xfinity, AT&T (including fiber and DSL services), Dish Network, Zayo, and Astound, among others (Alameda Local Agency Formation Commission 2024).

Comcast/Xfinity provides high-speed cable broadband, with service widely available to residents and businesses (Xfinity 2025). AT&T offers both traditional internet and fiber-based broadband service with varying speeds, including fiber optic plans in portions of Livermore (AT&T 2025). In addition to these primary carriers, other smaller or specialized providers (e.g., Earthlink fiber, fixed wireless, satellite broadband) contribute to overall connectivity options (Best Neighborhood 2025).

Primarily private companies provide telecommunications infrastructure rather than a publicly owned broadband network, which can result in differing levels of service availability across the EIR Study Area (Alameda Local Agency Formation Commission 2024).

3.17.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to public services if it would:

a) 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.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

c) 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.

d) 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.

e) Comply with federal, state, and local statutes and regulations related to solid waste.

3.17.4 Project Impact Analysis

a) Would the project 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?

Less than significant. This section evaluates the potential for the proposed Project to require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, energy, or other facilities.

Water

The proposed Project is a general plan update. A general plan is not considered a project under SB 610 that requires preparation of a WSA. Instead, a general plan relies on information prepared by the water supplier in the current UWMP to demonstrate that the proposed population increase would not create a water demand that would exceed the supply in normal, dry, and multiple dry years, as discussed in the following paragraphs. Future projects accommodated under the proposed Project that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA.

The current and projected water demands from the applicable 2020 UWMPs are provided in Tables 3.17-2 through 3.17-5. Most of the population and employment increases that would occur with the implementation of the proposed Project were incorporated into the 2020 UWMPs. The 2025 UWMPs are currently being prepared and will account for the buildout projections of the proposed Project. In addition, ongoing active and passive conservation measures will continue to reduce per capita water demands, even as the population increases.

Most of the new development would be in areas of the EIR Study Area that are connected to the existing water distribution network. Future projects would be required to fully comply with the requirements of CALGreen, California Plumbing Code, and the City's MWELO, as applicable, which are more stringent than the requirements in place when existing buildings were constructed. Only 4 percent of the current residences were built after 2010, when the CALGreen Building Code was first implemented and the installation of water-conserving plumbing fixtures and fittings was mandated. Therefore, it is assumed that new construction would achieve a reduction in water usage rates of 20 percent through compliance with these regulations.

Over 90 percent of the water supplies for the EIR Study Area are obtained by purchases of treated water from Zone 7 Water Agency. Zone 7 Water Agency operates two water treatment plants: Del Valley Water Treatment Plant and Patterson Pass Water Treatment Plant to supply water to the Tri-Valley area. These treatment plants have a combined capacity of approximately 65 MGD. The Patterson Pass Water Treatment Plant recently completed an expansion that doubled its capacity from 12 to 24 MGD. The Zone 7 Water Agency 2020 UWMP projects a water demand of 55,300 AFY in 2045, which is equivalent to 49 MGD. Therefore, Zone 7 Water Agency has a remaining capacity of 16 MGD, and no new water treatment plants would be required to accommodate the proposed Project (Zone 7 Water Agency 2021a).

Water Demand Analysis

Implementation of the proposed Project would result in 16,610 new housing units and 5,608,650 new square feet of non-residential development. Since there are two water purveyors within the EIR Study Area with different water demand factors, the following analysis is based on the buildout projections within each water purveyor's service area.

Cal Water

The proposed Project would result in approximately 3,820 new housing units and 949,922 square feet of new non-residential land use in the Cal Water service area. The water demand for these additional housing units was calculated using water use factors of 197 gallons per day per dwelling unit (GPD/DU) for single-family residential and 99 GPD/DU for multi-family residential, based on Cal Water's WSA Water Factor Tool and WSAs prepared by Cal Water for similar Cal Water service areas. The water use factor of accessory dwelling units (ADU) was assumed to be 70.5 GPD/DU, which is based on the target indoor water demand of 47 GPCD by 2040 and 1.5

people per ADU. It assumes no outdoor water usage for ADUs, since they would be constructed on an existing single-family or multi-family parcel where outdoor use is already counted.

The non-residential water demand for the commercial/institutional land use category used a water demand factor of 0.097 gallons per day per square foot (GPD/SF) for 949,922 square feet of new non-residential land uses. The irrigation demand for non-residential land use was assumed to be 10 percent of the total demand, and the distribution system losses were assumed to be 5 percent, as per the 2020 UWMP. The projected increase in water demand for the Cal Water service area is provided in Table 3.17-7, *Projected Water Demand in Cal Water Service Area (2045)*.

Table 3.17-7 Projected Water Demand in Cal Water Service Area (2045)

Category	Number (DU or SF)	Water Use Factor (GPD/DU or GPD/SF)	Increase in Water Demand (AFY)
Single-Family	159	197	35
Multi-Family	3,059	99	339
Accessory Dwelling Units	602	70.5	48
Non-Residential Land Use	949,922	0.097	103
Irrigation Demand for Non-Residential Land Use	-	-	10.3
Distribution System Losses	-	-	27
TOTAL			***562***

Source: Cal Water 2021; PlaceWorks 2025.
Notes: DU = dwelling unit; SF = square feet; GPD = gallons per day; AFY = acre-feet per year

As shown in Table 3.17-7, the increase in water demand associated with implementation of the proposed Project is estimated to be 562 AFY. Although Cal Water provided population growth projections in their 2020 UWMP, the projections did not account for the total projected growth associated with the proposed Project (approximately 1,706 additional people were not included in the 2020 UWMP assumptions for 2045). However, Cal Water is in the process of preparing the 2025 UMWP, which is expected to be completed in June 2026 and will provide new population projections.

According to the 2020 UWMP, the population within Cal Water's service area is projected to increase by 14 percent between 2020 and 2045 but the total water demand is expected to increase by less than 1 percent (Cal Water 2021). This is due to future water savings and a decrease in per capita water demand with the application of appliance standards and plumbing codes, conservation programs, and increases in the cost of water service. The water demand calculations provided in Table 3.17-7 are conservative and include these future water savings.

Additionally, Cal Water is not currently using its full allotment of 3,068 AFY for groundwater pumping and used only 1,066 AFY in 2020. In the future, Cal Water can use its full groundwater pumping quota and supplement the rest with potable water from Zone 7 Water Agency. Alternatively, Cal Water can keep its current groundwater pumping rate, and Zone 7 Water Agency is obligated under contract to provide the necessary amount of water to meet Cal Water's demands under normal and drought conditions. Furthermore, Cal Water will update its UWMP every five years to account for increases in population and water demand. Therefore, there is sufficient water supply to meet the water demand in Cal Water's service area under the proposed Project.

Livermore Municipal Water

The proposed Project would result in approximately 12,792 new housing units and 4,658,728 square feet of new non-residential uses in the Livermore Municipal Water service area. The projected water demand in the Livermore Municipal Water service area used water demand factors obtained from the Public Works Department (City of Livermore 2025b). Zone 1 in the service area will be provided with recycled water for irrigation. Therefore, the calculations for Zone 1 used an indoor water demand factor of 120 GPD/DU, and the outdoor irrigation for the zone is assumed to be provided by recycled water. Zones 2 and 3 would not have recycled water available for use and the water demand factors for residential include outdoor water use. The water use factors are 215 GPD/DU for single-family residential and 139 GPD/DU for multi-family residential. The water use factor for ADUs was assumed to be 67.5 GPD/DU, which is calculated as 45 GPCD and 1.5 people per ADU (City of Livermore 2025i). It assumes no outdoor water usage for each ADU, since they would be constructed on an existing single-family or multi-family parcel where outdoor use is already accounted.

The non-residential water demand for the commercial/institutional land use category used a water demand factor of 0.028 GPD/SF for 4,658,728 square feet of new non-residential land uses (City of Livermore 2025i). The irrigation demand for non-residential land use in Zones 2 and 3 was assumed to be 10 percent of the total demand, and the distribution system losses were assumed to be nine percent, as per Livermore Department of Public Works. The projected increase in water demand for the Livermore Municipal Water service area is provided in Table 3.17-8, *Projected Water Demand in Livermore Municipal Water Service Area (2045)*.

Table 3.17-8 Projected Water Demand in Livermore Municipal Water Service Area (2045)

Category	Number (DU or SF)	Water Use Factor (GPD/DU or GPD/SF)	Increase in Water Demand (AFY)
ZONE 1 – With Recycled Water			
Single-Family[1]	1,144	120	154
Multi-Family[1]	4,574	120	615
Non-Residential Land Use	1,787,196	0.028	56
Net New Potable Water Demand	-	-	**825**
Distribution System Losses	-	-	74
Outdoor Irrigation – Recycled Water[2]	-	-	448
TOTAL – ZONE 1			***1,347***
Zones 2 and 3 – No Recycled Water			
Single-Family	290	215	70
Multi-Family	6,784	139	1,056
Accessory Dwelling Units	187	67.5	14
Non-Residential Land Use	4,658,728	0.028	146
Irrigation Demand – Non-Residential	-	-	15
Distribution Losses	-	-	117
TOTAL – Zones 2 and 3			***1,386***
GRAND TOTAL			**2,733**

Source: Livermore 2025i; PlaceWorks 2025

Notes: DU = dwelling unit; SF = square feet; GPD = gallons per day; AFY = acre-feet per year

1. Water demand factors for Zone 1 are for indoor water demand; outdoor irrigation is calculated separately.
2. Outdoor irrigation demand using recycled water provided by Public Works Department.

As shown in Table 3.17-8, the increase in water demand associated with implementation of the proposed Project in Livermore Municipal Water's service area is estimated to be 2,733 AFY. This includes 448 AFY of recycled water. The increase in water demand with implementation of the proposed Project added to the existing water demand of 8,728 AFY in 2020 is greater than the projected water demand of 9,004 AFY in year 2045 in the 2020 UWMP. However, Livermore Municipal Water is in the process of preparing the 2025 UMWP, which is expected to be completed in June 2026 and will include the new housing units and non-residential development projections for the proposed General Plan 2045.

Water Supply

Zone 7 Water Agency is under contract with its water retailers to provide sufficient water to meet their demands under normal and drought conditions. As shown in Zone 7 Water Agency's 2020 UWMP (Table 3.17-3), Zone 7 Water Agency has a surplus of water available in 2045 ranging from 27,900 to 61,500 AFY. The potable water demand difference from the City's 2020 UWMP projection and 2045 GP estimate is 1,889 AFY. This number is very low compared to the water surplus from Zone 7 Water Agency 2020 UWMP, which indicates that demand will be met (Zone 7 Water Agency 2021a). The Water Reclamation Plant can provide up to 6 MGD of recycled water, which will cover all future recycled water demand in Zone 1.

The two water treatment plants (Del Valle Water Treatment Plant and Patterson Pass Water Treatment Plant), operated by Zone 7 Water Agency, provide over 80 percent of the potable water to the EIR Study Area, have a total current capacity of 65 MGD. With a projected water demand of 55,300 AFY in 2045, which is equivalent to 49 MGD, the treatment plants have a remaining capacity of 16 MGD, which is more than sufficient to meet the future demands of its water retailers, including Cal Water and Livermore Municipal Water. Both Cal Water and Livermore Municipal Water have capital improvement projects to monitor and upgrade their water distribution systems to accommodate future development. Funding mechanisms are also in place to ensure adequate water infrastructure at buildout. The City annually updates its Master Fee Schedule, which includes service charges and connection fees that support construction, reconstruction, maintenance, and operation of the City's water distribution infrastructure. Collectively, these adopted plans and fee programs ensure that necessary water distribution improvements are implemented to serve new development. Therefore, no new or expanded water treatment facilities would be needed to meet the projected water demand.

In addition, the water demand calculations provided in Table 3.17-8 do not account for reductions in future water demand with new development that are required to implement water-efficient requirements specified in CALGreen and California Plumbing Codes and the MWELO requirements for water-efficient landscaping. Also, future development that meets the criteria under the California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies.

Furthermore, the Infrastructure (INF) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to ensure adequate supplies, infrastructure, and facilities:

- **Goal INF-1:** Improve infrastructure using a fiscally and environmentally sustainable approach that responds to changing conditions.
  - **Policy INF-1.1: Asset Management.** Deliver and maintain high-quality infrastructure while managing individual assets to improve safety and minimize the life cycle cost associated with each asset.

- **Policy INF-1.2: Infrastructure Climate Adaptations.** Incorporate climate change risks, such as the impacts of drought, increasing storm events, and groundwater changes, in the infrastructure improvements planning process.
- **Policy INF-1.3: Citywide Infrastructure.** Maintain an accurate understanding of the replacement and operation costs, improvement timing, and risks of the City's assets.
- **Policy INF-1.4: Infrastructure Master Plans.** Develop and update master plans to assess infrastructure and to develop a Capital Improvement Program for necessary improvements and inform operations.
- **Policy INF-1.5: Infrastructure Improvement Coordination.** Coordinate water distribution system, wastewater collection, stormwater routing improvements, and/or utility undergrounding with roadway improvements to maximize implementation efficiency, reduce costs, and minimize disturbance due to construction activity.
- **Policy INF-1.6: Infrastructure Improvements Outreach.** Keep the community informed of planned infrastructure improvements and future infrastructure needs. Use outreach and engagement methods that connect with a broad representation of community members.
- **Policy INF-1.7: Infrastructure Development Fees.** Review and update, as necessary, ordinances, policy procedures, and/or fee programs establishing the requirements and mechanisms for collecting financial contributions from new development to improve infrastructure.
- **Policy INF-1.8: Infrastructure Improvement Decision Process.** Deliver a consistent and transparent decision-making process for infrastructure improvement prioritization. Use guiding principles, such as resiliency, environmental sustainability, equity, safety, and fiscal responsibility to guide the prioritization of infrastructure improvements.

- **Goal INF-2:** Provide sufficient water supplies and facilities that meet current and future needs in an efficient and sustainable manner.
  - **Policy INF-2.1: Potable Water.** Ensure the availability of potable water for the city's residents and businesses.
  - **Policy INF-2.2: Water Efficiency.** Increase water efficiency in all new development and existing building stock.
  - **Policy INF-2.3: Water Supply Conservation Improvements.** Participate in regional programs and projects that target the improvement and conservation of the region's groundwater and surface water supply.
  - **Policy INF-2.4: Recycled Water.** Use and expand the use of recycled water for appropriate uses, where and when available.
  - **Policy INF-2.5: On-Site Water Reuse.** Allow on-site stormwater capture and greywater reuse in commercial and residential settings.

- **Policy INF-2.6: Water Service Connection.** Require structures with plumbing in city limits to connect to the water system, unless distance from the public water system or other factors indicate a need for an exemption.
- **Policy INF-2.7: Water Service Area.** Approve extensions of water service, storage, and the distribution system within or adjacent to the City-approved service area consistent with the Urban Growth Boundary and Out of Area Service Agreement Policies.
- **Policy INF-2.8: Water Availability Development Conditions.** Condition the approval of new development on the availability of sufficient water supply, storage, and pressure requirements from the City or other water purveyors.
- **Policy INF-2.9: Water Infrastructure Development Requirements.** Require new development projects to be responsible for constructing an adequate potable water distribution system and paying water connection fees to construct additional necessary storage, pumping, and distribution facilities.

Specifically, proposed Policies INF-2.6, INF-2.8, and INF-2.9 require new development projects to in the City Limit to connect to the water system and be responsible for constructing adequate potable water distribution system and paying water connection fees to construct additional necessary storage, pumping, and distribution facilities and require the City to condition the approval of new development on the availability of sufficient water supply, storage, and pressure requirements from the City or other water purveyors.

Compliance with the City's requirements for new construction and water-efficient landscaping and implementation of the proposed 2045 General Plan goals and policies would ensure that no new or expanded water distribution or infrastructure beyond what is already planned or under construction would be required to accommodate the proposed Project.

Wastewater

A wastewater generation factor was obtained from the City's Public Works Department and was estimated to be 59 GPCD. Table 3.17-9, *Projected Wastewater Demand (2045)*, provides an estimate of the amount of additional wastewater generated by the proposed Project.

Table 3.17-9 Projected Wastewater Demand (2045)

Category	Number of People	Wastewater Generation Factor (GPCD)	Wastewater Demand (MGD)
Population Increase	43,820	59	2.6
Current Wastewater Flow Rate	-	-	5.7
Wastewater Flow Rate in 2045	--		8.3

Source: Livermore 2025b; PlaceWorks 2025.

Notes: GPCD = gallons per capita per day; MGD = million gallons per day

As shown in Table 3.17-9, the projected increase in wastewater flow rates is estimated to be 2.6 MGD. Adding this increase to the current flow rate of 5.7 MGD would result in a total flow rate of 8.3 MGD in 2045.

The LWRP currently has a permitted capacity of 8.5 MGD average dry weather flow. Expansion of the treatment plant is allowed if certain conditions can be met.

Implementation of the proposed Project would not require the construction or expansion of the LWRP or the City's sewer collection system beyond what is already planned or under construction. Wastewater generation rates have continued to decrease over time due to the implementation of water conservation efforts and low-flow plumbing fixtures as well as compliance with the CALGreen building code requirements for new construction. Future development would be required to adhere to the LMC requirements, CALGreen, and California Plumbing Code requirements for new construction. The City of Livermore also imposes annual sewer service charges to residents as part of the annual property tax bill, and non-residential land uses pay a monthly fee. In addition, all future development is required to pay sewer connection fees prior to the issuance of building permits. The collected fees are used to continually upgrade components of the wastewater collection and treatment systems through the CIP program.

Additionally, the proposed General Plan 2045 goals and policies related to infrastructure improvements previously identified above, in addition to the following goal and policies from the Infrastructure (INF) Element, are designed to minimize impacts related to wastewater facilities:

- **Goal INF-3:** Plan, manage, and develop wastewater collection, treatment, and disposal systems in ways that are safe, sanitary, resilient to climate change, and financially sound.
  - **Policy INF-3.1: Wastewater System Connections.** Require structures with plumbing within the city limits to connect to the public wastewater collection system area consistent with the Urban Growth Boundary.
  - **Policy INF-3.2: Wastewater System Capacity.** Approve new development on the condition of availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development area.
  - **Policy INF-3.3: Septic Tanks.** Allow septic tanks only in agricultural zones if approved by Zone 7 and the Alameda County Health Department.
  - **Policy INF-3.4: South Livermore Sewer Extension.** Coordinate with Alameda County and Zone 7 on the extension of sewer service to the South Livermore Valley to protect groundwater quality and enable long-term land use goals, consistent with the Urban Growth Boundary and climate-resilient infrastructure planning.
  - **Policy INF-3.5: Sewer Main Location.** Locate sewer mains to minimize the impacts to the environment and nearby infrastructure.

- **Policy INF-3.6: Equitable Access to Services.** Ensure that all neighborhoods, including underserved and rural areas, have equitable access to reliable and safe wastewater services, consistent with the City's Urban Growth Boundary and environmental justice goals.
- **Policy INF-3.7: Inflow and Infiltration Reduction.** Implement programs to identify and reduce inflow and infiltration in the wastewater collection system to maintain system capacity, reduce treatment costs, and protect water quality.
- **Policy INF-3.8: Emergency Preparedness and Resilience.** Ensure that wastewater infrastructure is designed and maintained to withstand natural disasters, including flooding and seismic events, and develop contingency plans for emergency operations.
- **Policy INF-3.9: Monitoring and Compliance.** Maintain a robust monitoring and reporting program to ensure compliance with all State and federal wastewater discharge regulations, including those set by the Regional Water Quality Control Board.
- **Policy INF-3.10: Public Education and Outreach Support.** Implement public education initiatives to reduce improper disposal of fats, oils, grease (FOG), pharmaceuticals, and hazardous materials into the wastewater system.

Specifically, proposed Policy INF-3.1 would require new development projects to in the City Limit to connect to the public wastewater system. Proposed Policy 3.2 would require the City to condition the approval of new development on the availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development areas.

The City currently complies with the statutory requirements listed in Section 3.17.1, *Regulatory Framework*, including requirements in the LMC, and those requirements ensure that the City would continue to comply with State and federal regulatory requirements related to wastewater. All new development would be required to pay a fair share of the City's planned sewer system improvements. Therefore, future development would not result in insufficient wastewater collection or treatment facilities.

Stormwater

The Livermore 2022 Storm Drainage Master Plan describes the improvements that are planned to accommodate future growth within the EIR Study Area. Some of the existing storm drains would need to be upsized and new detention basins built to accommodate future development.

Future development that involves the creation and/or replacement of 2,500 square feet or more of impervious surfaces would trigger the implementation of site design measures to reduce stormwater runoff, per the Alameda Countywide Clean Water Program. Regulated projects that create or replace 5,000 square feet or more of impervious surface would be required to implement site design, source control, and stormwater treatment and runoff

measures using specific numeric sizing criteria based on the volume and flow rate of stormwater that is generated.

In addition, all future development that involves the disturbance of one acre or more of land would be subject to NPDES construction permit requirements, including preparation of a SWPPP, which includes BMPs to limit stormwater discharges from the site. The Phase II Small MS4 permit also requires an erosion and sediment control plan to be submitted prior to the City issuing a grading or building permit. Each project undergoes review by City personnel to ensure that the regulatory requirements for temporary on-site stormwater runoff retention have been met. Future development would also be subject to storm drain connection fees, which would be used to fund new storm drain infrastructure within the EIR Study Area. The construction of new stormwater facilities through the CIP and storm drain connection and user fees, implementation of best management practices and on-site stormwater control measures, and preparation of the required documents and review by the City would serve to minimize any potential impacts associated with stormwater and ensure that runoff would not inundate downstream storm drainage facilities such that new or expanded facilities, beyond what is already planned or under construction, would be required

Furthermore, the proposed General Plan 2045 goals and policies related to infrastructure improvements previously identified above, in addition to the following goal and policies from the Infrastructure (INF) Element, are designed to minimize impacts related to stormwater facilities:

- **Goal INF-4:** Collect and convey stormwater in ways that are safe, sanitary, environmentally acceptable and financially sustainable.
  - **Policy INF-4.1: Storm Drainage Design.** Design public storm drainage improvements to carry appropriate design-year flows to accommodate large storm events, including those exacerbated by climate change, and plan for future buildout.
  - **Policy INF-4.2: Storm Drainage Studies.** Require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems. Projects must include plans for detention and drainage facilities to prevent increased flood risk.
  - **Policy INF-4.3: Impervious Surfaces.** Minimize impervious surfaces in new development and integrate green infrastructure to assist in stormwater management.
  - **Policy INF-4.4: Green Stormwater Infrastructure on City Property.** Install green infrastructure and other natural stormwater management infrastructure on City property and at City facilities, as appropriate.
  - **Policy INF-4.5: Stream Modifications.** Allow stream modifications when necessary to contain flood flows. Modifications shall enhance and/or restore creek natural habitat while providing stormwater management.

- **Policy INF-4.6: Regional Flood Protection and Stormwater Maintenance Coordination.** Collaborate with Zone 7 and other responsible agencies to maintain and improve the regional flood protection system, including the upkeep of creeks, arroyos, and other stormwater infrastructure under their jurisdiction.

Specifically, proposed Policy INF-4.2 and INF-4.3 would require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems and minimize impervious surfaces and integrate green infrastructure to assist in stormwater management. Proposed Policy INF-4.1 would require the City to design public storm drainage improvements to carry appropriate design-year flows to accommodate large storm events.

Compliance with State, federal, and local regulatory requirements related to stormwater would result in maximizing infiltration of naturally occurring rainwater to improve surface and subsurface water quality, minimizing impervious surfaces, and implementing stormwater runoff requirements. In addition, future development would be required to pay a fair share of the City's storm drainage improvement costs. Compliance with City requirements and policies would ensure that runoff would not inundate downstream storm drainage facilities such that new or expanded facilities would be required.

Other Utilities

Section 3.6*, Energy*, analyzes the proposed Project's potential impacts associated with wasteful or inefficient energy usage. This section focuses on the infrastructure systems associated with electricity, natural gas, and telecommunication facilities.

Electricity and Natural Gas

As shown in Table 3.6-3, *Year 2045 Forecast Electricity Consumption*, in Section 3.6, *Energy*, electricity use in the EIR Study Area would increase by 142,543,682 kWh per year; however, the per-person electricity use would decrease by approximately 86 kWh per year. PG&E's planning area is forecast to experience an estimated 166,709 GWh of annual electricity demand in 2040 (CEC 2026). In comparison, the forecast electricity usage for the EIR Study Area would be less than 0.5 percent of PG&E's projected electricity supply in the future.

As shown in Table 3.6-4, *2045 Forecast Natural Gas Consumption in the EIR Study Area*, in Section 3.6, *Energy*, natural gas use in the EIR Study Area would increase by 7,718,899 therms annually. As a result, the per service population natural gas consumption is estimated to increase by approximately 5 therms per person per year in 2045 due to the increase in development and population growth in the EIR Study Area. In comparison to PG&E's total service area natural gas consumption of 11,967 million therms in 2023, the forecast natural gas consumption for the EIR Study Area would be approximately less than 0.1 percent of PG&E's natural gas supply.

In addition, future development would be required to comply with the current and future updates to the California Energy Code and the latest CALGreen Code, which would contribute to reducing energy demands. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations, which would ensure the use of efficient electricity and natural gas consumption. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings.

Moreover, the Open Space and Conservation (OS) Element of the proposed General Plan 2045 Project contains the following goals and policies that are designed to to improve energy infrastructure and reduce electricity and natural gas consumption:

- **Goal OS-7:** Make Livermore strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.
  - **Policy OS-7.1: Climate Action Plan Updates.** Update the Livermore Climate Action Plan (CAP) at least every five years, maintaining the CAP as a Qualified Greenhouse Gas (GHG) Reduction Strategy under the Guidelines for the California Environmental Quality Act as laid out by the State and Bay Area Air Quality Management District. The CAP shall include an inventory of the level of GHG emissions within the city for a recent year, in comparison to a 2005 baseline, and shall set out specific policies and actions to be undertaken by the City to reduce GHG emissions to a level that meets or exceeds State GHG reduction targets. The policies and actions will include incentives, actions, and requirements to reduce the city's GHG emissions, the GHG emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce GHG emissions. Updates to the CAP will include a public and stakeholder engagement process.
  - **Policy OS-7.2: Climate Action Plan Implementation.** Continue to implement the Climate Action Plan (CAP). Identify key City staff and partner agencies responsible for implementing CAP strategies and actions. Integrate CAP strategies and actions into annual department workplans and budget. Continue to identify and pursue funding mechanisms for CAP implementation.
- **Goal OS-8:** Promote a clean, reliable, and equitable energy system by increasing energy efficiency, expanding the use of renewable and carbon-free energy sources, and reducing greenhouse gas emissions from buildings, transportation, and infrastructure.
  - **Policy OS-8.1: Climate Action Plan Implementation.** Implement Climate Action Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions.
  - **Policy OS-8.2: Per-Capita Energy Use.** Reduce per-capita energy use.
  - **Policy OS-8.3: Clean and Resilient Energy for Public Facilities.** Ensure City facilities and operations use clean, reliable, and resilient energy sources that reduce emissions and support long-term sustainability. Prioritize energy systems that improve efficiency and maintain essential services during power disruptions.

- **Policy OS-8.4: Sustainable Energy through Electrification.** Develop strategies and standards to advance sustainable energy by requiring efficient, all-electric appliances in new buildings, where feasible. Encourage property owners to transition existing buildings to electric appliances over time through partnerships, incentives, and public education that promotes clean energy.
- **Policy OS-8.5: Energy-Efficient Development Decisions.** Consider the energy efficiency of proposed development when making land use and development review decisions.
- **Policy OS-8.6: Solar Access.** Consider solar access, siting structures to maximize natural heating and cooling, and landscaping during the design review process to aid passive cooling protection from prevailing winds and maximize year-round solar access.

These policies would reduce electricity and natural gas consumption for future development projects. Specifically, proposed Policy OS-8.1 would require implementation of the CAP strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions. Proposed Policy OS-8.5 would require the City to consider the energy efficiency of proposed development when making land use and development review decisions.

In addition, each of the utility providers prepares long-range plans to accommodate projected growth in their service areas. For example, PG&E provides annual sustainability reports that outline strategies to accommodate future growth and ensure reliability of electrical and natural gas service. These planning efforts consider growth projections, such as growth anticipated as part of the proposed Project. Implementation of the proposed Project would not result in unplanned growth (see Section 3.14*, Population and Housing*, for more information), and much of that growth would be infill, served by existing utility infrastructure. As such, the utility providers take into consideration all future growth projections in their planning efforts, and future development would not be expected to require or result in new or expanded electricity of natural gas infrastructure beyond what is already planned or under construction.

Telecommunications

The EIR Study Area is served by multiple private telecommunications providers offering cable, fiber, DSL, fixed-wireless, and satellite services. Major providers include Comcast/Xfinity and AT&T, which deliver broadband to most homes and businesses, while additional providers such as Dish Network, Zayo, Astound, and Earthlink supplement connectivity. The City does not operate its own broadband network, so service availability can vary across neighborhoods.

Existing telecommunications infrastructure is designed to accommodate increases in population and development. Most new connections would utilize existing networks, and projected additional demand under the proposed Project represents a small fraction of the overall system capacity. The presence of multiple providers and service technologies allows for distributed

demand and network redundancy. As a result, implementation of the proposed Project would not require the construction or expansion of major telecommunications facilities.

Summary

In summary, compliance with existing federal, state, and local regulatory requirements, including the proposed General Plan 2045 goals and policies would ensure that the proposed Project would not 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 beyond what has already been planned. Therefore, impacts would be **less than significant**.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than significant. The analysis in impact discussion (a) indicates that both Cal Water and Livermore Municipal Water have sufficient water supplies available during normal years and a five-year drought period to accommodate future development. Over 80 percent of the total water supply for Cal Water and Livermore Municipal Water is purchased from Zone 7 Water Agency under contract, and Zone 7 Water Agency is required to supply all of the water needed by the four water retailers in its service area under normal and drought conditions.

Future development would be required to implement the water-efficient requirements specified in the CALGreen and California Plumbing Codes and the MWELO requirements for water efficient landscaping. Future projects that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies.

In addition, residential, commercial, and industrial water usage can be expected to decrease in the future as a result of the implementation of water conservation practices through the extensive programs offered by Cal Water and Livermore Municipal Water. For example, according to Cal Water's 2020 UWMP, the population within Cal Water's service area is projected to increase by 14 percent between 2020 and 2045, but the total water demand is expected to increase by less than 1 percent (Cal Water 2021a). In the case of water shortages, Cal Water and Livermore Municipal Water would implement their WSCPs, as outlined in the 2020 UWMPs.

Furthermore, the same proposed General Plan 2045 goals and policies from the Infrastructure (INF) Element identified above under the "Water" subheading in impact discussion (a) would also serve to reduce water demand. Specifically, proposed Policy INF-2.2 would require

increased water efficiency in all new development and existing building stock and proposed Policy INF-2.4 and INF-2.5 promote recycling and reusing water where appropriate.

In summary, implementation of proposed Project would not result in a shortage of water supplies. Compliance with the LMC requirements for new construction and adherence to the proposed General Plan 2045 goals and policies would reduce water demand. Therefore, impacts would be **less than significant**.

c) Would the project 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?

Less than significant. As described under impact discussion (a), the LWRP is currently permitted to treat up to 8.5 MGD. The wastewater flows under the proposed Project are estimated to be 8.3 MGD in 2045. Therefore, the LWRP currently has sufficient capacity to accommodate the increase in wastewater flows in addition to existing wastewater demand. The LWRP is in process of upgrading to remove nutrients from wastewater. The facility upgrade will serve both current residents and future development.

Future projects under the proposed Project would be required to comply with the latest CALGreen and California Plumbing Code and implement active and passive water conservation measures. This would reduce wastewater discharge rates below what was calculated in Table 3.17-9, which are conservative estimates that do not fully consider water conservation measures that would be required for new construction. Also, future development would undergo City approval and be required to comply with the LMC requirements.

Furthermore, the same proposed General Plan 2045 goals and policies from the Infrastructure (INF) Element identified under the "Wastewater" subheading in impact discussion (a) would also serve to ensure that wastewater treatment capacity keeps pace with new development. Specifically, proposed Policy 3.2 would require the City to condition the approval of new development on the availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development areas.

With continued compliance with all applicable regulations, wastewater generated by the proposed Project would not exceed the capacity of LWRP. In addition, implementation of the proposed General Plan 2045 goals and policies would further reduce demand. Therefore, the proposed Project would not result in a determination by the wastewater treatment provider that there is not adequate capacity to serve the EIR Study Area in addition to the demands of other wastewater dischargers. Impacts would be **less than significant**.

d) Would the project 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?

Less than significant. With implementation of the proposed Project, the service population is anticipated to increase by approximately 43,820 residents and 6,110 employees. This increase in population and employment would result in more solid waste generation.

Table 3.17-10, *Solid Waste Generation (2045)*, provides an estimate of the amount of solid waste that would be generated under the proposed Project.

Table 3.17-10 Solid Waste Generation (2045)

	Residents	Employees
Increase in Residents and Employees	43,820	6,110
Per capita waste generation rate (PPD)	5.3	7.8
Waste Generation (PPD)	232,246	47,658
Waste Generation (TPY)	36,230	7,435
Waste Generation (TPY) – Total	43,665	
Waste Generation (TPD) – Total	139.9	

Sources: CalRecycle 2025a, 2025b, 2025c, 2025d.

Note: PPD = pounds per day; TPY = tons per year; TPD = tons per day.

As shown in Table 3.17-10, implementation of the proposed Project would generate an additional 36,230 tons per year (TPY) of solid waste from residents and 7,435 TPY from employees. This would result in a net increase of 43,665 TPY, which equates to a disposal rate of approximately 140 TPD (assuming 312 disposal days per year).

As provided in Table 3.17-6, the Vasco Road Landfill, which accepts approximately 81 percent of solid landfill waste, has excess daily capacity of 2,018 TPD. Therefore, this landfill can accommodate an additional 140 TPD. Additionally, approximately 19 percent of this waste would be distributed to other landfills that accept solid waste from the EIR Study Area (such as Altamont Landfill and Resource Recovery) (CalRecycle 2025b).

In addition, the amount of solid waste generated by residents in the EIR Study Area is expected to decrease over time with continued implementation of recycling program. Also, new development would be required to comply with Division 4.4 of the CALGreen Code, which requires that at least 65 percent of nonhazardous construction and demolition waste from residential and nonresidential operations be recycled and/or salvaged for reuse. New development and redevelopment would also need to comply with the requirements of AB 341 that mandates recycling for commercial and multi-family residential land uses.

In addition, the Infrastructure (INF) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to reduce solid waste generation by promoting diversion and recycling:

- **Goal INF-5:** Reduce the generation of solid waste, increase the diversion of materials from landfills, and support efficient, environmentally responsible solid waste collection, recycling, composting, and disposal systems.
  - **Policy INF-5.1: Waste Management.** Implement an integrated approach to solid waste management that prioritizes waste reduction, reuse, recycling, composting, and environmentally responsible disposal that minimizes landfill use, conserves resources, and protects public health.
  - **Policy INF-5.2: State and County Diversion and Recycling Requirements.** Meet or exceed State and County waste diversion and recycling requirements and implement efforts that will aid in minimizing waste.
  - **Policy INF-5.3: Methane Reduction.** Work with public and private waste disposal entities to reduce methane emissions released from waste disposal and increase methane recovery for energy production from other sources.
  - **Policy INF-5.4: Organics Diversion.** Divert organic waste from landfills, including food scraps and yard trimmings, through composting and anaerobic digestion.
  - **Policy INF-5.5: Source Reduction and Recycling Programs.** Implement source reduction and recycling programs to minimize waste at the point of manufacture or use.
  - **Policy INF-5.6: Equitable Access to Waste Services.** Ensure all residents and businesses, including those in underserved areas, have equitable access to reliable and affordable solid waste, recycling, and organics collection services.
  - **Policy INF-5.7: City Use of Recycled Materials.** Increase City operations that purchase equipment and supplies that can be recycled rather than sent to landfills.
  - **Policy INF-5.8: Public Facility Waste Management.** Implement best practices for waste reduction, recycling, and composting, at City-owned facilities to serve as models for sustainable waste management.
  - **Policy INF-5.9: Waste Bin Storage.** Require new multifamily, commercial, and office development to have a dedicated storage room for landfill waste, recycling, and organic waste bins. The storage room must be sufficient for enough bins to meet the needs of all residential units and nonresidential spaces in the development.
  - **Policy INF-5.10: Business Recycling.** Work to expand recycling and reduce waste generated by Livermore businesses.

Specifically, proposed Policy INF-5.2 would require the City to meet or exceed State and County waste diversion and recycling requirements and implement efforts that will aid in minimizing waste.

With continued compliance with the applicable regulations, leading to increased recycling and waste diversion, and implementation of the proposed 2045 General Plan goals and policies, the proposed Project would not generate solid waste in excess of local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, this impact is **less than significant**.

e) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Less than significant. As discussed above, the Vasco Road Landfill and Altamont Landfill together provide sufficient permitted capacity to meet the County's AB 939 requirement to maintain a minimum of 15 years of available landfill capacity. Compliance with AB 1826 would be achieved through organic waste recycling and surplus food recovery programs, including the donation of edible food to local food banks. LMC Chapter 8.08 establishes local requirements for organics recycling for residential, commercial, and institutional uses. Future development would be required to comply with Division 4.4 of the most current CALGreen Code, which requires that a minimum of 65 percent of nonhazardous construction and demolition debris from nonresidential construction be recycled and/or salvaged for reuse. New development and redevelopment would also be required to comply with AB 341, which mandates recycling for residential, commercial, and multifamily land uses. Furthermore, the INF Element of the proposed General Plan 2045 contains goals and policies that require local planning and development decisions to reduce solid waste generation by promoting diversion and recycling. The same proposed General Plan 2045 goals and policies identified under impact discussion (d) would also ensure compliance with federal, state, and local statues and regulations related to solid waste, and impacts would be **less than significant**.

3.17.5 Cumulative Impact Analysis

The following discussion considers the proposed Project's projected growth combined with the other growth in the region that would occur over the life of the proposed Project that would result in increased demand for sewer service, water service, storm water/drainage infrastructure, solid waste disposal services, and energy providers and associated utility infrastructure.

Would the project have a cumulative effect related to utilities and service systems?

Less than significant.

Water

The cumulative water impact analysis includes the service area of Zone 7 Water Agency, which serves the Tri-Valley region as the region's water wholesaler. Zone 7 Water Agency serves four water retailers within its service area: Cal Water, Livermore Municipal Water, the City of Pleasanton, and Dublin San Ramon Services District. Future projects within these areas would result in increases in water demand.

In addition to its UWMP, Zone 7 Water Agency prepared a detailed study and forecasting model to determine future water demand within its service area, in coordination with the four water retailers (Zone 7 Water Agency 2021b). The results from both studies indicated that Zone 7 Water Agency will have the capability to serve all the water retailers within its service area with sufficient water supplies during normal conditions as well as single-dry years and multiple-dry years (Zone 7 Water Agency 2021a).

In addition, projects within the entire Zone 7 Water Agency service area that meet the SB 610 criteria, such as residential projects with more than 500 dwelling units, would be required to prepare WSAs. Each jurisdiction would review such projects for the adequacy of water supply, and the four water retailers and Zone 7 Water Agency would update their UWMPs every five years to ensure that there are adequate water supplies for existing and future residents and customers. All new development in cities within Zone 7 Water Agency's service area would be required to conserve water and implement water efficiency measures, per the CALGreen Building Code and the MWELO irrigation requirements. Water supply deficits in dry years would be met by implementing the WSCPs and other water conservation efforts.

Wastewater

The cumulative wastewater impact analysis covers the service area of LWRP, which includes the City of Livermore as well as Sandia National Laboratory and Ruby Hills development. Implementation of the proposed Project is expected to increase wastewater flow rates by 2.6 MGD. Added to the existing demand of 5.7 MGD, this would result in wastewater flow rates of 8.3 MGD by 2045. The LWRP currently has a permitted capacity of 8.5 MGD . Therefore, the proposed Project would not exceed the capacity of the LWRP.

Future development within the LWRP service area would be required to comply with all applicable regulations and ordinances. Project applicants would be required to pay wastewater connection fees and annual sewer service charges for residents or monthly service charges for non-residential development. These fees would fund continued improvements to the wastewater collection and treatment system.

Stormwater Infrastructure

The cumulative stormwater impact analysis encompasses the subwatersheds within the EIR Study Area: Arroyo Las Positas Watershed, Arroyo Mocho Watershed, Arroyo del Valle Watershed, and Chain of Lakes Watershed (see Figure 3.10-1, *Regional Subwatersheds*, in Section 3.10, *Hydrology and Water Quality*). As described under impact discussion (a), future development would increase the extent of impervious surfaces and contribute to increasing stormwater runoff that enters the County's storm drainage system.

Future development within the subwatersheds would be required to comply with the LMC requirements and the applicable BMPs for different land use types. All future development would be required to comply with the requirements of the regional MS4 permit, as well as the Alameda County's LID measures and hydromodification requirements as applicable. These measures would minimize the amount of stormwater runoff from new development and redevelopment sites within the four subwatersheds.

Solid Waste

The cumulative solid waste impact analysis includes the service areas of the Vasco Road Landfill and the Altamont Landfill which serve the EIR Study Area. These facilities receive waste from multiple jurisdictions in Alameda County. Therefore, cumulative impacts result from the combined effects of growth in the EIR Study Area and projected development in surrounding incorporated and unincorporated areas of Alameda County.

Implementation of the proposed Project would contribute incrementally to regional solid waste generation. However, as discussed under impact discussion (d), existing landfill facilities serving the EIR Study Area have sufficient permitted and remaining capacity to accommodate the solid waste generated under proposed Project. In addition, waste generated within Alameda County is managed through a regional system, and a portion of the County's solid waste may be transported to other permitted landfills, further dispersing cumulative demand. Cumulative solid waste impacts would also be reduced by ongoing and future increases in waste diversion. State mandates, including AB 939, AB 341, AB 1826, and SB 1383, require expanded recycling, organics diversion, and waste reduction programs that are expected to decrease the amount of waste disposed of in landfills over time.

Other Utilities

The cumulative impacts analysis for other utilities includes the service areas for Ava Energy (for electricity generation) and PG&E (for natural gas and electricity infrastructure). Other projects within the service areas would increase electricity and natural gas demands. The cumulative impacts of energy consumption and efficiency are provided in Section 3.6, *Energy*. All future projects developed within the Ava Energy and PG&E service areas would implement the requirements of the California Energy Code and CALGreen Building Code. New buildings would

also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations. Counties and cities review project design plans against these codes and ensure compliance before issuing construction permits. These measures would reduce the overall consumption of electricity and natural gas.

The EIR Study Area is also served by multiple private telecommunications providers. As determined under the "Other Utilities" subheading in impact discussion (a), the energy and telecommunications service providers that serve the EIR Study Area indicate that they have the capacity to accommodate future increases in population within their existing service areas without requiring significant changes to current infrastructure.

Summary

All cumulative projects would be required to comply with existing federal, state, and other local regulatory requirements. Compliance with these regulations would ensure cumulative impacts with respect to utilities and service systems would be **less than significant**.

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3.18 WILDFIRE

This section evaluates the wildfire-related impacts associated with adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential wildfire impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022). Where more recent data is available at the time of preparation of this Draft EIR, the analysis provided herein reflects such updated information.

As detailed in Chapter 3, *Environmental Analysis*, no concerns related to wildfire were received during the EIR scoping period.

3.18.1 Regulatory Framework

FEDERAL

National Cohesive Wildfire Management Strategy

In the Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME Act), Congress mandated the development of a National Cohesive Wildland Fire Management Strategy for all lands in the United States. Wildfire management is guided by the National Cohesive Wildland Fire Management Strategy, which has three primary goals—resilient landscapes, fire-adapted communities, and safe and effective wildfire response (DOI and USDA 2014). These three goals enable land managers to manage vegetation and fuels; protect homes, communities, and other values at risk; manage human-caused ignitions; and effectively and efficiently respond to wildfires. California is part of the Western Regional Strategy Committee, chartered to support and facilitate the implementation of the National Cohesive Wildland Fire Strategy.

National Fire Protection Association Standards

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute (ANSI). NFPA standards are recommended (advisory) guidelines for fire protection that are referenced in the California Fire Code (CFC). Specific standards applicable to wildfire hazards include, but are not limited to:

- NFPA 1141, Fire Protection Infrastructure for Land Development in Wildlands
- NFPA 1142, Water Supplies for Suburban and Rural Fire Fighting
- NFPA 1143, Wildland Fire Management
- NFPA 1144, Reducing Structure Ignition Hazards from Wildland Fire
- NFPA 1710, Standard for the Organization and Deployment of Fire-Suppression Operations, Emergency Medical Operations

STATE

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's privately owned wildlands. CAL FIRE provides fire assessment and firefighting services for land in State Responsibility Areas (SRAs), responds to an average of 550,000 emergencies each year, conducts educational and training programs, provides fire planning guidance and mapping, and reviews general plan safety elements to ensure compliance with State fire safety requirements. CAL FIRE staff, or a designee, also review building permit applications, parcel maps, and use permits for construction or development in SRAs and Local Responsibility Areas (LRAs).

The Board of Forestry and Fire Protection is a government-appointed approval body within CAL FIRE. It is responsible for developing general forest policy, determining the guidance policies of CAL FIRE, and representing the State's interest in federal forestland in California. The Board of Forestry and Fire Protection also promulgates regulations and approves general plan safety elements that are adopted by local governments for compliance with State statutes.

The California Office of the State Fire Marshal supports the mission of CAL FIRE by focusing on fire prevention. These responsibilities include regulating buildings in which people live, congregate, or are confined; controlling substances and products that may, in and of themselves or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention within wildland areas; regulating hazardous liquid pipelines; developing and renewing regulations and building standards; and providing training and education in fire protection methods and responsibilities. These are accomplished through major programs, including engineering, education, enforcement, and support from the Board of Forestry and Fire Protection.

Together, the Board of Forestry and Fire Protection, Office of State Fire Marshal, and CAL FIRE protect and enhance the forest resources of all wildland areas of California that are not under federal jurisdiction.

Fire Hazard Severity Zones and Responsibility Areas

CAL FIRE designates Fire Hazard Severity Zones (FHSZ), as authorized under California Government Code Sections 51175 et seq. FHSZs may be designated Very High, High, or Moderate. CAL FIRE considers many factors when designating FHSZs, including fire history, existing and potential vegetation fuel, flame length, blowing embers, terrain, and weather patterns for the area. CAL FIRE designates FHSZs in two types of areas depending on which level of government is financially responsible for fire protection.

- **Local Responsibility Area.** Incorporated communities are financially responsible for wildfire protection.
- **State Responsibility Area.** CAL FIRE and contracted counties are financially responsible for wildfire protection.

CAL FIRE Strategic Fire Plan

The 2024 *CAL FIRE Strategic Plan* contains goals and objectives to prepare for and mitigate the effects of fire on California's natural and built environment (CAL FIRE 2024a). The 2024 Strategic Plan focuses on strengthening the department's capabilities to provide effective fire prevention and suppression activities statewide to protect lives, property, and ecosystems. A key component of the 2024 Strategic Plan is the collaboration within the department to ensure fire suppression and natural resource management is successful (CAL FIRE 2024a).

California Code of Regulations Sections 1270-1276

CCR Sections 1270-1276, also known as the California Fire Safe Regulations, establish minimum wildfire protection standards in conjunction with building, construction, and development in the SRA, and, as of July 1, 2021, the Very High FHSZs.

California Code of Regulations Section 1299.02

California Code of Regulations (CCR) Section 1299.02, also known as the Fire Hazard Reduction Act, defines defensible space as the buffer landowners are required to create on their property between a "Building or Structure" and the plants, brush, and trees or other items surrounding the "Building or Structure" that could ignite in the event of a fire. A building or structure is defined as anything constructed that is designed or intended for support, enclosure, shelter, or protection of persons, animals, or property, having a permanent roof that is supported by walls or posts that connect to, or rest on the ground.

Public Resources Code Section 4291

Public Resources Code (PRC) Section 4291, *Mountainous, Forest-, Brush-, and Grass-Covered Lands*, is intended for any person who owns, leases, controls, operates, or maintains a building or structure in a mountainous area, forest-covered lands, shrub-covered lands, grass-covered

lands, or land that is covered with flammable material, regardless of whether the property is in an SRA or Very High FHSZ. This section requires defensible space to be maintained within 100 feet from each side of a structure. An ember-resistant zone is required within 5 feet of a structure and more intense fuel reduction is required between 5 and 30 feet of a structure.

California Building Standards Code

The California Buildings Standards Code (CCR Title 24) establishes statewide standards for building design, construction, and fire safety and is updated on a three-year cycle. Title 24 consists of multiple parts that collectively govern building construction and safety requirements throughout California. The building standards are effective statewide; however, local jurisdictions may adopt more restrictive standards based on local climatic, geological, or topographical conditions in accordance with amendment procedures prescribed by the California Building Standards Commission. Commercial and residential buildings are plan-checked by local building officials for compliance with Title 24 and any locally adopted amendments.

California Building Code

The California Building Code (CBC), Part 2 of CCR Title 24, establishes general building design and fire safety standards applicable statewide Typical fire safety requirements include, but are not limited to, installation of sprinkler systems; fire-resistance standards for building materials and construction assemblies; smoke-detection and alarm systems; means of egress requirements; and clearance of combustible debris and materials. Local jurisdictions may adopt more restrictive CBC provisions based on local conditions, subject to State findings and adoption procedures.

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. The CFC is codified in CCR Title 24, Part 9 and is revised and published every three years by the California Building Standards Commission. The CFC is effective statewide; however, a local jurisdiction may adopt more restrictive standards based on local conditions.

The CFC regulates minimum fire safety regulations for new and existing buildings and facilities, including emergency planning and preparedness, fire service features, fire protection systems, hazardous materials management, fire-flow requirements, and fire hydrant locations and distribution. Typical fire safety requirements include installation of sprinklers in high-rise buildings; fire-resistance standards for building materials and construction assemblies; and clearance of combustible debris and vegetation within prescribed distances of occupied structures in wildfire hazard areas.

The CFC also establishes fire safety requirements for construction and demolition activities. The purpose of this chapter is to provide reasonable safety to life and property from fire during construction and demolition operations, including those in underground locations. Requirements include restrictions on smoking, management of combustible materials and debris, controls on cutting and welding operations, electrical wiring safety, and cooking activities. Additional provisions require preparation of site safety plans prior to building permit issuance, provision of fire watch during nonworking hours, and maintenance of water supply for fire protection once combustible materials are present on a project site.

California Wildland-Urban Interface Code

Prior to the 2025 code cycle, ignition-resistant construction standards for buildings in FHSZs and Wildland-Urban Interface (WUI) areas were primarily addressed in Chapter 7A of the CBC and Chapter 49 of the CFC. Effective January 1, 2026, these wildfire-related building and site design requirements are consolidated into the 2025 California Wildland-Urban Interface Code (CWUIC), Part 7 of CCR Title 24. The CWUIC supersedes the separate wildfire construction and WUI provisions formerly contained in CBC Chapter 7A and CFC Chapter 49.

The CWUIC establishes statewide standards for development in designated FHSZ/WUI areas, including requirements for ignition-resistant construction materials and methods for exterior wildfire exposure (e.g., roofing, vents, exterior walls, windows and glazing, exterior doors, decks, and appendages), protection of underfloor areas and projections, and standards for ancillary structures. The CWUIC also includes provisions related to site access and emergency access, water supply for fire protection, fire protection planning, and long-term vegetation management.

In addition, “Zone 0” regulations, which require an ember-resistant zone of noncombustible materials within the first five feet of structures in designated FHSZ/WUI areas, are being incorporated into Title 24 and related State regulations to further reduce structure ignition risk from radiant heat and ember intrusion. New development and substantial improvements within WUI/FHSZ areas are required to comply with the CWUIC, including ignition-resistant construction standards, emergency access and water supply provisions, defensible space and vegetation management requirements, and applicable fire protection planning measures. Projects would be required to comply with the building and fire codes in effect at the time of discretionary approval and building permit issuance, including any locally adopted amendments to the CWUIC.

Vegetation management and defensible space requirements applicable to development in WUI/FHSZ areas are implemented in coordination with the Fire Safe Regulations and related provisions of the Public Resources Code (e.g., PRC Section 4291) and implementing regulations of CAL FIRE, as applicable.

California Public Utilities Commission

In 2007, wildfires in southern California were ignited by overhead utility power lines and aerial communication facilities near power lines. In response, the California Public Utilities Commission (CPUC) began considering and adopting regulations to protect the public from fire hazards due to overhead power lines and nearby aerial communication facilities. The CPUC published a Fire Threat Map under Rulemaking 15-05-006 following procedures in Decision 17-01-009, revised by Decision 17-06-024, which adopted a work plan for the development of a utility High Fire Threat District where enhanced fire safety regulations in Decision 17-12-024 apply (CPUC 2025). The fire regulations require electric utilities to comply with the following:

- Prioritize the correction of safety hazards.
- Correct nonimmediate fire risks in Tier 2 (elevated fire threat) areas on the CPUC High Fire-Threat District within 12 months, and in Tier 3 (extreme fire threat) areas within 6 months.
- Maintain increased clearances between vegetation and power lines within the High Fire Threat District.
- Maintain stricter wire-to-wire clearances for new and reconstructed facilities in Tier 3 areas.
- Conduct annual inspections of overhead distribution facilities in rural areas of Tier 2 and Tier 3 areas.
- Prepare a fire prevention plan annually if overhead facilities exist in the High Fire Threat District. (CPUC 2017)

Fire Hazard Technical Advisory

The Governor's Office Land Use and Climate Innovation (LCI) published the Fire Hazard Technical Advisory in 2015 and revised it in 2022 as a planning guide for addressing fire hazards, reducing risk, and increasing resilience across California's diverse communities and landscapes. The Fire Hazard Technical Advisory provides a range of goals, policies, and programs for fire hazard prevention and mitigation, disaster preparedness, and emergency response and recovery. The 2022 update includes specific land use strategies to reduce fire risk to buildings, infrastructure, and communities.

California Environmental Quality Act

In November 2022, the California Attorney General issued the *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act*. This guidance document was designed to help lead agencies comply with CEQA (PRC Section 21000 et seq.) when considering whether to approve projects in wildfire-prone areas. This guidance provides suggestions for how best to comply with CEQA when analyzing and mitigating a proposed project's impacts on wildfire ignition risk, emergency access, and evacuation. The guidance is aimed at proposed development projects, such as residential, industrial, or commercial developments. The extent to which it applies varies by project based

on project design and location. It does not impose additional requirements on local governments or alter any applicable laws or regulations but is intended to provide guidance on some of the issues, alternatives, and mitigation measures that should be considered during the environmental review process.

REGIONAL

Tri-Valley Local Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The *Tri-Valley Local Hazard Mitigation Plan* (LHMP) was adopted in March 2024 for the purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events (City of Livermore 2024). The LHMP includes an assessment of hazards and vulnerabilities and a set of mitigation actions for the Tri-Valley area, including the EIR Study Area. In the context of an LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including wildfire. The LHMP must be reviewed and approved by the Federal Emergency Management Agency (FEMA) every five years to maintain eligibility for disaster-relief funding. As part of this process, the California Governor's Office of Emergency Services reviews all local hazard mitigation plans in accordance with the Disaster Mitigation Act of 2000 regulations, and coordinates with local jurisdictions to ensure compliance with FEMA's Local Mitigation Plan Review Guide. The mitigation strategies in this plan related to wildfire include updating the Livermore Development Code (LDC) to require new development to consider natural hazards, including WUI areas into the City's geographic information system (GIS), overhead utility landscaping, an annual weed abatement program, and retrofitting existing structures in high hazard areas.

Alameda County Community Wildfire Protection Plan

The Alameda County Community Wildfire Protection Plan (CWPP), adopted in 2025, is a product of the Diablo Firesafe Council in coordination with the Alameda County Association of Fire Chiefs, Hills Emergency Forum, and Stakeholder Committee Members (Diablo Firesafe Council 2025). The CWPP reflects community input on actions and projects that assists residents and first responders in their efforts to protect lives, property, and the environment. The CWPP outlines the updated guidelines developed by the California Fire Safe Council, provides an overview of fire hazard risks in the WUI, and treatment for structural ignitability.

LOCAL

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to wildfire. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to wildfire are in Title 13, *Public Services*; Title 15, *Buildings and Construction*; and Title 16, *Environment,* as follows:

- **Chapter 13.48, *Underground Utility Facilities,*** allows the City Council to designate areas for the removal of poles, overhead wires, and associated overhead structures, and the installation of wires and facilities for supplying electric, communication, or similar services underground.
- **Chapter 15.02, *Building Code*,** adopts the International Building Code, as amended, and set forth in the California Building Standards Code, CCR Title 24.
- **Chapter 15.06, *Fire Code*,** adopts the International Fire Code, as amended, and set forth in the CFC, CCR Title 24, Part 9.
- **Chapter 16.12, *Flood Control Regulations,*** aims to minimize public and private losses from flooding in Livermore, including restricting uses in areas prone to flooding or erosion, requiring such uses to be protected against flood damage, controlling the alteration of natural floodplains, and controlling filling or dredging that may increase flood hazards.

Livermore Development Code

The City of Livermore regulates land use and design through the LDC, an alternative approach to zoning that reinforces walkable, sustainable mixed-use environments and development, and builds on community character. The LDC provides development standards similar to typical zoning ordinances, such as heights, setbacks, and site regulations for all zones. LDC Chapter 4.02.080, *Grading Activities,* regulates the filling, movement, excavation, or removal of materials for construction activities to ensure slope stability and requires City-approved permits for these activities.

Livermore Emergency Operations Plan

The Livermore Emergency Management Division is responsible for coordinating agency response to disasters or other large-scale emergencies. The Livermore Emergency Operations Plan (EOP) establishes policy direction for emergency planning, mitigation, response, and recovery activities in the county (City of Livermore 2018). The EOP addresses interagency coordination, procedures to maintain communications with regional and State emergency response teams, and methods to assess the extent of damage and management of volunteers, as well as identifies the location of Emergency Operations Centers. The EOP uses the Standardized Emergency Management System, as required by California Government Code

Section 8607(a) for managing responses to multiagency and multi-jurisdictional emergencies in California, including those related to wildfires.

Livermore Climate Action Plan

The Livermore Climate Action Plan (CAP), adopted in 2022, is the City's long-term plan to reduce greenhouse gas emissions and adapt to climate-related hazards. The CAP process included a Climate Vulnerability Assessment identifying the populations and community assets most vulnerable to climate change hazards, including wildfire. The adaptation strategies in the plan related to wildfire include creating fire-safe landscaping standards, facilitating building retrofits to improve indoor air quality, continuing to implement the fire fuel-load reduction programs, continuing to conduct outreach of fire prevention, operating clean air centers, and encouraging the use of AC Alert emergency notification system.

3.18.2 Existing Conditions

WILDFIRE BACKGROUND

The term "wildfire" refers to fires that usually result from the ignition of dry grass, brush, or timber. Historically, wildfires commonly occurred in steep or heavily vegetated areas, away from developed areas. More recently, wildfires have been encroaching into more urban areas, or the WUI, threatening homes, businesses, and essential infrastructure. Though wildfires play an important role in the ecology of many natural habitats, risks to human safety and property increase as urban development moves into areas susceptible to wildfire hazards.

Types of Wildfires

There are three basic types of wildfires:

- **Crown fires** burn trees to their tops and are the most intense and dangerous wildland fires.
- **Surface fires** burn surface litter and duff and are known for being the easiest fires to extinguish and causing the least damage. Brush and small trees enable surface fires to reach treetops, so are referred to as *ladder fuels* (Natural Resources Canada 2021).
- **Underground fires** occur belowground in deep accumulations of dead vegetation. These fires move very slowly and can be difficult to extinguish due to limited access (Western Fire Chiefs Association 2024).

Wildfires burn in many types of vegetation—forest, woodland, scrub (including chaparral and sage scrub), and grassland. Many species of native California plants are adapted to fire, and habitats such as woodlands, chaparral, and grasslands can recover from fire. Between 2020 and 2025, an average of 856,923 acres burned per year throughout California (CAL FIRE 2025). Wildfires in California have been more frequent and growing in intensity over the past several

years, with 4,304,379 acres burning in 2020 and 2,569,386 acres burning in 2021 (CAL FIRE 2024b).

Wildfire Causes

Although the term *wildfire* suggests natural origins, a 2017 study that evaluated 1.5 million wildfires in the United States between 1992 and 2012 found that humans were responsible for igniting 84 percent of wildfires, accounting for 44 percent of acreage burned (City of Livermore 2022). The three most common types of causes of human-caused wildfires are debris burning (logging slash, farm fields, trash, etc.); arson; and equipment use.[1] Lightning is the major natural cause of wildfire in the United States, with more than 40 percent of wildfires in the western United States caused by lightning between 1992 and 2015 (Balch et al. 2017; Cart 2023).

Power lines can ignite wildfires in several ways, including:

- **Downed lines.** Downed power lines can produce arcing that can cause the power lines to spark and ignite vegetation.
- **Vegetation contact.** A branch contacting two conductors for a sufficient duration may ignite the branch; a tree falling on a line can cause a downed line.
- **High winds and severe weather.** Conductors can slap together during high winds and severe weather, creating arcing of the power lines and ejecting hot metal particles that can ignite flammable matter on the ground.
- **Equipment failures.** As circuit components deteriorate, they can arc and spark and thus ignite nearby flammable matter. (Texas Wildfire Mitigation Project 2014)

An analysis of United States Forest Service wildfire data from 1986 to 1996 determined that 95 percent of human-caused wildfires and 90 percent of all wildfires were within 0.5 miles of a road, and that about 61 percent of all wildfires and 55 percent of human-caused wildfires were within approximately 650 feet (200 meters) of a road (Pacific Biodiversity Institute 2007). The study concluded that the increase in human-caused ignition greatly outweighs the benefits of increased access for firefighters.

Wildfires ignite structures in three ways: embers landing on the structure or flammable material next to the structure, direct flame contact, and radiant heat from fires close to the structure. Embers are the most common cause of home ignition. Embers ignite structures by entering through attic vents, igniting flammable materials around the home (litter in the roof gutter; wood stacks; or wood fencing), or finding their way under roofing materials (California Chaparral Institute 2025).

[1] Miscellaneous human activities (unspecified) are ranked above equipment use in percentage of wildfires caused.

CAL FIRE estimated in 2017 that there were about three million housing units in California in FHSZs and potentially at risk from wildland fire: that is, just over 20 percent of the total housing units in the state (CAL FIRE 2018). A study conducted by the *Los Angeles Times* indicates that an additional 2.8 million Californians were added to the FHSZs due to the recent updates of the FHSZ maps in both the SRA and LRA (Los Angeles Times 2025). According to CAL FIRE data, approximately 95 percent of structures seriously damaged in California wildfires from 2013 to 2020 took place in FHSZs in the SRA or LRA or on federal lands (CapRadio 2021).

Wildland-Urban Interface

The WUI is any area where structures and other human developments meet or intermingle with wildland vegetative fuels—shrubs, trees, and grasses. Developments in the WUI exacerbate fire occurrence and fire spread in several ways:

- Increased numbers of people near and in wildland areas, creating more frequent human-caused wildfires.
- Wildfires become harder to fight due to simultaneous evacuation and firefighting resources diverted from containing the wildfire to protecting lives and homes.
- Letting natural fires burn becomes impossible, leading to buildup of fuel in brush areas and overgrowth of grasslands, increasing wildfire hazard further (Radeloff et al. 2018).

Secondary Effects of Wildfires

Secondary effects of wildfire include additional hazards, such as landslides, poor air quality, and power outages. This section describes potential secondary hazards.

Post-Fire Debris Flows

Post-fire landslide hazards include fast-moving, highly destructive debris flows that can occur in the years immediately after wildfires in response to high-intensity rainfall events. Post-fire debris flows are particularly hazardous because they can occur with little warning, exert great impulsive loads on objects in their paths, strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles.

Fires increase the potential for debris flows in two ways:

- Fires may bake soil into a hard crust that repels water.
- Fires destroy vegetation that would slow and absorb rainfall, and whose roots would help stabilize soil. (Oregon Water Science Center 2018)

Post-fire debris flows are most common in the two years after a fire and are usually triggered by heavy rainfall. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas. As little as 0.3 inches of rainfall in 30 minutes has triggered debris flows, and any storm that has intensities greater than about 0.4 inches per hour can produce debris flows (California Water Science Center 2018).

Air Quality

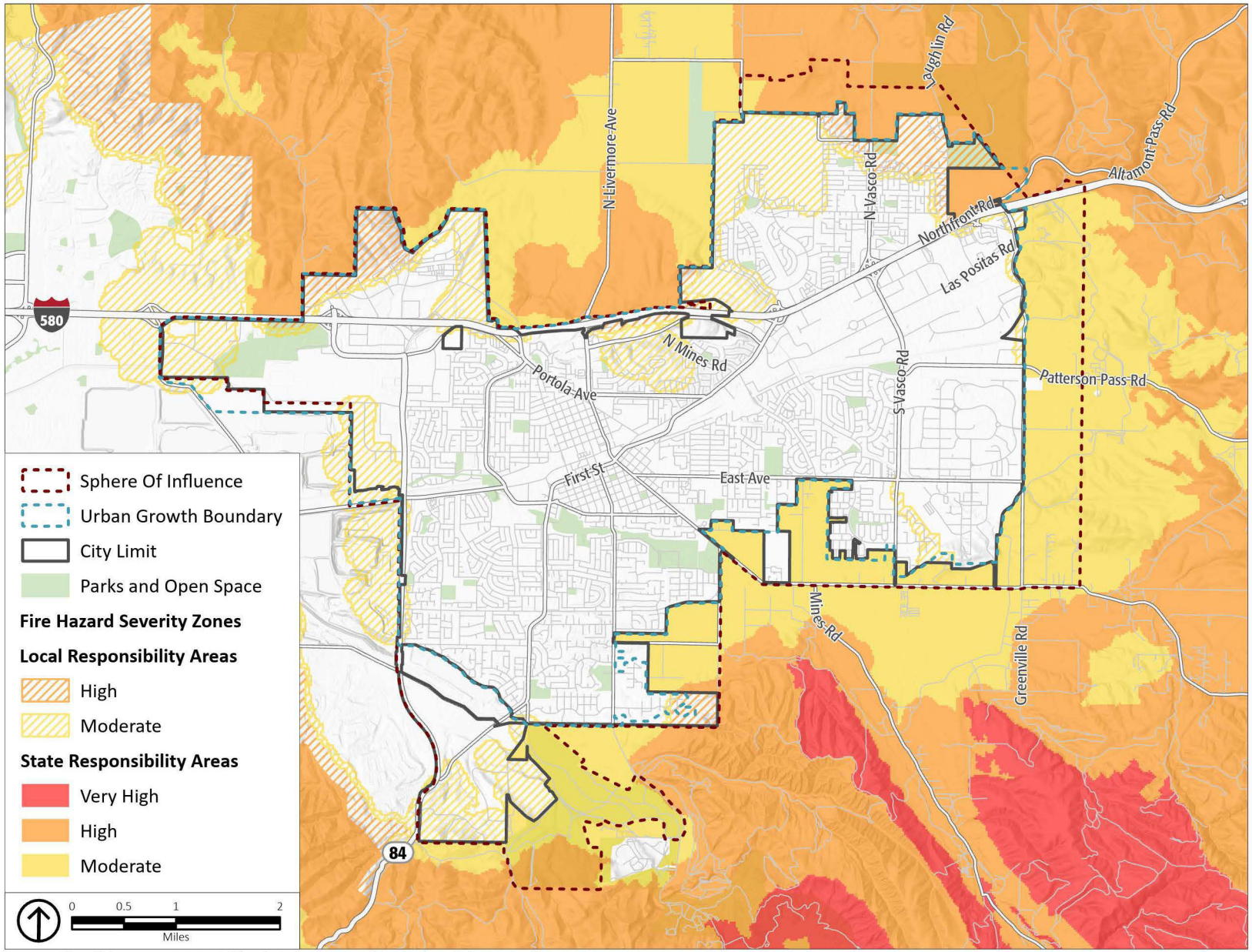
Regionally, smoke from wildfires creates poor air quality that can last for days or weeks, depending on the scale of the wildfire and wind patterns. Smoke itself is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. Health risks from smoke inhalation are largely from microscopic particles ($PM_{2.5}$) that can penetrate the lungs and cause a range of health problems, including chronic heart and lung diseases. Exposure to particulate pollution is even linked to premature death. There are some populations that are more sensitive than others to smoke—for instance, people with heart or lung diseases, older adults, children, people with diabetes, people with compromised immune systems, and pregnant women (USEPA 2025). Through observations of wildfires, experts have determined that the large plumes of smoke from large wildfires can result in that smoke and ash being carried thousands of miles from the burn area of the wildfire.

Other Secondary Effects

In addition to damaging natural environments, wildfires also deplete water reserves, down power lines, disrupt communication services, and block evacuation routes, which can isolate neighborhoods. In some cases, electric power companies shut off power lines to prevent wildfires, also known as Public Safety Power Shutoffs, causing outages that can last for hour or days depending on the weather severity. Wildfires can indirectly cause flooding if flood-control facilities become inadequate to handle increases in stormwater runoff, sediment, and debris that are likely to be generated from burn scars.

WILDFIRE IN THE EIR STUDY AREA

The geography, weather patterns, and vegetation in the EIR Study Area and surrounding areas provide ideal conditions for recurring wildfires. As shown in Figure 3.18-1, *Fire Hazard Severity Zones,* the EIR Study Area does not contain lands within a Very High FHSZ but it does contain lands within Moderate and High FHSZ in both the LRA and the SRA. These zones are concentrated in the northern portion of the EIR Study Area, north of Livermore Municipal Airport and Interstate 580 (I-580), as well as the southern portion of the EIR Study Area adjacent to unincorporated Alameda County lands. There are portions to the east of the City Limit within the Sphere of Influence that are within a moderate SRA and portions of the EIR Study Area to the northwest that are within a moderate LRA.



Source: City of Livermore, 2022; California Department of Forestry and Fire Protection, 2025.

Figure 3.18-1
Fire Hazard Severity Zones

WUI areas occur when urban development is intermixed with wildland vegetation, or when pockets of wildland vegetation occur inside developed areas. Unlike wildfire in wildland areas, fires in WUI areas are more likely to damage or destroy buildings and infrastructure that support populations, the economy, and key services. Some of the WUI areas in the EIR Study Area have few access roads, which poses challenges for evacuation and for emergency responders to fight fires and help residents in these areas.

Wildfire History

CAL FIRE maintains a list of historic fires throughout the state. According to CAL FIRE, the City of Livermore has experienced one wildfire in the City Limit and several others in nearby areas. The 1979 Dry Creek Fire occurred within the City Limit and burned approximately 676 acres. The cause of the fire remains unknown. Several other historic wildfires have occurred in nearby areas outside the EIR Study Area, including the 2020 SCU Lightning Complex Fire, the 1996 Pleasanton Fire, the 1999 Car Fire, and the 1961 Bailey Fire. Figure 3.18-2, *Historic Wildfires In or Near Livermore,* shows the historic wildfire perimeters between 1960 and 2025.

Factors Influencing Wildfire

Several factors influence wildfire conditions and facilitate the spread of wildfires, including weather conditions, fuels, topography, human action, and climate change.

Weather

The climate in the EIR Study Area is generally referred to as “Mediterranean,” with hot, dry summers and cool, wet winters. Warm summers and cold winters with rainfall are common in the EIR Study Area. Rainfall typically occurs during the winter months due to storm fronts that move inland from the Pacific Ocean or south from Northern California. The EIR Study Area receives an average of approximately 16.2 inches of precipitation annually (Cal-Adapt 2025a). Because the summer months are generally hot and dry, the risk of wildfires has historically been greatest in summer and fall. Relative humidity is also an important fire-related weather factor. As humidity levels drop, the dry air causes vegetation moisture levels to decrease, thereby increasing the likelihood that plant material will readily ignite and burn; the risk of wildfire increases when lightning strikes occur during dry periods.

Wind is a primary weather factor in wildfire behavior. Average wind speeds in the EIR Study Area vary only slightly throughout the year. The windier part of the year from April to September has average wind speeds of 7.9 miles per hour, and the calmer part of the year from September to April has average wind speeds of 6.2 miles per hour (Weatherspark 2025). Wind is most commonly coming from the west from February to November, with winds from the north from November to February (Weatherspark 2025). Diablo winds, which are a type of downslope, warm, northerly to northeasterly wind, flow over the Diablo Mountain range and have had reported speeds of up to 100 miles per hour (Liu et al. 2020). As wind speeds increase,

the rate of fire spread, intensity, and ember spread potential also increases. Gusty and erratic wind conditions can cause wildfire to spread irregularly, making it difficult to predict its path and effectively deploy fire-suppression forces. Winds from the northeast in the late summer and fall compound with lower relative humidity, creating "red flag" conditions.[2] Diablo winds and low humidity are especially dangerous because low humidity can dry out trees and other fuel that may also be weakened by the winds. This can increase wildfire conditions in the EIR Study Area. Wind shifts can also occur suddenly due to temperature changes and interactions with slopes or hillsides, causing fires to spread unpredictably.

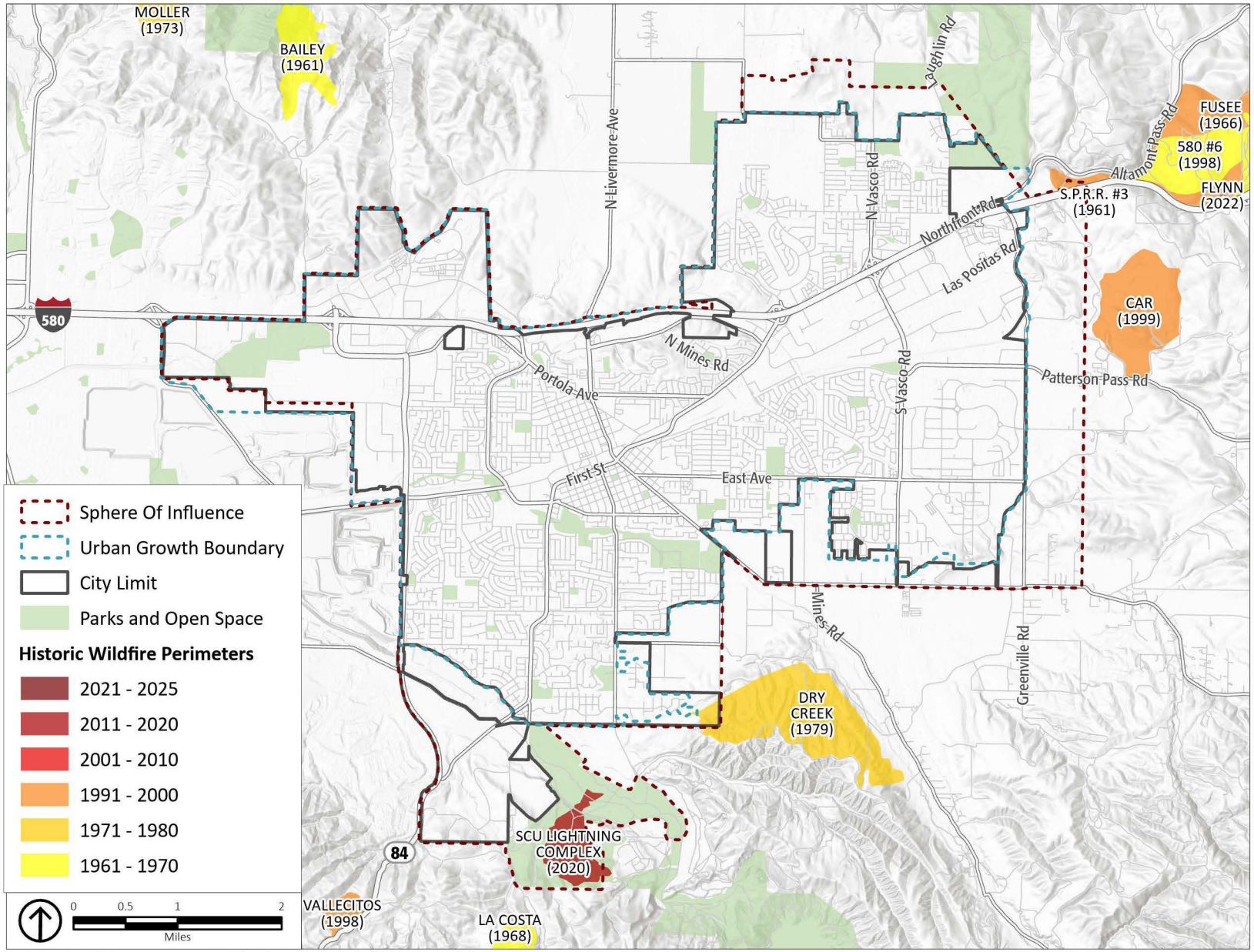
Fuel

The undeveloped lands within and surrounding the EIR Study Area are covered by natural vegetation and agricultural lands, which provide fuels such as grass and brush for wildfires. Each type of vegetation contributes to fire hazard severity to varying degrees. The qualities of vegetation that directly influence fire risk include fuel type and size, loading, arrangement, chemical composition, and dead and live fuel moisture, which contributes to the flammability characteristics of the vegetation. As described in Section 3.4, *Biological Resources*, landcover in the EIR Study Area consists of urban development areas, including residential, suburban, ruderal, ornamental woodland, and urban lands, agricultural lands with cropland, developed agriculture, orchard, and vineyard, and natural vegetation consisting of grasslands, scrub habitat, and oak woodlands. Grass, brush, and woodland fuel types react quickly to changes in weather such as low humidity or high wind speeds. Fires in areas covered by this vegetation type can spread quickly in gusty wind conditions.

Topography

Slope is a measure of land steepness; wildfire intensity and rate of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. For example, as slope increases from 20 to 40 percent, flame heights can double, and rates of fire spread can increase fourfold. The topography in the EIR Study Area is generally flat due to its location in the Livermore Valley, with hills along the northern, southern, and eastern edges. These areas would also be more susceptible to debris flow after a fire.

[2] The National Weather Service issues "red flag" weather day warnings when certain weather elements such as low relative humidity and strong winds could lead to increased wildfire risk.



Source: City of Livermore, 2022; California Department of Forestry and Fire Protection, 2025.

Figure 3.18-2
Historic Wildfires In or Near Livermore

Human Actions

Most wildfires are ignited by human action, the result of direct acts of arson, carelessness, or accidents. Many fires originate in populated areas along roads and around homes and are often the result of careless disposal of cigarettes, mowing dead grass, electrical equipment malfunction, equipment use, or burning debris. Recreation areas with increased human activity that are in high or very high fire hazard areas also increase the potential for wildfires.

Climate Change

Climate change is likely to increase annual average maximum temperatures in the EIR Study Area from a historical 72.6 degrees Fahrenheit (°F) to 77.3°F by 2050 and 80.4°F by 2100 (Cal-Adapt 2025a). This will likely create warmer temperatures earlier and later in the year. Precipitation levels are projected to increase slightly over the course of the century, changing from a historical annual average of 16.2 inches per year to an annual average of 17.3 inches by 2050 and an annual average of 18.9 inches by 2100 (Cal-Adapt 2025a). Variations in precipitation patterns will also lead to an increase in frequency and intensity of heavy precipitation events as well as prolonged periods of drought. The combination of extreme heat and droughts can cause soil and vegetation to dry out, creating more fuel for wildfires. These factors are expected to increase wildfire conditions, creating the risk of more frequent and intense wildfires. Because wildfires burn the vegetation that helps stabilize hillsides and absorb water, more areas burned by fire may also lead to an increase in landslides and floods. Historically, an average of 355 acres burned annually in the EIR Study Area (Cal-Adapt 2025b). Wildfires are projected to decrease to an annual average in the city of 292 acres burned annually by 2050 and an annual average of 209 acres burned annually by 2100 (Cal-Adapt 2025b).

FIRE PROTECTION RESOURCES

Fire services are provided by the Livermore-Pleasanton Fire Department (LPFD). In 1996, the Cities of Livermore and Pleasanton entered into a Joint-Powers Authority agreement, consolidating each City's fire department into the LPFD. The LPFD provides contract and automatic aid outside the cities of Livermore and Pleasanton within Alameda County and adjacent areas. The LPFD provides core services to approximately 89,000 Livermore residents over an area of 26 square miles. These services include all-risk emergency response, such as fire, emergency medical services, automobile accidents, hazardous materials, and county and statewide mutual aid. Additionally, LPFD provides mandated emergency readiness training, fire prevention plan checks and inspections, community education, and disaster preparedness. The LPFD also supports law enforcement to implement evacuation orders. LPFD has worked to adopt AC Alert and Genasys Protect (formally Zonehaven AWARE), a community emergency and evacuation interface tool, to facilitate successful emergency preparation and evacuation (LPFD 2025b).

The LPFD is organized into three branches: Administration, Fire Prevention, and Emergency Operations. The Fire Prevention branch focuses on risk reduction to the community through a performance-based approach and application of the codes and laws pertaining to fire, hazardous materials, and use of buildings and facilities. The Emergency Operation team prepares for, responds to, and provides all services related to emergency fire suppression; emergency medical service; traffic collisions; specialized rescue; and emergency hazardous materials response and property losses (i.e., water leaks, fallen trees, and downed wires). Additionally, Emergency Operations also conducts fire safety inspections for businesses and conducts public education outreach.

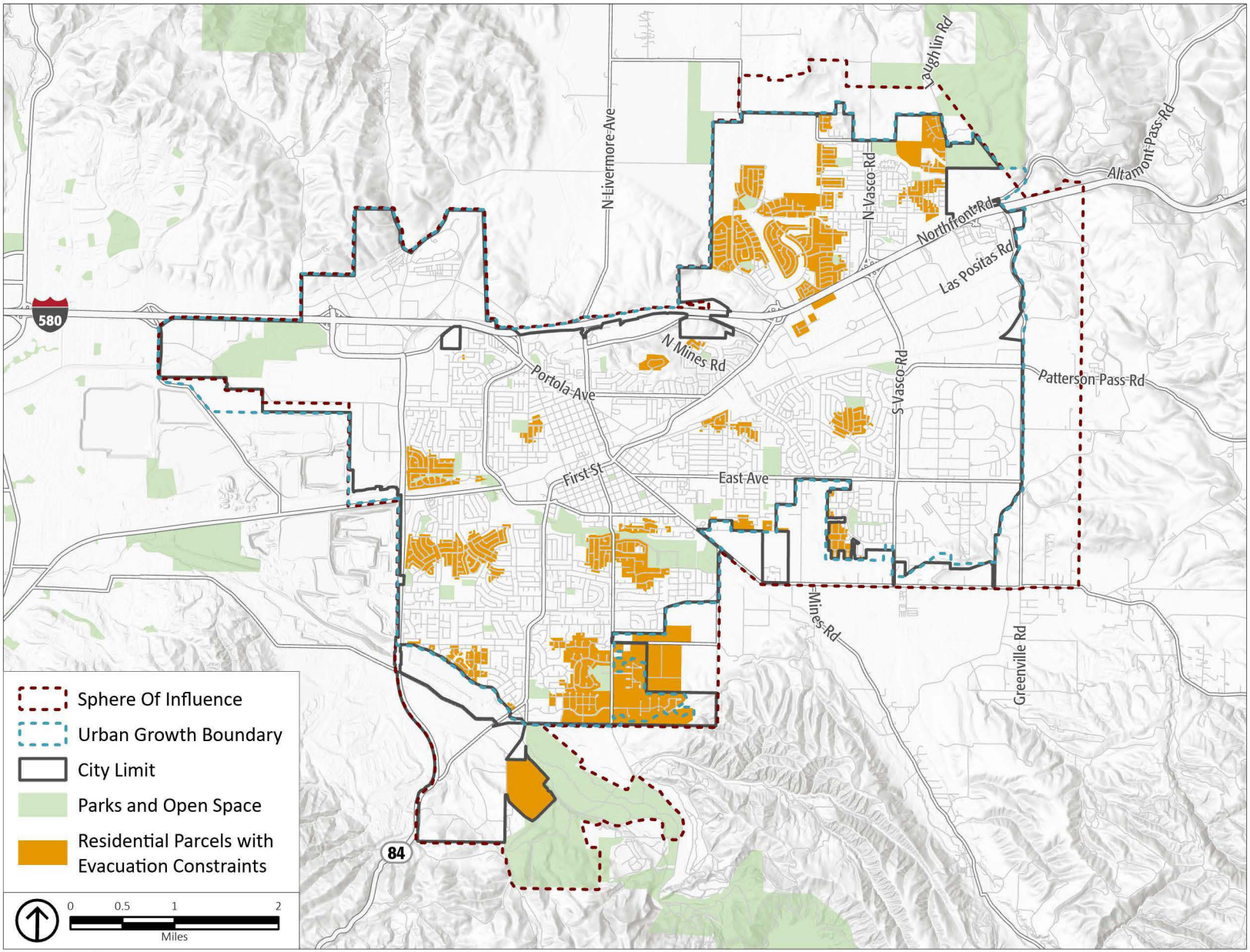
LPFD has 128 full-time-equivalent employees and four half-time employees, is headquartered in Pleasanton at 3560 Nevada Street, and operates and maintains five fire stations in the EIR Study Area (LPFD 2025a). Additional details about fire protection services are provided in Section 3.15, *Public Services, Parks, and Recreation.*

EVACUATION AND ACCESS

Evacuation routes are designated roadways that allow many people to quickly leave an area due to a potential or imminent disaster. These routes should have sufficient capacity to accommodate the needs of the community, be safely and easily accessible, and allow people to travel far enough away to be safe from emergency conditions.

The City has several evacuation routes crossing the EIR Study Area. The primary evacuation route that has capacity to transport the largest number of vehicles is I-580. Smaller potential routes include Holmes Street/Vallecitos Road, Concannon Boulevard, First Street, East Avenue, Vasco Road, Las Positas Road, Murrieta Boulevard, Railroad Avenue/Stanley Boulevard, Portola Avenue, East Airway Boulevard, and Livermore Avenue/Tesla Road. During emergencies, the LPFD coordinates evacuations warnings and orders. Evacuations are also coordinated through the Alameda County AC Alerts and Genasys Protect.

Several neighborhoods in the EIR Study Area have evacuation constraints. Figure 3.18-3, *Evacuation-Constrained Residential Areas*, shows identified evacuation-constrained residential areas throughout the EIR Study Area, some of which are in fire hazard severity zones pursuant to California Government Code Section 65302(g)(5). Evacuation-constrained residential areas are north of I-580 in the northeast portion of the EIR Study Area, scattered neighborhoods throughout the central portion of the EIR Study Area, and generally south of Stanley Boulevard, College Avenue, and East Avenue.



Source: City of Livermore, 2022.

Figure 3.18-3
Evacuation Constrained Residential Areas

3.18.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to wildfire if located in or near an SRA or lands classified as Very High FHSZs, and would:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

While much of the EIR Study Area is not in or near an SRA or lands classified as Very High FHSZs, because the EIR Study Area borders an SRA and lands classified as Very High FHSZs to the south of the City Limit as shown on Figure 3.18.1, the CEQA Guidelines standards for analysis are discussed in the following criteria sections (a) through (d).

3.18.4 Project Impact Analysis

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than significant. Adopted emergency response plans and emergency evacuation plans include those discussed under Section 3.18.1, *Regulatory Framework,* such as the Livermore EOP and the Tri-Valley LHMP.

Future development would be required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation, including the CBC, CFC, and LMC. The CBC and CFC regulate emergency access road design, establishing minimum unobstructed width, vertical clearance, and turning radii standards. Similarly, the LMC establishes local standards for roadway design, emergency vehicle access, and fuel management. Future development would be reviewed by the LPFD for compliance with applicable fire protection requirements. Compliance with these regulations would ensure that

future development can be adequately served by emergency response systems operating under the City's EOP and the Tri-Valley LHMP.

During construction, projects would be required to comply with applicable regulations regarding circulation. For example, depending on the location and size of a future development project, as determined by the City and LPFD, larger projects could be required to prepare and implement a construction traffic control/traffic management plan to ensure adequate traffic flow and to keep key routes open during construction. In addition, individual projects would be required to pay all applicable local and regional transportation impact fees to fund the construction of planned roadway improvements in the area as determined at the time of application. Review and approval of temporary lane closures, if needed, would ensure there would be no conflicts with an adopted emergency response plan or emergency evacuation plan during construction. Furthermore, the Safety (S) Element, and Mobility (M) Element of the proposed General Plan 2045 contain the following goals and policies that are designed to minimize impacts related to evacuation and emergency response:

- **Goal S-1:** Strengthen community preparedness, response, and resilience to hazards.
  - **Policy S-1.1: Integrated Emergency Planning and Coordination.** Regularly update, test, and incorporate the adopted *Tri-Valley Local Hazard Mitigation Plan* into this Safety Element by reference, as permitted by California Government Code Section 65302.6. Coordinate with regional partners and conduct periodic mock exercises to ensure effective emergency preparedness and response.
  - **Policy S-1.2: Emergency Communications and Alerts.** Expand and maintain reliable emergency communication systems that provide timely warnings and updates. Ensure communications are accessible to people in multiple languages and formats, and for people with access and functional needs. Participate in regional and State emergency alert systems as appropriate.
  - **Policy S-1.3: Evacuation Route Management.** Maintain and improve designated evacuation routes within the city, including roadway repairs and vegetation management. Coordinate with regional transportation agencies to ensure the safety and integrity of State-owned evacuation routes, such as Interstate 580 and State Route 84.
  - **Policy S-1.6: Community Emergency Response Team.** Continue to support and expand the Livermore-Pleasanton Community Emergency Response Team (CERT) to strengthen the City's volunteer emergency response capacity and community resilience.
  - **Policy S-1.7: Community Education and Preparedness.** Improve public safety through education, outreach, and training programs that engage residents, businesses, and community groups, especially those with access and functional needs. Activities may include emergency drills, first-aid training, hazard retrofits, and encouraging residents to maintain emergency supplies. Provide clear information on hazard risks and encourage participation in emergency alert systems.

- **Goal MO-5:** Provide a local circulation system that supports the reliable and efficient movement of people and goods while balancing safety with acceptable levels of service.
  - **Policy MO-5.14: Roadway Linkages.** Construct missing roadway links to complete the roadway system designated in the Mobility Element when warranted by roadway operating conditions.

Specifically, proposed Policy S-1.2 would require the expansion and maintenance of reliable emergency communication systems that provide timely warnings and updates, which would help facilitate evacuation in case of emergency. Proposed Policy S-1.3 would require the City to maintain and improve designated evacuation routes and coordinate with regional transportation agencies to ensure the safety and integrity of State-owned evacuation routes. Proposed Actions S-A-1.2 through S-A-1.4 would further support these policies by working with other agencies to increase access to and participation in emergency response systems, conducting an evaluation study to identify evacuation routes and constraints, and coordinating with transit providers to develop evacuation plans for those with special access or functional needs.

Future development would be required to comply with adopted State, regional, and local plans and regulations addressing emergency access, response, and evacuation, including the proposed General Plan 2045 goals and policies previously identified. As such, implementation of the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be **less than significant**.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant.

Slope

As discussed in Section 3.18.2, *Existing Conditions*, the topography of the EIR Study Area is generally flat with hills in the northern, eastern, and southern portions of the EIR Study Area that coincide with Moderate and High FHSZs. Construction of future development in these areas may require some grading and site preparation activities. Most future development would occur in the flatter portions of the EIR Study Area in infill locations. The ABAG/MTC Isabel Avenue/Bay Area Rapid Transit (BART) Station Planning Area Priority Development Area (PDA) is within a Moderate FHSZ in a hillier portion of the EIR Study Area. Therefore, development and redevelopment in the EIR Study Area could occur in areas with slopes.

All future development, including development within FHSZs and WUIs, would be required to comply with the CBC, CFC, CWUIC, LMC, and LDC grading standards, as applicable, which include standards to minimize the spread of wildfire and soil instability due to slopes. The CWUIC establishes requirements for ignition-resistant construction, defensible space, fire apparatus access, and water supply. The LMC includes provisions related to roadway design, emergency access, and vegetation management. The LDC grading standards regulate site design, slope modification, and erosion control measures to reduce soil instability and minimize wildfire risk associated with steep slopes and hazardous topography.

Additionally, the Safety (S) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts from the spread of wildfire:

- **Goal S-2:** Integrate hazard risk, vulnerability information, and climate adaptation into land use planning and development decisions
  - **Policy S-2.1: Hazard Information and Risk Reduction for New Development.** Provide natural and human-made hazard information to project applicants and recommend ways to reduce risks and inform design, siting, or construction measures to reduce risks and protect public health, safety, property, and the environment.
  - **Policy S-2.3: Risk Reduction in Planning.** Incorporate risk reduction considerations in new and updated infrastructure master plans, Capital Improvement Plans, and Specific Plans to reduce the impacts of natural hazards.
- **Goal S-5:** Plan new development with wildland fire hazards in mind.
  - **Policy S-5.2: Fire Hazard Development Review.** Review major land use development proposals in mapped Fire Hazard Severity Zones (Figure S-3 [of the General Plan]) for site design criteria and appropriate preventive and self-protective measures.
  - **Policy S-5.3: Fire Hazard Development Parameters**. Prohibit development in areas where any of the following would be required to substantially reduce fire hazard:
    a. Major modification of existing landforms
    b. Significant removal of, or potential damage to, established trees and other vegetation (unless designated for removal by an arborist)
    c. Exposure of slopes that cannot be suitably revegetated
  - **Policy S-5.4: Wildfire Hazard Area Development Parameters.** Restrict the development of new critical facilities and residential development to outside of Fire Hazard Severity Zones, as shown in Figure S-3 (of the General Plan), to the maximum extent possible. If new critical facilities or residential developments are constructed in these areas, require projects to incorporate fire-safe land use planning and design measures. For critical facilities, these measures shall allow the facility to continue to provide vital services during and after wildfires to the greatest extent feasible.

- **Policy S-5.5: Development in Fire Hazard Zones and Enforcing Safety Standards.** Review all proposed development in the Fire Hazard Severity Zones. Require any development in the Fire Hazard Severity Zones to comply with the California Wildland-Urban Interface Code, and to use the best development and site design practices as identified by the Fire Department.
- **Policy S-5.6: Fire Safety Plan.** Require the preparation of a fire safety plan for all new major developments in or sharing a boundary with Fire Hazard Severity Zones, as shown in Figure S-3 (of the General Plan). The fire safety plan shall address site-specific wildfire risk-reduction measures beyond standard building and fire code requirements, such as construction-phase fire prevention, emergency access and evacuation coordination, phasing of fuel management, water supply and fire flow, and coordination with the Livermore-Pleasanton Fire Department.
- **Policy S-5.8: Rebuilding After Wildfire.** Require redevelopment after wildfires to meet current California Building Code, California Fire Code, and California Fire Safe Standards to reduce future vulnerabilities to fire hazards through site preparation, layout design, fire-resistant landscaping, and fire-retarding building design and materials. Regularly re-evaluate development standards to ensure consistency with the latest wildfire regulations and best practices.

Specifically, proposed Policy S-5.3 would prohibit development in areas where exposure of slopes cannot be suitably revegetated to substantially reduce fire hazards. Proposed Policies S-5.5 and S-5.8 would require review of development proposals in FHSZ for site design criteria and appropriate preventative and self-protective measures as well as adherence to the California Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations.

Prevailing Winds

As discussed in Section 3.18.2, *Existing Conditions*, the EIR Study Area is prone to Diablo winds in the late summer and fall. These winds have high speeds and can shift suddenly, and they are often accompanied by low humidity. They create dangerous conditions for starting and spreading wildfires, and they also spread wildfire smoke hazards, as can prevailing winds.

Section 3.18.1, *Regulatory Framework*, describes plans, policies, regulations, and procedures that help reduce wildfire risks. The CAL FIRE Strategic Fire Plan, Tri-Valley LHMP, Alameda County CWPP, and Livermore EOP are intended to reduce wildfire hazards and coordinate response to these hazards on a statewide and regional scale. The CAL Fire Strategic Fire Plan and Tri-Valley LHMP identify extreme wind events as a primary factor influencing wildfire risk and establish fuel reduction, defensible space, and community preparedness strategies in high-risk areas. The Alameda County CWPP prioritizes vegetation management and evacuation improvements in wind-exposures WUI areas. The Livermore EOP establishes procedures for response during Red Flag Warning conditions, including evacuation coordination and public

notification during wind-driven fire events. In addition, the Bay Area Air District and Alameda County Department of Public Health provide air quality alerts, advisories, and an interactive online map to view current air quality conditions in the region.

Additionally, the same proposed General Plan 2045 goals and policies from the Safety (S) Element and Implementation Plan identified previously in this impact discussion under the "Slope" subheading would also serve to minimize exacerbation of wildfire risks from prevailing winds. Specifically, proposed Policies S-5.5 and S-5.8 would require review of development proposals in FHSZ for site design criteria and appropriate preventative and self-protective measures as well as adherence to the California Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations. Furthermore, the Safety (S) Element of the proposed General Plan 2045 includes Policy S-1.4, which requires the City to establish a network of equitably located resilience hubs that offer refuge from poor air quality due to regional wildfire smoke.

Future development would be required to meet State and local standards to reduce wildfire risks that may expose people in the EIR Study Area to pollutant concentrations from a wildfire, especially during Diablo wind events.

Vegetation

Other factors, such as vegetation, have the potential to exacerbate wildfire risks. The grassland, brush, and woodland areas of the EIR Study Area are easily ignited, especially during late summer and fall when temperatures and winds are high and relative humidity is low. During these conditions, vegetation can dry out, particularly in areas with unirrigated vegetation, becoming extremely flammable and increasing wildfire risks.

As described in Section 3.18.1, *Regulatory Framework*, the Tri-Valley LHMP, Alameda County CWPP, and Livermore CAP contain several vegetation management, fuel reduction and maintenance, and fuel break policies, programs, and projects to reduce the uncontrolled spread of wildfire due to vegetation on both public and private land. Additionally, all future development, including development within FHSZs and WUIs, would be required to comply with PRC Section 4291, the CFC, the CBC, CWUIC, and the LMC, as applicable. These regulations have specific requirements for new and existing development to create defensible space and extensive fuel reduction within 100 feet of a structure, an ember-resistant zone within 5 feet of a structure, and the overall maintenance of properties to reduce the risk of uncontrolled fires or the spread of fires to other properties.

Furthermore, the proposed General Plan 2045 goals and policies identified previously in this impact discussion under the "Slope" subheading, in addition to the following goal and policies from the Safety (S) Element, are designed minimize wildfire risk through vegetation management, which would also serve to reduce the risk of exposure of future project occupants from pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire:

- **Goal S-5:** Plan new development with wildland fire hazards in mind.
  - **Policy S-5.7: Defensible Space.** Coordinate with the Pacific Gas and Electric Company to maintain fire-resistant landscaping around power lines for residents with disabilities to maintain defensible space around their homes.
  - **Policy S-5.10: Debris and Brush Clearing.** Conduct regular debris and brush clearing along public City-owned roads to reduce fire risk. Coordinate with Caltrans to ensure clearing along State-owned roads and highways. Require private road owners to conduct regular debris and brush clearing through various mechanisms, such as the use of mechanical machinery, cattle grazing, or alternative methods. Implement and maintain the Annual Vegetation Management Program through the Livermore-Pleasanton Fire Department to remove hazardous vegetation on unimproved and undeveloped lots in Livermore and Pleasanton, ensuring these properties are maintained in a fire-safe manner.

Proposed Policy S-5.10 would require regular debris and brush clearing along public and private roads and implementation of the Annual Vegetation Management Program through the LPFD to remove hazardous vegetation on unimproved and undeveloped lots to ensure they are maintained in a fire-safe manner.

Summary

Therefore, through compliance with existing State and local regulatory requirements such as the CBC, CFC, CWUIC, PRC Section 4291, and the LMC, as well as implementation of the proposed General Plan 2045 goals and policies, future development would not expose people to the uncontrolled spread of wildfire or pollutant concentrations due to slope, prevailing winds, or other factors. Impacts would be **less than significant**.

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than significant. Future development would require the installation of new roadways, emergency water sources, transmission lines, and other utilities to serve future potential development in the EIR Study Area.

Development in the wildfire-prone areas would be required to comply with building and design standards in the CBC, CFC, and CWUIC, as applicable, which include provisions for fire-resistant building materials, clearance of debris, and fire safety requirements during demolition and construction activities. Additionally, PRC Section 4291 requires a defensible space within 100 feet of a structure and an ember-resistant zone within 5 feet of a structure. CPUC also requires maintenance of vegetation around power lines, strict wire-to-wire clearances, annual

inspections of aboveground power lines, and preparation of fire prevention plans for aboveground power lines in high-fire-threat districts.

Furthermore, the proposed General Plan 2045 goals and policies identified previously in impact discussion (a) and (b) and the following goals and policies from the Safety (S) Element are designed to minimize wildfire risk from installation or maintenance of roadways, emergency water sources, and power lines:

- **Goal S-4:** Maintain a safe environment in Livermore through effective fire prevention, emergency response, and collaboration with regional partners and the community.
  - **Policy S-4.8: Water Supply for Firefighting.** Maintain a reliable supply of water for firefighting purposes through long-term water supply planning and installation and maintenance of fire hydrants, storage tanks, and other necessary infrastructure. Coordinate with the California Water Service Company regarding the effects of planned water system improvements on fire flows.
- **Goal S-10:** Make Livermore resilient to the impacts of severe weather and extreme temperatures.
  - **Policy S-10.10: Electrical Grid Reliability.** Coordinate with energy providers, infrastructure operators, and state regulators to ensure the safety and reliability of the local electrical grid to improve energy resilience and minimize the impacts of severe weather and extreme temperatures. Underground existing utilities to reduce damage and service interruptions from severe weather.

Specifically, proposed General Plan 2045 Policy S-1.3 would require the City to maintain and improve designated evacuation routes, including roadway repairs and vegetation management, and coordinate with regional transportation agencies to ensure the safety and integrity of State-owned evacuation routes. Proposed Policy S-5.11 would require regular debris and brush clearing along public and private roads. These policies would serve to ensure such roadways are properly maintained, including removal of vegetation, as necessary, to reduce wildfire risk. Policies S-4.8 would ensure that existing and future development have sufficient water supplies for fire-fighting purposes and structural suppression. Policy S-10.10 would require undergrounding of existing electrical utilities throughout the EIR Study Area, consistent with LMC Chapter 13.48, which would reduce the ignition risk of such infrastructure.

Infrastructure and maintenance activities would be required to comply with the adopted State regulations, CBC, CFC, CWUIC, LMC, and the proposed General Plan 2045 policies, as applicable, which would reduce exacerbating wildfire risks associated with the installation or maintenance of such infrastructure. Therefore, impacts would be **less than significant**.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than significant. As shown on Figure 3.10-3, *Flood Zones,* in Section 3.10, *Hydrology and Water Quality*, parts of the EIR Study Area in the 100-year flood zone include areas along Arroyo Del Valle in the southwestern part of the EIR Study Area; Altamont Creek between Broadmoor and Springtown Boulevard; Las Positas Creek from I-580 to El Charro Road; and Arroyo Mocho from Wente Street to Stanly Boulevard and a segment extending from approximately 0.5 miles west of Isabel Parkway to El Charro Road. The 500-year flood zone primarily includes residential areas along the railroad east of First Street, areas north along Altamont Creek, and the Livermore Municipal Airport.

As shown on Figure 3.7-3, *Landslide Susceptibility*, in Section 3.7, *Geology and Soils*, slopes in the hills along the northern, southern, and eastern edges of the EIR Study Area are in areas with moderate to high landslide susceptibility. Some of these areas are near existing residential neighborhoods. These areas are considered prone to earthquake-caused landslides and susceptible to landslides from precipitation and other causes.

Future development must comply with State and local regulations, such as the CBC and LMC, both of which have provisions to reduce flooding and landslides. The CBC requires a geotechnical investigation that must assess existing landslide susceptibility on a project site and regulates grading, fill placement, slope setbacks, retaining walls, and erosion control to prevent slope failure. LMC Chapter 16.12 also provides regulations to minimize losses from flooding, including restricting uses in areas prone to flooding or erosion, requiring such uses to be protected against flood damage, controlling the alteration of natural floodplains, and controlling filling or dredging that may increase flood hazards. Future development would also be required to comply with best management practices regarding wildfire prevention, action, and recovery, as outlined in the Tri-Valley LHMP and Livermore EOP. The Tri-Valley LHMP identifies mitigation actions such as slope stabilization and erosion control project and stormwater system improvements to reduce downstream flooding. The Livermore EOP establishes procedures for post-fire storm events, including public notification systems for downstream or downslope hazard exposures.

Additionally, the Safety (S) Element of proposed General Plan 2045 contains the following goals and policies that are designed to minimize impacts from flooding and landslides:

- **Goal S-6:** Reduce impacts from geologic and seismic hazards.
  - **Policy S-6.2: Geotechnical Investigations for Development Projects.** Require a site-specific geotechnical investigation for new urban development approval in Alquist-Priolo Earthquake Fault Zones, areas of high landslides susceptibility, and other areas subject to high or moderate geologic hazard, as shown on Figures S-5 and S-7 (of the General Plan)

so that projects are constructed in a manner that mitigates site-specific geotechnical challenges and minimizes the risk from seismic hazards.

- **Policy S-6.7: Erosion and Slope Failure.** Prohibit construction in areas with severe erosion (slopes over 10 percent), as mapped by the US Department of Agriculture's Natural Resources Conservation Service, and in areas susceptible to slope failure, unless it can be clearly demonstrated through geotechnical engineering analysis that the project will not contribute to increased erosion, sedimentation, or runoff.

- **Goal S-7:** Minimize flood risks to people, property, and critical infrastructure.
  - **Policy S-7.3: Development in Flood Zones.** New development in the 100-year flood zone must avoid obstructing flood flows, increasing erosion, flood risks, pollutant loads, or degrading water quality. Design development to improve community safety, flood protection, and stormwater management, ensuring clear and reliable emergency access, and minimizing public costs associated with emergency response and infrastructure maintenance.
  - **Policy S-7.4: Critical Facilities in Flood Zones.** Prohibit the construction of new critical facilities in the 100-year flood zone, except for flood-control infrastructure.
  - **Policy S-7.5: Flood-Resilient Infrastructure.** Require new public and private service facilities in flood zones to be floodproofed to or above the base flood elevation, including required freeboard, as determined on a project-specific basis.
  - **Policy S-7.6: Essential Facility Integrity.** Ensure essential public facilities maintain structural and operational integrity during and after flood events.

Specifically, proposed Policies S-6.2 and S-6.7 would require site-specific geotechnical investigation for development approval in areas of high landslides susceptibility and prohibit construction in areas susceptible to slope failure, unless it can be clearly demonstrated through geotechnical engineering analysis that the project will not contribute to increased erosion, sedimentation, or runoff. Proposed Policy S-7.3 would require new development in the 100-year flood zone to avoid obstructing flood flows, increasing erosion, flood risks, pollutant loads, or degrading water quality. Proposed Action S-A-6.1 would further support these policies by requiring detailed fault shear zone studies to define building setback requirements.

In addition to the proposed General Plan 2045 goal and policies identified, see Section 3.7, *Geology and Soils*, and Section 3.10, *Hydrology and Water Quality*, for complete lists of goals and policies that would minimize risk of landslides and flooding.

All future development would be required to comply with adopted State, regional, and local plans and regulations addressing wildfire prevention, including the proposed General Plan 2045 goals and policies identified, which would minimize risks of postfire hazards, such as slope instability or drainage changes. Compliance with these regulatory requirements would ensure that impacts from postfire instability would be less than significant. Therefore, this impact is **less than significant**.

3.18.5 Cumulative Impact Analysis

The implications of wildfire extend beyond the EIR Study Area. Accordingly, the cumulative setting for wildfire includes the EIR Study Area as well as the surrounding unincorporated county, local jurisdictions, including the cities of Dublin and Pleasanton, and State lands within Moderate, High, or Very High FHSZs in the SRA and LRA. The following discussion considers the proposed Project's potential cumulative contribution to the adverse effects of wildfire.

Would the project have a cumulative effect related to wildfire?

Less than significant. Future development would not impair an adopted emergency response plan or emergency evacuation plan, would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire of uncontrolled spread of wildfire, would not exacerbate wildfire risks due to the installation or maintenance of infrastructure, and would not cause downslope or downstream post-fire flooding or landslide hazards. Similar to the City of Livermore, the cities of Dublin and Pleasanton are largely urbanized, generally outside the SRA and Very High FHSZs and include roads and other fuel breaks, emergency water sources, emergency utilities and maintain other infrastructure that would reduce impacts from wildfires. While unincorporated and incorporated areas, such as Dublin and Pleasanton, near the EIR Study Area are within Moderate and High FHSZs in both SRAs and LRAs, cumulative development in these areas would be subject to the same State regulations as the proposed Project that are intended to reduce the impacts from wildfire.

Future potential development in the EIR Study Area and the surrounding region would be required to consider potential impairment to any applicable emergency response plan or evacuation plan as approved under that applicable authority. Additionally, future development in the EIR Study Area and the surrounding region would be required to comply with the same State and regional regulations, such as PRC Section 4291, CBC, CFC, CWUIC and the Tri-Valley LHMP. Lands throughout eastern Alameda County would also implement wildfire reduction strategies through implementation of the Alameda County CWPP, Alameda County EOP, the Alameda County LHMP, applicable goals and policies in the Alameda County General Plan, and the Alameda County Municipal Code. These provisions establish requirements for ignition-resistant building materials, ember-resistant attic vents, enclosed eaves, fire-resistant decking, and the maintenance of defensible space consistent with PRC Section 4291. Compliance with these regulations would reduce the potential for structure ignition and wildfire spread and associated postfire hazards. Therefore, cumulative conditions would not create or exacerbate any cumulative wildfire impacts and cumulative wildfire impacts would be **less than significant**.

3.18.6 References

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4. ALTERNATIVES TO THE PROPOSED PROJECT

4.1 INTRODUCTION

This chapter presents the alternatives analysis for the proposed Project, as required by the California Environmental Quality Act (CEQA). CEQA requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6[a]).

The discussion includes an explanation of the methodology used to select alternatives to the proposed Project, with the intent of identifying potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified for the proposed Project while still meeting most of the basic project objectives, pursuant to CEQA Guidelines Section 15126.6(a). This chapter identifies a reasonable range of alternatives that meet these criteria, and these alternatives are evaluated with respect to minimizing adverse environmental effects as compared to the proposed Project. It also describes other alternatives and alternative concepts that were considered but eliminated from detailed consideration and the reasons for their elimination. For the alternatives selected for analysis, this chapter evaluates the impacts of the alternatives against baseline environmental conditions and compares the potential impacts of the alternatives with those of the proposed Project. Finally, as required under CEQA Guidelines Section 15126.6(e), based on this analysis, this chapter then discusses the Environmentally Superior Alternative.

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed Project that would avoid or substantially lessen any of the significant effects of the proposed Project. Section 15126.6, *Consideration and Discussion of Alternatives to the Proposed Project*, of the CEQA Guidelines states that:

> An EIR shall describe a range of reasonable alternatives to the project, or 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. 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. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for

> selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

4.2 FACTORS CONSIDERED WHEN DEVELOPING ALTERNATIVES

This section describes the basis for determining the range of CEQA alternatives and identifies the specific alternatives that are analyzed in this Draft EIR. The primary factors considered when determining feasible alternatives to the proposed Project are the identified project objectives and those significant impacts that have been identified for the proposed Project. Section 15126.6(c) of the CEQA Guidelines states:

> The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. 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. Additional information explaining the choice of alternatives may be included in the administrative record.

Therefore, these two considerations are summarized below.

4.2.1 Project Objectives

Chapter 2, *Project Description*, of this Draft EIR provides objectives that have been established for the proposed Project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts. These objectives are listed in Section 2.5, *Project Objectives*. In this alternatives analysis, Table 4.3, *Ability to Meet Proposed Project Objectives*, compares the degree to which each alternative meets the project's objectives, identifying whether an alternative meets, partially meets, or does not meet the stated objectives.

4.2.2 Significant Impacts

As described, apart from the No Project Alternative, other alternatives to a project should be evaluated because of their ability to feasibly attain most of the basic objectives of the project and avoid or lessen the project's identified significant impacts. The proposed Project would result in eight significant impacts.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

All the potential environmental impacts associated with adoption and implementation of the proposed Project were found to be either less than significant without mitigation or less than significant with mitigating General Plan 2045 goals and policies, except for impacts to agricultural resources (AGR), air quality (AQ), greenhouse gas emissions (GHG), mineral resources (MIN), and noise (NOI), which were found to be significant and unavoidable at the program level. As described in the impact discussions of these sections, although the proposed Project results in significant and unavoidable impacts, the identification of these program-level impacts does not preclude the finding of less-than-significant impacts for subsequent development proposals analyzed at the project level that do not exceed the applicable project-level thresholds. The program-level significant and unavoidable impacts include the following:

Agricultural Resources

- **Impact AGR-1:** Implementation of the proposed Project could result in the conversion of Prime Farmland, Unique Farmland, and 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 nonagricultural uses.
- **Impact AGR-2:** Implementation of the proposed Project could conflict with existing zoning for agricultural use and Williamson Act contracts.
- **Impact AGR-3:** Implementation of the proposed Project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.
- **Impact AGR-4:** Implementation of the proposed Project could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), existing zoning for agricultural uses, and Williamson Act properties, and farmland to nonagricultural uses.

Air Quality

- **Impact AQ-2:** Implementation of the proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard during construction and operation.

- **Impact AQ-5:** Implementation of the proposed Project could result in cumulative air quality impacts with respect to generation of criteria pollutants and exposure of substantial pollutant concentrations at sensitive receptors.

Greenhouse Gas Emissions

- **Impact GHG-1:** Implementation of the proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- **Impact GHG-2:** Implementation of the proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- **Impact GHG-3:** Implementation of the proposed Project could result in a significant cumulative impact with respect to generation of greenhouse gas (GHG) emissions that may have a significant impact on the environment and conflict with an applicable plan adopted for the purpose of reducing GHG emissions.

Mineral Resources

- **Impact MIN-1:** Implementation of the proposed Project could result in the loss of availability of known mineral resources that would be of value to the region and the residents of the State.
- **Impact MIN-3:** Implementation of the proposed Project could result in a significant cumulative impact with respect to the loss of availability of known mineral resources that are of value to the region and the residents of the State.

Noise

- **Impact NOI-1:** Implementation of the proposed Project could generate 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.
- **Impact NOI-4:** Implementation of the proposed Project could generate 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, resulting in a significant cumulative impact.

4.3 ALTERNATIVES CONSIDERED BUT REJECTED

As described in Section 4.1, *Introduction*, CEQA Guidelines Section 15126.6(c) requires EIRs to 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. CEQA Guidelines Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. The following is a discussion of alternatives considered and rejected, along with the reasons that alternative was not included in the analysis.

4.3.1 Reduced Housing Alternative

The City considered alternatives that would potentially reduce the impacts from development consistent by reducing the proposed buildout potential, including the amount of potential housing development. The City rejected any alternative that would reduce the amount of housing due to the ongoing housing crisis.

None of the significant and unavoidable impacts are directly attributable to the increase in housing or population, therefore a reduction in housing, no matter the reduction, would reduce these impacts to a less-than-significant level. For example, with respect to GHG emissions, implementation of the proposed Project would result in a net decrease in GHG emissions from existing conditions (4.8 $MTCO_2e$/SP to 3.5 $MTCO_2e$/SP). The significant unavoidable impact is related to the 2022 Climate Action Plan's (CAP's) long-term per-capita efficiency target of zero $MTCO_2e$ per person per year, which relies, in part, on future technological advancements and statewide actions that are outside the City's authority.

The State of California has enacted several laws intended to address California's housing needs. California Housing Element Law (Government Code Sections 65580-65589.8) includes provisions related to the requirements for Housing Elements of local government General Plans. These requirements include an assessment of housing needs and an inventory of resources and constraints relevant to meeting these needs. Additionally, to ensure that counties and cities contribute to the attainment of the State housing goals, this section of the Government Code calls for local jurisdictions to plan for and allow the construction of a share of the region's projected housing needs, known as the Regional Housing Needs Allocation (RHNA). Pursuant to Senate Bill 166, Housing Elements are required to include a "buffer" of additional sites to ensure that if the sites listed in the housing opportunity sites inventory are developed without housing, or are developed with less than the full amount of housing claimed in the inventory, there is remaining capacity to ensure an ongoing supply of sites for the full RHNA during the eight years of the Housing Element cycle. The proposed General Plan 2045 land use map includes enough land designated for housing to fulfill the City's 2023-2031 RHNA and buffer, as

well as future housing sites that may need to be identified in the upcoming 7th cycle Housing Element, which will cover the period 2032-2040, within the horizon of General Plan 2045. The land use map cannot legally or feasibly include less housing or residential density than proposed.

This alternative is fundamentally flawed in that it reduces the amount of housing during an ongoing housing crisis, is antithetical to State law, and does not meet the basic project objective of "plan[ning] for diverse housing choices so that individuals and families of all income levels and lifestyle can find housing, while also meeting the State-mandated RHNA requirements for the current and estimated future housing cycles through 2045." CEQA Guidelines Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. Therefore, due to the well-documented housing crisis and the lack of housing in Livermore and inability of this alternative to meet basic project objectives or avoid significant environmental impacts, a reduced housing alternative is considered infeasible.

4.3.2 Expanded Urban Growth Boundary and Sphere of Influence Alternative

During the General Plan update process, the expansion of the Urban Growth Boundary (UGB) and/or Sphere of Influence (SOI) east of Greenville Road was considered to provide additional industrial land and meet the City's goals for job creation and a stable local economy. The General Plan land use alternatives for this area also explored opportunities for a research or educational campus and enhanced preservation of open space and vineyard areas in and around the study area. This alternative would require a ballot measure for Livermore voter consideration to expand the UGB before those land uses could take effect. After the completion of the General Plan land use alternatives evaluation, and based on consideration of input from the community, the General Plan Advisory Committee, and Planning Commission, the City Council directed that the proposed General Plan 2045 should not identify land use designations in the East of Greenville Road area or propose expanding the UGB. Instead, the City Council directed that the General Plan should include policies that identify conditions under which it would be appropriate to study future land uses for this area.

Although the expansion of the UGB was considered as one potential land use alternative during the General Plan update process, as noted previously, CEQA Guidelines Section 15126.6 describes a different role for the alternatives to the proposed project in an EIR. In this Draft EIR, "[t]he range of potential alternatives to the proposed project shall include those that could… avoid or substantially lessen one or more of the significant effects." The City finds that with implementation of the proposed General Plan 2045 land use map and goals and policies that require the evaluation and mitigation of impacts from future development, the expansion of the

UBG and/or SOI is not required to accommodate the proposed potential buildout or to reduce any potentially significant impacts. Rather, the City finds that the potential expansion of the UGB or SOI to accommodate growth in areas would potentially increase impacts caused by developing on undisturbed lands and on lands further away from core services areas such that vehicle miles traveled (VMT) could be increased when compared to the proposed Project. Therefore, this alternative was rejected and is not included in this alternatives analysis.

4.4 ALTERNATIVES SELECTED FOR ANALYSIS

The following alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the proposed Project and that may avoid or substantially lessen any of the significant impacts of the proposed Project.

- **Alternative A:** No Project Alternative (Existing General Plan)
- **Alternative B:** Reduced Industrial and Concentrated Residential Alternative

4.5 ALTERNATIVE A: NO PROJECT ALTERNATIVE

Pursuant to CEQA Guidelines Section 15126.6(e)(1), the No Project Alternative (Alternative A) is required as part of the "reasonable range of alternatives" to allow decision makers to compare the impacts of approving the proposed Project with the impacts of taking no action or not approving the proposed Project. Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), when the project is the revision of a plan, as in this case, the no project alternative would be the continuation of the existing plan. Under Alternative A, future development would continue to be subject to existing policies, regulations, development standards, and land use designations of the existing 2003 General Plan. Alternative A would not implement the Livermore Municipal Code (LMC) and Livermore Development Code (LDC) amendments associated with the proposed General Plan 2045.

As described in Chapter 2, *Project Description,* of this Draft EIR, the existing General Plan included a horizon year of 2025. Several State and federal laws guiding General Plan policies have also been updated during this time. Many of the community issues vetted in the current General Plan are still relevant, well addressed, and do not require major changes. However, Alternative A would not incorporate new topics that are now required by State law, such as environmental justice, and would not revise relevant goals and policies to meet those requirements.

Pursuant to CEQA Guidelines Section 15126.6(e)(3)(C), the City of Livermore, acting as the lead agency, should analyze the impacts of Alternative A by projecting what would reasonably be expected to occur in the foreseeable future if the proposed Project were not approved, based on current plans and consistent with available infrastructure and community services. Future

development consistent with Alternative A would not increase development potential in Livermore beyond what was considered in the existing General Plan. Alternative A assumes the projected buildout in Table 4-1, *Projected Buildout Under the Proposed Project and Alternative A*, would occur through 2045. No General Plan land use designations changes or LMC and LDC amendments would be required to accommodate these uses.

As shown in Table 4-1, Alternative A would result in less residential and population growth when compared to the proposed Project, but higher job growth since the existing General Plan would continue the nonresidential land use designations in the Midtown Specific Plan Area and Vasco Row area. The existing General Plan overestimated job growth and the projections for the proposed Project are based on the past 20 years of data and are more realistic.

Table 4-1 Projected Buildout Under the Proposed Project and Alternative A

Category	Proposed Project	Alternative A: No Project	Difference between Proposed Project and Alternative A
Housing Units	49,640	48,078	1,562 less housing units
Total Population	131,750	136,079	4,329 more people
Jobs	63,330	62,499	831 less jobs

Source: Kittelson and Associates Inc. 2023.

Note: Numbers are rounded from original sources.

4.5.1 Aesthetics

As described in Section 3.1, *Aesthetics*, of this Draft EIR, the proposed Project would not result in any significant impacts related to aesthetics.

The EIR Study Area contains scenic views featuring natural landscape, rolling hills, and ridgelines, especially as seen from the Interstate (I-) 580 scenic corridor. Development under both the proposed Project and Alternative A could potentially impact views from I-580, a State scenic highway. Future development subject to discretionary approval would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, as well as various planning documents that govern scenic quality. Alternative A would protect scenic views and establish inviting gateways into Livermore by continuing the existing I-580 Scenic Corridor Implementation requirements as part of the General Plan rather than adopting the Scenic Resources Overlay District. Therefore, impacts related to scenic views and views from I-580 would be similar under Alternative A.

Under both the proposed Project and Alternative A, future development subject to discretionary approval would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, as well as various planning documents that govern scenic quality in the city to be confirmed during the project approval process. As such,

the proposed Project and Alternative A would not conflict with applicable zoning or other regulations and impacts would be similar.

Similar to the proposed Project, Alternative A would result in future development and activities that could intensify lighting sources and incrementally increase glare throughout the EIR Study Area. In addition to the general best management practices (BMPs) that require lighting that is context sensitive in style and intensity required under CALGreen (California Green Building Standards Code, Title 24, Part 11), future development under both the proposed Project and Alternative A would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, as well as various planning documents that govern scenic quality in the city. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal CI-11 to protect the nighttime sky as a significant scenic resource of Livermore. Therefore, impacts related to light and glare would be greater under Alternative A.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to aesthetics would be **greater** when compared to the proposed Project.

4.5.2 Agricultural Resources

As concluded in Section 3.2, *Agricultural Resources*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the loss of Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) and conflict with Williamson Act contracts due to the potential conversion of Farmland to nonagricultural land uses. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the conversion of qualifying agricultural lands, but not to a less-than-significant level and impacts would remain significant and unavoidable.

The EIR Study Area includes 338 acres of Prime Farmland, 728 acres of Unique Farmland, and 409 acres of Farmland of Statewide Importance. The EIR Study Area also contains 1,317 acres of land zoned for Agriculture (OS-A), Planned Development/Agriculture (PD-AG), and South Livermore Valley/Agriculture (SLV-AG) and 1,909 acres of agricultural land under Williamson Act contracts. Like the proposed Project, Alternative A would allow similar land use patterns that allow conflicting uses on Farmland, land zoned for agricultural uses, and agricultural land under Williamson Act contracts. Impacts related to the conversion of Farmland and conflict with existing agricultural zoning and Williamson Act contracts would be similar under Alternative A.

Similar to the proposed project, Alternative A would result in potentially incompatible urban uses next to farms or ranches, creating circumstances that could impair the productivity and profitability of agricultural operations, and could eventually lead farmers to take their land out of production. Under both the proposed Project and Alternative A, the City would be required

to collaborate with Alameda County and Alameda County Local Agency Formation Commission (LAFCO) to protect existing land uses from development inappropriate for rural areas. As such, impacts would be similar.

Overall, impacts under Alternative A related to agricultural resources would be **similar** when compared to the proposed Project.

4.5.3 Air Quality

As concluded in Section 3.3, *Air Quality*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the construction and operation of development generating emissions that would exceed the Bay Area Air District's regional significance thresholds and cumulatively contribute to the nonattainment designations of the San Francisco Bay Area Air Basin (SFBAAB). Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the generation of emissions, but not to a less-than-significant level and impacts would remain significant and unavoidable.

The 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by the Association of Bay Area Governments (ABAG), which are based in part on cities' General Plan land use designations. Neither the proposed Project nor Alternative A would exceed the regional growth projections and would not conflict with the 2017 Clean Air Plan. Thus, there would be a similar impact.

New development under both the proposed Project and Alternative A would increase air pollutant emissions and contribute to the overall emissions inventory in the SFBAAB, as well as expose sensitive receptors to pollutant concentrations. Permitted sources of emissions under the proposed Project and Alternative A would be regulated by the Air District to ensure that, on a project-by-project basis, emissions achieve their permit thresholds. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal OS-6 to limit air pollutant emissions and provide adequate buffer distances and appropriate mitigation to protect sensitive receptors. However, because the proposed Project and Alternative A would both result in net increase of criteria pollutants and exposure of sensitive receptors to substantial pollutant concentrations, impacts would be similar.

Similar to the proposed Project, Alternative A would result in odor emissions. Odors are regulated under Air District Regulation 1, Rule 1-301, *Public Nuisance*. Future development under both the proposed Project and Alternative A would be required to comply with Air District Regulation 1, which would ensure that odor impacts associated with the proposed Project are minimized. Therefore, impacts would be similar.

Overall, the proposed Project and Alternative A would result in **similar** air quality impacts when compared to the proposed Project.

4.5.4 Biological Resources

As concluded in Section 3.4, *Biological Resources*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to wildlife movement with implementation of Mitigation Measure BIO-4 requiring bird-safe design measures by project applicants to reduce potential impacts on migratory and resident birds to less than significant.

Future development under both the proposed Project and Alternative A would require compliance with all federal, State, and local regulations to protect special-status species, riparian habitats, wetlands, and wildlife movement corridors. This includes the requirements of the United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), the strategies of the East Alameda County Conservation Strategy (EACCS), and the BMPs of the Stream Maintenance Program (SMP).

However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal OS-2 to adopt the Livermore Habitat Conservation Plan (HCP) and coordinate with other agencies to plan for wildlife linkage. Additionally, Alternative A would not include Mitigation Measure BIO-4 to reduce potential impacts on migratory and resident birds.

The proposed Project would provide additional protection and coordination mechanisms that Alternative A would not. Because Alternative A would not incorporate these policies and mitigation measures, its impacts on special-status species, riparian habitat, wetlands, and wildlife movement corridors would be greater than those of the proposed Project.

Neither the proposed Project nor Alternative A would conflict with any local policies or ordinances protecting biological resources or the provisions of an adopted HCP. As such, impacts would be similar.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project and Mitigation Measure BIO-4, impacts under Alternative A related to biological resources would be **greater** when compared to the proposed Project.

4.5.5 Cultural and Tribal Cultural Resources

As described in Section 3.5, *Cultural and Tribal Cultural Resources*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to unknown archaeological and tribal cultural resources with implementation of Mitigation Measures CUL-2, CUL-4, and CUL-5, which would ensure that archaeological and tribal cultural resources identified during construction would be identified, evaluated, and protected or appropriately treated.

Future development under both the proposed Project and Alternative A would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, including the Historic Preservation Ordinance. Future development would also be subject to the procedures of conduct following the discovery of human remains as mandated by CEQA Section 15064.5(e), PRC Section 5097.98, and Health and Safety Code Section 7050.5. Impacts related to historic resources and human remains would be similar to the proposed Project under Alternative A.

Under the proposed Project and Alternative A, future development would be subject to PRC Section 5097.5(a), which specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any archaeological sites without the express permission of the public agency having jurisdiction over the lands. Tribal consultation pursuant to AB 52 and SB 18 would also be required, as appropriate. However, new and modified General Plan 2045 goals and policies serve as means to reduce environmental impacts under CEQA. For example, CI-12.6 directs the City to respect and protect tribal cultural resources and maintain a collaborative relationship with local Native American tribal representatives. Alternative A would not realize the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project. In addition, Alternative A would not implement Mitigation Measures CUL-2, CUL-4, and CUL-5, which ensure that archaeological and tribal cultural resources identified during construction would be identified, evaluated, and protected or appropriately treated. Impacts related to archaeological and tribal cultural resources would be greater under Alternative A.

Overall, without inclusion of Mitigation Measures CUL-2, CUL-4, and CUL-5 and adoption of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to cultural and tribal cultural resources would be **greater** when compared to the proposed Project.

4.5.6 Energy

As described in Section 3.6, *Energy*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to energy.

Future development under both the proposed Project and Alternative A would be required to comply with building requirements in the California Green Building Code and Building and Energy Efficiency Standards, which would ensure new development would not result in wasteful or inefficient energy usage. Compliance with LMC Chapter 15.26 and the 2022 CAP would further support the incorporation of electric and energy efficiency systems in new development.

However, Alternative A would not include the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, specifically the policies under Goal OS-8 to promote clean and resilient energy through increased energy efficiency and support the statewide goal of transitioning the electricity grid to renewable sources. These additional policies would further encourage reductions in energy consumption and support consistency with State and local renewable energy and energy-efficiency objectives.

While both the proposed Project and Alternative A would comply with existing regulatory requirements, the proposed Project would provide additional policy direction that would further reduce energy use and strengthen consistency with applicable State and local plans. Therefore, Alternative A would result in greater impacts related to energy efficiency and consistency with renewable energy and energy-efficiency plans.

Therefore, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to energy would be **greater** when compared to the proposed Project.

4.5.7 Geology and Soils

As described in Section 3.7, *Geology and Soils*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to geology and soils.

Portions of active faults in the EIR Study Area are designated within Alquist-Priolo Earthquake Fault Zones, which have a high likelihood of producing intense ground shaking. Much of the EIR Study Area is in an area of high liquefaction susceptibility and some portions are landslide prone. There is also potential for collapsible and expansive soils. Future development under both the proposed Project and Alternative A would be subject to the same federal, State, and local regulations that address and prevent hazards associated with geology, soils, and seismicity, including the California Building Code (CBC), Construction General Permit (CGP), LMC, and LDC. Alternative A would have similar impacts related to seismic hazards, soil erosion, unstable soils, and alternative wastewater systems as the proposed Project.

Geological formations underlying the EIR Study Area have the potential to contain unique paleontological resources. Under both the proposed Project and Alternative A, future development would be required to comply with the federal Paleontological Resources Preservation Act and Public Resources Code (PRC) Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal CI-5 to protect paleontological resources. Impacts related to paleontological resources would be greater under Alternative A.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to geology and soils would be **greater** when compared to the proposed Project.

4.5.8 Greenhouse Gas Emissions

As concluded in Section 3.8, *Greenhouse Gas Emissions*, of this Draft EIR, implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to GHG emissions and CAP consistency, but not to a less-than-significant level, and impacts would be significant and unavoidable.

Under Alternative A, the existing General Plan would remain and not be updated to reflect current federal and State laws, including the State's GHG reduction goal for year 2045 under Assembly Bill (AB) 1279. Alternative A would not achieve the GHG reduction goals under AB 1279 and would not include the new or modified General Plan 2045 goals and policies developed to support GHG reduction, climate adaptation, and sustainability. As a result, Alternative A would not provide the updated and enhanced policy direction for reducing GHG emissions that is included in the proposed Project.

Climate adaptation and sustainability has been woven into all the elements of the proposed General Plan 2045, including, among others, new policies in the Land Use Element that call for transit-supportive development, maximizing infill development, planning for climate change, considering climate change impacts during the development review process, and implementing the strategies in Plan Bay Area 2050; new policies in the Mobility Element that prioritize public transit, active transportation and zero-emission vehicles, plan for mobility hubs, and require new development to use Transportation Demand Management strategies; new policies in the Open Space Element to reduce per-capita energy use, replace City-owned gasoline and diesel-powered equipment with zero-emission models, purchase City vehicles that have alternative fuel systems, and power City facilities with resilient, carbon-free energy sources; and new policies in the Safety Element to increase installation of solar and battery systems and promote

the transition to clean, energy-efficient heating and cooling technologies in new and existing buildings. These policies would not be adopted under Alternative A.

In comparison to the proposed Project, Alternative A would have a reduced ability to support long-term GHG reductions and to advance consistency with State climate goals. While the proposed Project would provide a more robust framework for addressing GHG emissions, both the proposed Project and Alternative A would face similar challenges in meeting the State's 2045 GHG reduction target under AB 1279. Therefore, Alternative A would not lessen the GHG-related impacts identified for the proposed Project, and impacts would be **similar**.

4.5.9 Hazards and Hazardous Materials

As described in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to hazards and hazardous materials.

Under both the proposed Project and Alternative A, all hazardous materials to be transported must remain in compliance with United States Department of Transportation (USDOT) regulations. Future development under both scenarios would be subject to regulatory programs such as those overseen by Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), and Alameda County Department of Environmental Health (ACDEH). Nonresidential development that would require the use of hazardous materials regulated by federal, State, regional, and local agencies would issue permits for the use of the hazardous materials, which would be monitored and routinely updated by the responsible agency depending on the type of material. These agencies also require applicants for development of potentially contaminated properties to perform investigation and cleanup if the site is found to be contaminated with hazardous substances. Therefore, impacts related to the use, transport, handling, emission, and release of hazardous materials would be similar under Alternative A.

The EIR Study Area contains 30 hazardous materials sites that have not been fully remediated or had their cases closed, two of which are on the Cortese List compiled pursuant to Government Code Section 65962.5. Future development occurs on a designated hazardous materials site would be subject to site-specific Environmental Site Management Plans that include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. Impacts related to development on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 would be similar under Alternative A.

Under both scenarios, future development in the Livermore Municipal Airport Influence Area (AIA) must be reviewed by the Alameda County Airport Land Use Commission (ALUC) to ensure consistency with the Livermore Municipal Airport Land Use Compatibility Plan (ACLUP) and confirm that it would not result in safety hazards or excessive noise. Impacts related to safety

hazards and excessive noise within an airport land use plan would be similar under Alternative A.

The proposed Project has been prepared in coordination with the City's Emergency Manager, who is responsible for coordinating agency response to disasters or other large-scale emergencies in the city and the Livermore-Pleasanton Fire Department (LPFD). Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal S-1 to facilitate efficient evacuation and emergency response. Furthermore, without the new and modified General Plan 2045 goals and policies, Alternative A would not be compliant with California Government Code Section 65302(g)(5), which requires Safety Elements to identify residential developments that do not have at least two emergency evacuation routes. Because Alternative A would not be consistent with State laws regarding efficient evacuation planning, this impact would be greater under Alternative A.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to hazards and hazardous materials would be **greater** when compared to the proposed Project.

4.5.10 Hydrology and Water Quality

As described in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, the proposed Project would not result in significant impacts related to hydrology and water quality.

Future development under both the proposed Project and Alternative A would be subject to the same existing federal, State, and local regulations that serve to minimize pre- and post-construction impacts on water quality. Future development would be required to implement construction- and post-construction BMPs consistent with the CGP, the regional Municipal Separate Storm Sewer System (MS4) Permit, and the Alameda Countywide Clean Water Program (ACCWP) C.3 Stormwater Technical Guidance Manual. Future development would also be subject to CALGreen and California Plumbing Code water-efficient requirements, the Model Water Efficient Landscape Ordinance (MWELO) requirements for water-efficient landscaping, and LMC requirements that prohibit pollutants from entering storm drains. Future development that disturb one acre or more would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that identifies erosion control and pollution prevention measures to protect water quality. Future development that meets the criteria under California Water Code Section 10912 would be required to prepare a Water Supply Assessment (WSA) that demonstrates that project water demands would not exceed water supplies. Therefore, impacts related to water quality standards, groundwater supply, and drainage pattern alterations would be similar under Alternative A.

The EIR Study Area is not within a tsunami or seiche zone. However, like the proposed Project, future development under Alternative A could occur in Federal Emergency Management Agency (FEMA) 100-year flood zones and would be subject to the LMC floodplain requirements. Inundation zones for the Del Valle Dam and Patterson Dam could reach the western and eastern portions of the EIR Study Area. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal S-7 to minimize flood risks and the policies under Goal S-8 to minimize risks associated with dam failure. Impacts related to inundation would be greater under Alternative A.

The Department of Water Resources determined that Livermore Valley Groundwater basin continues to be managed sustainably to meet the requirements of the Sustainable Groundwater Management Act (SGMA). Future development under the proposed Project and Alternative A would be subject to existing regulatory frameworks, including the CGP, regional MS4 Permit, and LMC, which would ensure that both surface and groundwater quality are protected during construction and ongoing development and there would not be a conflict with a water quality control plan or sustainable groundwater management plan. Thus, impacts would be similar.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to hydrology and water quality would be **greater** when compared to the proposed Project.

4.5.11 Land Use and Planning

As described in Section 3.11, *Land Use and Planning*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to land use and planning.

Similar to the proposed Project, future development under Alternative A would be subject to the existing land use regulations, such as those described in the LMC and LDC. Both the proposed Project and Alternative A would generally aim to improve connectivity, integrate infill development, and would not create physical barriers within existing communities. Impacts related to division of an established community would be similar under Alternative A.

Alternative A would not update the General Plan to ensure consistency with the zoning, regional plans, and federal and State laws. Furthermore, Alternative A would not implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, to avoid conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, Alternative A would not achieve the same level of consistency with the intent of the Cortese-Knox Act, the California Housing Element law, Plan Bay Area, East County Area Plan (ECAP), and ALCUP, as well as the other plans, policies, and regulations concerning a wide range of topics discussed throughout this Draft EIR. These

inconsistencies could lead to greater potential for land use conflicts compared to the proposed Project. Impacts would be greater under Alternative A.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to land use and planning would be **greater** when compared to the proposed Project.

4.5.12 Mineral Resources

As concluded in Section 3.12, *Mineral Resources*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the loss of mineral resources due to incompatible land uses allowed in Mineral Resource Zone 2 (MRZ-2). Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the loss of mineral resources, but not to a less-than-significant level, and impacts would be significant and unavoidable.

Most of the central and western portions of the EIR Study Area, including existing developed neighborhoods and commercial areas, have been classified as MRZ-2, where the land is underlain by demonstrated mineral resources considered important to the region or the State. Future development under both the proposed Project and Alternative A could occur in these areas and would be required to comply with the Surface Mining and Reclamation Act (SMARA) Section 2762(e), which requires an evaluation of the site to ascertain the significance of the mineral deposit in the area. The results of the evaluation would be submitted to the State Geologist and the SMGB for review. Impacts would be similar under Alternative A.

Therefore, overall impacts under Alternative A related to mineral resources would be **similar** when compared to the proposed Project.

4.5.13 Noise

As concluded in Section 3.13, *Noise*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the substantial increase in noise levels above ambient conditions. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to noise, but not to a less-than-significant level, and impacts would remain significant and unavoidable.

Under both the proposed Project and Alternative A, the primary source of temporary noise and vibration within the EIR Study Area would be demolition and construction activities associated with development projects. Operational noise is expected from additional traffic and new stationary noise sources. Future development under both the proposed Project and Alternative A would be required to comply with the FTA standards and the City's Noise Ordinance. Impacts

related to an increase in ambient noise levels in excess of established standards and excessive groundborne vibration would be similar for construction-related noise and similar for construction-related vibration and operational noise under Alternative A.

Under both the proposed Project and Alternative A, there would be no existing or planned noise-sensitive uses within the 65 dBA CNEL noise level contour of the Livermore Municipal Airport. Impacts related to exposure of excessive noise levels to sensitive receptors within an ALUCP would be similar under Alternative A.

Overall, noise impacts would be **similar** under Alternative A when compared to the proposed Project.

4.5.14 Population and Housing

As described in Section 3.14, *Population and Housing*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to population and housing.

As shown in Table 4-1, Alternative A has a remaining growth capacity of 7,130 housing units and 17,150 residents, which is 9,480 units and 26,670 residents fewer than the proposed Project. Unlike the proposed Project, Alternative A would not include the updated policy framework that ensures adequate planning to accommodate future development and population increases through 2045. While the remaining growth under Alternative A could cover the City's 2023–2031 RHNA allocation of 4,570 units, it would not account for the following RHNA cycles though 2045. Additionally, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal LU-22 to collaborate with other agencies on regional and local land use issues to influence and be aware of projected growth assumptions for Livermore. Under Alternative A, fewer residential units would be developed than under the proposed Project, consistent with the allowable buildout under the existing General Plan. However, statewide and regional population growth and needs would not be met, thus resulting in potentially **greater** unplanned population growth than under the proposed Project. In addition, this alternative would not meet the balanced growth or smart and sensitive development objectives.

Under both the proposed Project and Alternative A, the scale of temporary removal of housing would be typical for urban development projects. The small levels of displacement that may occur would be addressed through compliance with existing local regulations, including the LMC. Impacts related to displacement would be similar under Alternative A.

Overall, without the update to the General Plan to comprehensively account for population changes through 2045, impacts under Alternative A related to population and housing would be **greater** when compared to the proposed Project.

4.5.15 Public Services, Parks, and Recreation

As described in Section 3.15, *Public Services, Parks, and Recreation*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to public services, parks, and recreation.

Future development under both the proposed Project and Alternative A would be required to comply with City and State regulations, including Title 24 of the California Code of Regulations (CCR), to ensure any new development meets the most current building and fire codes; SB 50, which requires and provides for full and complete school facilities mitigation for the impacts of future development; and the LMC for school facilities fees and parkland dedication. Impacts related to public services, parks, and recreation would be similar under Alternative A.

Therefore, overall impacts under Alternative A related to public services, parks, and recreation would be **similar** when compared to the proposed Project.

4.5.16 Transportation

As described in Section 3.16, *Transportation*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to transportation.

Alternative A would not update the General Plan to ensure consistency with the regional plans. Furthermore, Alternative A would not implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, specifically the policies in the Mobility Element to improve transit, roadway, bicycle pedestrian facilities, and the overall circulation system. Therefore, Alternative A would not achieve the same level of consistency with plans addressing the circulation system, such as Plan Bay Area, and impacts with respect to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and pedestrian facilities would be greater under Alternative A.

As described in Section 3.16, *Transportation,* under the proposed Project, the VMT per capita is estimated to be 23.9 and the VMT per employee is estimated to be 14.5. Under Alternative A, the VMT per capita is estimated to be 23.4 and the VMT per employee is estimated to be 13.9. Thus, Alternative A would result in a lower VMT than the proposed Project, though VMT for both the proposed Project and Alternative A are anticipated to be below the threshold for VMT per capita of 27.8 and per employee of 18.1. The proposed Project would include goals and policies, specifically those in the Mobility Element, that would not be implemented under Alternative A, which would serve to reduce VMT.

Future development under the proposed Project and Alternative A would be evaluated prior to design, installation, and implementation to ensure compliance with relevant federal, State, and local design standards and adequate emergency access. As such, impacts related to hazards due

to geometric design hazard or incompatible use and inadequate emergency access would be similar under Alternative A.

Therefore, overall, impacts under Alternative A related to transportation would be **similar** when compared to the proposed Project.

4.5.17 Utilities and Service Systems

As described in Section 3.17, *Utilities and Service Systems*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to utilities and service systems.

Similar to the proposed Project, future development under Alternative A would be subject to applicable federal, State, and local regulations such as the CGP, CALGreen, California Plumbing Code, California Energy Code, MWELO, regional MS4 Permit, CCWP C.3 Stormwater Technical Guidance Manual, and LMC. Therefore, impacts related to the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities; sufficient water supply; and wastewater treatment capacity would be similar under Alternative A.

Future development under the proposed Project and Alternative A would be required to comply with Division 4.4 of the CALGreen Building Code, which requires that at least 65 percent of nonhazardous construction and demolition waste from residential and nonresidential operations be recycled and/or salvaged for reuse. New development and redevelopment would also need to comply with the requirements of AB 341 that mandates recycling for commercial and multifamily residential land uses. Impacts related to solid waste generation and compliance with solid waste regulations would be similar under Alternative A.

While the proposed Project would allow for more overall development than Alternative A, the proposed Project includes goals and policies, including those in the Infrastructure Element as discussed in Section 3.17, *Utilities and Service Systems*, in this Draft EIR, that would ensure associated infrastructure is in place and keeps pace with development. Therefore, overall impacts under Alternative A related to utilities and service systems would be **similar** when compared to the proposed Project.

4.5.18 Wildfire

As described in Section 3.18, *Wildfire*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to wildfire.

Future development under both the proposed Project and Alternative A would be required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation. Additionally, future development in Fire Hazard Severity

Zones (FHSZs) would be required to comply with the CBC, California Fire Code (CFC), and LMC, which have minimum widths and vegetation fuel management around roadways. Future development would be reviewed by the LPFD for compliance with these requirements.

However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal S-1 to facilitate efficient evacuation and emergency response. Furthermore, without the new and modified General Plan 2045 goals and policies, Alternative A would not be compliant with California Government Code Section 65302(g)(5), which requires Safety Elements to identify residential developments that don't have at least two emergency evacuation routes. Because Alternative A would not be consistent with State laws regarding efficient evacuation planning, this impact would be greater under Alternative A.

Under both the proposed Project and Alternative A, future development would be required to comply with adopted local, regional, and State plans and regulations, such as the California Department of Forestry and Fire Protection (CAL FIRE) Strategic Fire Plan, Tri-Valley Local Hazard Mitigation Plan (LHMP), Alameda County Community Wildfire Protection Plan (CWPP), Livermore Emergency Operations Plan (EOP), and Livermore CAP to reduce wildfire hazards and coordinate response to these hazards on a statewide and regional scale. Additionally, all potential future development in wildfire-prone areas would be required to comply with PRC Section 4291, CBC, CFC, and LMC for grading standards and vegetation management. The California Public Utilities Commission (CPUC) also requires maintenance of vegetation around power lines, strict wire-to-wire clearances, annual inspections of aboveground power lines, and preparation of fire prevention plans for aboveground power lines in high-fire-threat districts. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically the policies under Goal S-5 to consider wildland fire hazards when planning for new developments. As such, impacts related to exacerbation of wildfire risks from slope, prevailing winds, vegetation management, installation or maintenance of infrastructure, and drainage patterns would be greater under Alternative A.

Overall, without inclusion of the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, impacts under Alternative A related to wildfire would be **greater** when compared to the proposed Project.

4.6 ALTERNATIVE B: REDUCED INDUSTRIAL AND CONCENTRATED RESIDENTIAL ALTERNATIVE

The Reduced Industrial and Concentrated Residential Alternative (Alternative B) assumes that like the proposed Project, the General Plan would be updated and the associated amendments to the LMC and LDC would be adopted. However, its primary objective is to avoid development on lands with important agricultural or mineral resource value. To achieve this, Alternative B would redesignate land uses in undeveloped areas that have been classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (referred to together as Farmland), or MRZ-2 areas to non-development designations.

Because these restrictions remove development potential from several areas, the City would need to redistribute land use elsewhere to maintain overall capacity. To maintain a similar amount of industrial land capacity as under the proposed Project, this alternative would retain a greater amount of land in the Midtown Specific Plan area in its current industrial designation. In turn, residential capacity in Midtown would decrease as compared to the proposed Project.

To maintain the same amount of overall residential capacity as in the proposed Project, this alternative would increase the allowable residential density in the Downtown and Isabel Neighborhood Specific Plan areas, add residential designations in the Vasco Row Special Planning Area, and increase the allowable residential densities on the Las Colinas site. Residential designations on Farmland in the South Livermore Valley Specific Plan area would also be redistributed to these same areas. Under this redistribution, Alternative B assumes development of the same amount of population and housing units as the proposed Project.

However, this alternative would not be able to fully accommodate the square footage allowed under the industrial designations as proposed in the General Plan 2045 land use map because there is not sufficient industrial land available within the UGB. Therefore, Alternative B would result in less industrial square footage and accordingly result in fewer jobs when compared to the proposed Project.

4.6.1 Aesthetics

As described in Section 3.1, *Aesthetics*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to aesthetics.

The EIR Study Area contains scenic views featuring natural landscape, rolling hills, and ridgelines, especially as seen from the I-580 scenic corridor. Development under both the proposed Project and Alternative B could potentially damage views from I-580, a State scenic highway. Future development subject to discretionary approval under both the proposed

Project and Alternative B would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, as well as various planning documents that govern scenic quality in the city. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those protecting scenic views, and adopt the proposed Scenic Resources Overlay District. Impacts related to scenic views and views from I-580 would be similar under Alternative B.

The proposed Project is intended to ensure consistency between the General Plan, LDC, and federal and State laws. The proposed General Plan 2045 is the overriding planning document for Livermore. Like the proposed Project, Alternative B would amend the current General Plan and the LDC. As such, the proposed Project and Alternative B would not conflict with applicable zoning or other regulations and impacts would be similar.

Similar to the proposed Project, Alternative B would result in future development and activities that could intensify lighting sources and incrementally increase glare throughout the EIR Study Area. In addition to the general BMPs that require lighting that is context sensitive in style and intensity required under CALGreen, future development under both the proposed Project and Alternative B would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, as well as various planning documents that govern scenic quality in the city. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those protecting the nighttime sky as a significant scenic resource of Livermore. Impacts related to night and glare would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to aesthetics would be **similar** when compared to the proposed Project.

4.6.2 Agricultural Resources

As concluded in Section 3.2, *Agricultural Resources*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the loss of Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) and conflict with Williamson Act contracts due to the potential conversion to nonagricultural land uses. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the conversion of qualifying agricultural lands, but not to a less-than-significant level, and impacts would remain significant and unavoidable.

The EIR Study Area includes 338 acres of Prime Farmland, 728 acres of Unique Farmland, and 409 acres of Farmland of Statewide Importance. The EIR Study Area also contains 1,317 acres of land zoned for Agriculture (OS-A), Planned Development/Agriculture (PD-AG), and South Livermore Valley/Agriculture (SLV-AG) and 1,909 acres of agricultural land under Williamson Act contracts. Under Alternative B, residential designations on Farmland in the South Livermore

Valley Specific Plan area would be redesignated to non-development designations. Thus, more Farmland would be protected from development and there would be less potential for conflict with a Williamson Act contract compared to the proposed Project. Impacts related to the conversion of Farmland and conflict with the Williamson Act would be reduced under Alternative B.

Similar to the proposed project, Alternative B would result in potentially incompatible urban uses next to farms or ranches, creating circumstances that could impair the productivity and profitability of agricultural operations, and could eventually lead farmers to take their land out of production. Under both the proposed Project and Alternative B, the City would be required to collaborate with Alameda County and Alameda County LAFCO to protect existing land uses from development inappropriate for rural areas. As such, impacts would be similar.

Overall, impacts under Alternative B related to agricultural resources would be **reduced** when compared to the proposed Project. However, the proposed Project's significant and unavoidable impacts would not be completely avoided under Alternative B.

4.6.3 Air Quality

As concluded in Section 3.3, *Air Quality*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the construction and operation of future development generating emissions that would exceed the Bay Area Air District's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SFBAAB. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the generation of emissions, but not to a less-than-significant level and impacts would remain significant and unavoidable.

The 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG, which are based in part on cities' General Plan land use designations. Neither the proposed Project nor Alternative B would exceed the regional growth projections and would not conflict with the 2017 Clean Air Plan. Thus, there would be a similar impact.

New development under both the proposed Project and Alternative B would increase air pollutant emissions and contribute to the overall emissions inventory in the SFBAAB, as well as expose sensitive receptors to pollutant concentrations. Permitted sources of emissions under the proposed Project and Alternative B would be regulated by the Air District to ensure that, on a project-by-project basis, emissions achieve their permit thresholds. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to limit air pollutant emissions and provide adequate buffer distances and appropriate mitigation to protect sensitive receptors.

Alternative B would not result in the full buildout of industrial development as allowed under the proposed Project. As such, it would generate fewer criteria pollutant emissions and would reduce the potential for exposure of sensitive receptors. However, the reduction in industrial square footage would not be substantial enough to avoid the significant and unavoidable air quality impacts identified for the proposed Project. Alternative B would therefore lessen, but not eliminate, the proposed Project's significant impacts related to criteria pollutant emissions and exposure of sensitive receptors.

Similar to the proposed Project, Alternative B could result in odor emissions. Odors are regulated under Air District Regulation 1, Rule 1-301, *Public Nuisance*. Future development under both proposed Project and Alternative B would be required to comply with Air District Regulation 1 would ensure that odor impacts associated with the proposed Project are minimized. However, Alternative B would not allow the full buildout of industrial development as allowed under the proposed Project. As such, there would be less odor emissions from industrial development and impacts would be reduced compared to the proposed Project.

Overall, with less industrial development, air quality impacts under Alternative B would be **reduced** when compared to the proposed Project. However, the project's significant and unavoidable impacts would not be completely avoided under Alternative B.

4.6.4 Biological Resources

As concluded in Section 3.4, *Biological Resources*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to wildlife movement with implementation of Mitigation Measure BIO-4 requiring bird-safe design measures by project applicants to reduce potential impacts on migratory and resident birds to less than significant.

Future development under both the proposed Project and Alternative B would be required to follow all federal, State, and local regulations to protect special-status species, riparian habitats, wetlands, and wildlife movement corridors, including the requirements of the USFWS, CDFW, the strategies of the EACCS, and the BMPs of the SMP. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to implement the EACCS, adopt the Livermore HCP, and coordinate with other agencies to plan for wildlife linkage, as well as Mitigation Measure BIO-4 to reduce potential impacts on migratory and resident birds. Impacts related to special-status species, riparian habitats, wetlands, and wildlife movement corridors would be similar under Alternative B.

Neither the proposed Project nor Alternative B would conflict with any local policies or ordinances protecting biological resources or the provisions of an adopted HCP. As such, impacts would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to biological resources would be **similar** when compared to the proposed Project.

4.6.5 Cultural and Tribal Cultural Resources

As described in Section 3.5, *Cultural and Tribal Cultural Resources*, the proposed Project would result in less-than-significant impacts related to unknown archaeological and tribal cultural resources with implementation of Mitigation Measures CUL-2, CUL-4, and CUL-5, which would ensure that archaeological and tribal cultural resources identified during construction would be identified, evaluated, and protected or appropriately treated.

Future development under both the proposed Project and Alternative B would be required to comply with the City's Design Standards and Guidelines and the regulations of the LMC and LDC, including the Historic Preservation Ordinance. Future development would also be subject to the procedures of conduct following the discovery of human remains as mandated by CEQA Section 15064.5(e), PRC Section 5097.98, and Health and Safety Code Section 7050.5. Impacts related to historic resources and human remains would be similar impacts under Alternative B.

Under the proposed Project and Alternative B, future development would be subject to PRC Section 5097.5(a), which specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any archaeological sites without the express permission of the public agency having jurisdiction over the lands. Tribal consultation pursuant to AB 52 and SB 18 would also be required, as appropriate. Like the proposed Project, Alternative B would implement Mitigation Measures CUL-2, CUL-4, and CUL-5, and new and modified General Plan 2045 goals and policies serving to reduce environmental impacts under CEQA. For example, CI-12.6 directs the City to respect and protect tribal cultural resources and maintain a collaborative relation with local Native American tribal representatives. Implementation of these mitigation measures and these goals and policies would ensure that archaeological and tribal cultural resources identified during construction would be identified, evaluated, and protected or appropriately treated. Impacts related to archaeological and tribal cultural resources would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to cultural and tribal cultural resources would be **similar** when compared to the proposed Project.

4.6.6 Energy

As described in Section 3.6, *Energy*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to energy.

Future development under both the proposed Project and Alternative B would be required to comply with building requirements in the California Green Building Code and Building and Energy Efficiency Standards, which would ensure new development would not result in wasteful or inefficient energy usage. Compliance with LMC Chapter 15.26 and the 2022 CAP would further support the incorporation of electric and energy efficiency systems in new development. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to promote clean and resilient energy through increased energy efficiency and support the statewide goal of transitioning the electricity grid to renewable sources. Impacts related to energy efficiency and conflicting with a state or local plan for renewable energy or energy efficiency would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to energy would be **similar** when compared to the proposed Project.

4.6.7 Geology and Soils

As described in Section 3.7, *Geology and Soils*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to geology and soils.

Portions of active faults in the EIR Study Area are designated within Alquist-Priolo Earthquake Fault Zones, which have a high likelihood of producing the intense ground shaking. Much of the EIR Study Area is in an area of high liquefaction susceptibility and some of portions are landslide prone. There is also potential for collapsible and expansive soils. Future development under both the proposed Project and Alternative B would be subject to the same federal, State, and local regulations that address and prevent hazards associated with geology, soils, and seismicity, including the CBC, CGP, LMC, and LDC. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies. Impacts related to seismic hazards, soil erosion, unstable soils, and alternative wastewater systems would be similar under Alternative B.

Geological formations underlying the EIR Study Area have the potential to contain unique paleontological resources. Under both the proposed Project and Alternative B, future development would be required to comply with the federal Paleontological Resources Preservation Act and PRC Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to protect paleontological resources. Impacts related to paleontological resources would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to geology and soils would be **similar** when compared to the proposed Project.

4.6.8 Greenhouse Gas Emissions

As concluded in Section 3.8, *Greenhouse Gas Emissions*, of this Draft EIR, implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to GHG emissions and CAP consistency, but not to a less-than-significant level, and impacts would be significant and unavoidable.

The proposed General Plan 2045 is the primary planning document for the City of Livermore, and the proposed Project is intended to ensure consistency between the General Plan, Zoning Ordinance, regional plans, and federal and State laws. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to reduce VMT and increase energy and water efficiency and renewable energy improvements. In addition, Alternative B would redistribute residential and industrial development to the Midtown, Downtown, and Isabel Neighborhood Specific Plan areas by increasing densities in these urban areas. This redistribution would further reduce VMT by collocating housing, jobs, and transit, and consequently, reduce GHG emissions. As such, impacts related to GHG emissions would be reduced under Alternative B.

However, because Alternative B would still allow much of the development allowed under the proposed Project, it is anticipated that GHG emissions under Alternative B would remain similar to those of the proposed Project and would therefore not substantially lessen the proposed Project's identified conflicts with AB 1279 or other applicable plans, policies, or regulations adopted for the purpose of reducing the emission of greenhouse gases. As such, impacts would be similar under Alternative B.

Overall, with increased density in concentrated urban areas, impacts related to GHG emissions under Alternative B would be **reduced** when compared to the proposed Project. However, significant and unavoidable impacts under the proposed Project would not be completely avoided under Alternative B.

4.6.9 Hazards and Hazardous Materials

As described in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR, the proposed Project would not result in less-than-significant impacts related to hazards and hazardous materials.

Under both the proposed Project and Alternative B, all hazardous materials to be transported must remain in compliance with USDOT regulations. Future development would be subject to regulatory programs such as those overseen by DTSC, SWRCB, and ACDEH. Nonresidential development that would require the use of hazardous materials regulated by federal, State, regional, and local agencies would issue permits for the use of the hazardous materials, which would be monitored and routinely updated by the responsible agency depending on the type of

material. These agencies also require applicants for development of potentially contaminated properties to perform investigation and cleanup if the site is found to be contaminated with hazardous substances. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to minimize risk from hazardous materials. Because both scenarios would allow for the transport of hazardous materials and would be requirement to comply with the same regulations, impacts would be similar.

The EIR Study Area contains ten hazardous materials sites which have not been fully remediated or had their cases closed, two of which are on the Cortese List compiled pursuant to Government Code Section 65962.5. Future development under the proposed Project and Alternative B that occur on a designated hazardous materials site would be subject to site specific Environmental Site Management Plans that include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. Impacts related to development on a site that is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 would be similar under Alternative B.

Under the proposed Project and Alternative B, future development in the Livermore Municipal AIA must be reviewed by the Alameda County ALUC to ensure consistency with the ACLUP and confirm that it would not result in safety hazards or excessive noise. Impacts related to safety hazards and excessive noise within an airport land use plan would be similar under Alternative B.

The proposed Project has been prepared in coordination with the City's Emergency Manager, who is responsible for coordinating agency response to disasters or other large-scale emergencies in the city and the LPFD. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 and policies, including those to facilitate efficient evacuation and emergency response. As such, impacts related to evacuation and emergency response would be similar under the Alternative B.

Therefore, though there would be less industrial development, overall impacts under Alternative B related to hazards and hazardous materials would be **similar** when compared to the proposed Project.

4.6.10 Hydrology and Water Quality

As described in Section 3.10, *Hydrology and Water Quality*, of this Draft EIR, the proposed Project would not result in any significant impacts related to hydrology and water quality.

Future development under both the proposed Project and Alternative B would be subject to the same existing federal, State, and local regulations that serve to minimize pre- and post-construction impacts to water quality. Future development would be required to implement construction- and post-construction BMPs consistent with the CGP, the regional MS4 Permit,

and the ACCWP C.3 Stormwater Technical Guidance Manual. Future development would also be subject to CALGreen and California Plumbing Code water-efficient requirements, the MWELO requirements for water-efficient landscaping, and LMC requirements that prohibit pollutants from entering storm drains. Future development that disturbs one acre or more would be required to prepare and implement a SWPPP that identifies erosion control and pollution prevention measures to protect water quality. Future development that meets the criteria under California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to protect water quality, groundwater supply, and the stormwater drainage system. Impacts related to water quality standards, groundwater supply, and drainage pattern alterations would be similar under Alternative B.

The EIR Study Area is not within a tsunami or seiche zone. However, like the proposed Project, future development under Alternative B could occur in FEMA 100-year flood zones and would be subject to the LMC floodplain requirements. Inundation zones for the Del Valle Dam and Patterson Dam could reach the western and eastern portions of the EIR Study Area. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to minimize flood risks and risks associated with dam failure. Impacts related to inundation would be similar to Alternative B.

The Department of Water Resources determined that Livermore Valley Groundwater basin continues to be managed sustainably to meet the requirements of SGMA. Future development under the proposed Project and Alternative B would be subject to existing regulatory frameworks, including the CGP, regional MS4 Permit, and LMC, which would ensure that both surface and groundwater quality are protected during construction and ongoing development. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to protect paleontological resources. As such, there would be no conflict with a water quality control plan or sustainable groundwater management plan and impacts would be similar.

Therefore, overall impacts under Alternative B related to hydrology and water quality would be **similar** when compared to the proposed Project.

4.6.11 Land Use and Planning

As described in Section 3.11, *Land Use and Planning*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to land use and planning.

Similar to the proposed Project, future development under Alternative B would be subject to the existing land use regulations, such as those described in the LMC and LDC. Both the proposed Project and Alternative B would generally aim to improve connectivity, integrate infill

development, and would not create physical barriers within existing communities. Impacts related to division of an established community would be similar under Alternative B.

The proposed General Plan 2045 is the primary planning document for the City of Livermore, and the proposed Project is intended to ensure consistency between the General Plan, Zoning Ordinance, regional plans, and federal and State laws. Under Alternative B, future development would be required to comply with the proposed General Plan 2045 goals and policies prepared as part of the proposed Project. Therefore, Alternative B would also be consistent with the Cortese-Knox Act, the California Housing Element Law, Plan Bay Area, ECAP, and ALUCP. Impacts would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to land use and planning would be **similar** when compared to the proposed Project.

4.6.12 Mineral Resources

As concluded in Section 3.12, *Mineral Resources*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the loss of mineral resources due to incompatible land uses allowed in MRZ-2. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to the loss of mineral resources, but not to a less-than-significant level, and impacts would be significant and unavoidable.

Most of the central and western portions of the EIR Study Area, including existing developed neighborhoods and commercial areas, have been classified as MRZ-2, where the land is underlain by demonstrated mineral resources considered important to the region or the State. Future development under both the proposed Project and Alternative B could occur in these areas and would be required to comply with the SMARA Section 2762(e), which requires an evaluation of the site to ascertain the significance of the mineral deposit in the area. The results of the evaluation would be submitted to the State Geologist and the SMGB for review.

However, under Alternative B, select parcels in MRZ-2 areas would be redesignated to non-development designations, resulting in less incompatible development in MRZ-2 areas compared to the proposed Project. This would reduce the extent of potential land use conflicts compared to the proposed Project. However, because some MRZ-2 areas could still be converted to non-mining designations, Alternative B would not fully avoid the types of conflicts identified for the proposed Project. Overall, impacts under Alternative B related to mineral resources would be **reduced** when compared to the proposed Project. However, the proposed Project's significant and unavoidable impacts would not be completely avoided under Alternative B.

4.6.13 Noise

As concluded in Section 3.13, *Noise*, of this Draft EIR, the proposed Project would result in significant and unavoidable impacts related to the substantial increase in noise levels above ambient conditions. Implementation of the proposed General Plan 2045 goals and policies would reduce impacts related to noise, but not to a less-than-significant level, and impacts would remain significant and unavoidable.

Under both the proposed Project and Alternative B, the primary source of temporary noise and vibration within the EIR Study Area would be demolition and construction activities associated with development projects. Operational noise is expected from additional traffic, and new stationary noise sources. Future development under both the proposed Project and Alternative B would be required to comply with the FTA standards and the City's Noise Ordinance. Impacts related to increase in ambient noise levels in excess of established standards and excessive groundborne vibration would be similar for construction-related noise and construction related vibration and operational noise under Alternative B.

Under both the proposed Project and the Alternative B, there would be no existing or planned noise sensitive uses within the 65 dBA CNEL noise level contour of the Livermore Municipal Airport. Impacts related to exposure of excessive noise levels to sensitive receptors within an ALUCP be similar under Alternative B.

Overall, noise impacts under Alternative B would be **similar** when compared to the proposed Project.

4.6.14 Population and Housing

As described in Section 3.14, *Population and Housing*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to population and housing.

Alternative B assumes the same amount of housing units and population growth as the proposed Project. Like the proposed Project, Alternative B would include updated policy framework that ensures adequate planning to accommodate future development and population increases through 2045. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to collaborate with other agencies on regional and local land use issues to influence and be aware of projected growth assumptions for Livermore. Impacts related to unplanned population growth would be similar under Alternative B.

Under both the proposed Project and Alternative B, the scale of temporary removal of housing would be typical for urban development projects. The small levels of displacement that may

occur would be addressed through compliance with existing local regulations, including the LMC. Impacts related to displacement would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to population and housing would be **similar** when compared to the proposed Project.

4.6.15 Public Services, Parks, and Recreation

As described in Section 3.15, *Public Services, Parks, and Recreation*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to public services, parks, and recreation.

Future development under both the proposed Project and Alternative B would be required to comply City and State regulations, including Title 24 of the CCR, to ensure any new development proposed meets the most current building and fire codes; SB 50, which requires and provides for full and complete school facilities mitigation for the impacts of future development; and the LMC, for school facilities fees and parkland dedication. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those that serve to minimize impacts on fire protection services, schools, libraries, and park and recreational facilities. Impacts related to public services, parks, and recreation would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to public services, parks, and recreation would be **similar** when compared to the proposed Project.

4.6.16 Transportation

As described in Section 3.16, *Transportation*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to transportation.

Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including the policies in the Mobility Element to improve transit, roadway, bicycle pedestrian facilities, and the overall circulation system. Therefore, Alterative B would achieve consistency with plans addressing the circulation system. As such, impacts would be similar under Alternative B.

As described in Section 3.16, *Transportation,* under the proposed Project, the VMT per capita is estimated to be 23.9 and the VMT per employee is estimated to be 14.5, which is below the established threshold for VMT per capita of 27.8 and per employee of 18.1. Under Alternative B, residential and industrial development would be redistributed to the Midtown, Downtown, and Isabel Neighborhood Specific Plan areas by increasing densities in these urban areas, which

would further reduce VMT, by co-locating housing, jobs, and transit. Impacts would be similar under Alternative B.

Future development under the proposed Project and Alternative B would be evaluated prior to design, installation, and implementation to ensure compliance with relevant federal, State, and local design standards and adequate emergency access. As such, impacts related to hazards due to geometric design hazard or incompatible use and inadequate emergency access would be similar under Alternative B.

Therefore, impacts under Alternative B related to transportation would be **similar** when compared to the proposed Project.

4.6.17 Utilities and Service Systems

As described in Section 3.17, *Utilities and Service Systems*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to utilities and service systems.

Similar to the proposed Project, future development under Alternative B would be subject to applicable federal, State, and local regulations such as the CGP, CALGreen, California Plumbing Code, California Energy Code, MWELO, regional MS4 Permit, CCWP C.3 Stormwater Technical Guidance Manual, and LMC. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those that promote water conservation, adequate stormwater drainage, and energy efficiency. However, Alternative B would not be able to fully accommodate the reallocation of industrial designations under the proposed Project and would therefore result in less demand for utilities and service systems because infrastructure would not have to be expanded to as many new areas and there would be less industrial square footage for service providers to serve. Impacts related to the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities; sufficient water supply; and wastewater treatment capacity would be reduced under the proposed Project.

Future development under the proposed Project and Alternative B would be required to comply with Division 4.4 of the CALGreen Building Code, which requires that at least 65 percent of nonhazardous construction and demolition waste from residential and nonresidential operations be recycled and/or salvaged for reuse. New development and redevelopment would also need to comply with the requirements of AB 341 that mandates recycling for commercial and multi-family residential land uses. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to promote waste management and diversion. However, Alternative B would not be able to fully accommodate the reallocation of industrial uses under the proposed Project and would therefore result in reduced solid waste generation. Impacts related to solid waste generation would be reduced under Alternative B because less industrial square footage would result in

less generation of solid waste associated with such industrial uses. Lastly, because the proposed Project and Alternative B would be required to comply with the same regulations intended to reduce waste, impacts would be similar in this regard.

Overall, with less industrial square footage, impacts related to utilities and service systems under Alternative B would be **reduced** when compared to the proposed Project.

4.6.18 Wildfire

As described in Section 3.18, *Wildfire*, of this Draft EIR, the proposed Project would result in less-than-significant impacts related to wildfire.

Future development under both the proposed Project and Alternative B would be required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation. Additionally, future development in Fire Hazard Severity Zones (FHSZ) would be required to comply with the CBC, CFC, and LMC, which have minimum widths and vegetation fuel management around roadways. Potential development would be reviewed by the LPFD for compliance with these requirements. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to facilitate efficient evacuation and emergency response. As such, impacts related to evacuation and emergency response would be similar under Alternative B.

Under both the proposed Project and Alternative B, future development would be required to comply with adopted local, regional, and State plans and regulations, such as the CAL FIRE Strategic Fire Plan, Tri-Valley LHMP, Alameda County CWPP, Livermore EOP, and Livermore CAP to reduce wildfire hazards and coordinate response to these hazards on a statewide and regional scale. Additionally, all potential future development in wildfire-prone areas in Livermore would be required to comply with PRC Section 4291, CBC, CFC, and LMC for grading standards and vegetation management. The CPUC also requires maintenance of vegetation around power lines, strict wire-to-wire clearances, annual inspections of aboveground power lines, and preparation of fire prevention plans for aboveground power lines in high-fire-threat districts. Like the proposed Project, Alternative B would implement the proposed General Plan 2045 goals and policies, including those to consider wildland fire hazards when planning for new developments. As such, impacts related to exacerbation of wildfire risks from slope, prevailing winds, vegetation management, installation or maintenance of infrastructure, and drainage patterns would be similar under Alternative B.

Therefore, overall impacts under Alternative B related to wildfire would be **similar** when compared to the proposed Project.

4.7 SUMMARY OF ALTERNATIVES EVALUATION

Table 4-2, *Comparison of Project Alternative Impacts*, compares the impact of each alternative to impacts of the proposed Project. The impacts of each alternative are classified as having a reduced (↓), similar or comparable to (=), or greater (↑) level of impact when compared to the proposed Project.

Table 4-2 Comparison of Project Alternative Impacts

Environmental Topic	Proposed Project [1]	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
3.1 Aesthetics	LTS	↑	=
3.2 Agricultural Resources	SU	=	↓
3.3 Air Quality	SU	=	↓
3.4 Biological Resources	LTS/M	↑	=
3.5 Cultural and Tribal Cultural Resources	LTS/M	↑	=
3.6 Energy	LTS	↑	=
3.7 Geology and Soils	LTS	↑	=
3.8 Greenhouse Gas Emissions	SU	=	↓
3.9 Hazards and Hazardous Materials	LTS	↑	=
3.10 Hydrology and Water Quality	LTS	↑	=
3.11 Land Use and Planning	LTS	↑	=
3.12 Mineral Resources	SU	=	↓
3.13 Noise	SU	=	=
3.14 Population and Housing	LTS	↑	=
3.15 Public Services, Parks, and Recreation	LTS	=	=
3.16 Transportation	LTS	=	=
3.17 Utilities and Service Systems	LTS	=	↓
3.18 Wildfire	LTS	↑	=

Notes:

LTS Less than Significant

LTS/M Less than Significant with Mitigation

SU Significant and Unavoidable

1. The impacts listed in this column represent the highest significance determination for each respective topic.

Table 4-3, *Ability to Meet Proposed Project Objectives*, identifies the ability of each of the project alternatives to meet the proposed Project's objectives.

Table 4-3 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
Establish a comprehensive framework to guide Livermore's physical development, resource conservation, and provision of infrastructure and public services over a 20-year horizon.	Yes	**No.** The General Plan, which includes a vision, guiding principles, goals, policies, and actions, functions as the City's primary land use regulatory tool. The proposed General Plan 2045 incorporates regional forecasts for 2045 that extend the planning horizon by approximately 20 years from the current 2025 horizon. Because the existing General Plan would not be updated under Alternative A, it would not incorporate these forecasts and would not achieve this objective.	**Yes.** Like the proposed Project, Alternative B would update the General Plan. Therefore, Alternative B would incorporate regional forecasts for 2045 that extend the planning horizon by approximately 20 years from the current 2025 horizon. Because Alternative B would incorporate these forecasts, it would fully achieve this objective.
Focus future housing and job growth within the Urban Growth Boundary, emphasizing infill development over dispersed growth at lower densities.	Yes	**Partial.** The existing General Plan allows housing within the UGB and emphasizes infill over dispersed growth. However, the proposed General Plan 2045 allows for more housing within infill areas than the existing General Plan, and therefore, this alternative would only partially achieve this objective.	**Partial.** This alternative would not be able to fully accommodate the reallocation of square footage allowed under the industrial designations as proposed in the General Plan 2045 land use map because there is not sufficient industrial land available within the UGB. Therefore, Alternative B would result in less industrial square footage and, accordingly, result in fewer jobs when compared to the proposed Project, which could result in a jobs to housing imbalance and residents commuting to other communities for work. Therefore, this alternative only partially meets this objective.
Plan for vibrant, mixed-use districts that have access to multi-modal transportation opportunities including regional rail and local transit services.	Yes	**Partial.** The proposed General Plan 2045 includes the Midtown Specific Plan Area, which is a Priority Development Area, and this designation is intended to create a mixed-use, transit-supportive neighborhood that balances housing, commercial, office, and industrial uses. While Alternative A would allow a mix of uses, the proposed General Plan 2045 provides updates to mixed-use districts	**Yes.** Like the proposed Project, Alternative B would update the General Plan. Like the proposed Project, Alternative B would include the Midtown Specific Plan Area, which is a Priority Development Area. This designation is intended to create a mixed-use, transit-supportive neighborhood that balances housing, commercial, office, and industrial uses. Alternative B would also include

Table 4-3 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
		to spur this type of development. Therefore, Alternative A would only partially achieve this objective.	updates to mixed-use districts to spur this type of development. Therefore, this alternative would fully achieve this objective.
Plan for diverse housing choices so that individuals and families of all income levels and lifestyles can find housing, while also meeting the State-mandated Regional Housing Needs Allocation requirements for the current and estimated future housing cycles through 2045.	Yes	**No.** Remaining growth under Alternative A could cover the City's 2023–2031 RHNA allocation of 4,570 units, but it would not account for the following RHNA cycles though 2045. Therefore, because it would not accommodate adequate housing capacity to achieve RHNA requirements through 2045, it would not achieve this objective.	**Yes.** Alternative B assumes the same amount of housing units and population growth as the proposed Project. Like the proposed Project, Alternative B would include updated policy framework that ensures adequate planning to accommodate future development and population increases through 2045. Therefore, this alternative would fully achieve this objective.
Accommodate a diverse range of jobs and businesses to support a thriving and resilient economy and to increase the opportunity for Livermore residents to work in Livermore.	Yes	**Partial.** A critical component of balanced land use is achieving a comparable ratio of jobs and housing to facilitate the option to both live and work in Livermore. The City's goal is to have jobs and salaries that allow workers to afford Livermore home and rent prices. Several modified and new goals and policies (e.g., LU-1.2, LU-5.1, LU-6.1, and LU-6.2) support this objective by maintaining and allowing a variety of job-generating land uses. While the existing General Plan also provides for job growth, it does not include goals and policies that focus on providing a diverse range of jobs to accommodate Livermore residents and, therefore, only partially achieves this objective.	**Partial.** Alternative B would result in less industrial square footage than the proposed Project, and accordingly, result in fewer jobs when compared to the proposed Project, which could result in a jobs to housing imbalance and residents commuting to other communities for work. Therefore, this alternative only partially meets this objective.

Table 4-3 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
Promote Livermore's long-term fiscal sustainability by identifying development types, intensities, and locations that generate public revenues sufficient to fund infrastructure, services, and maintenance over time.	Yes	**Partial.** Industrial lands support a range of businesses, many of which provide significant tax revenue. The City is committed to ensuring sufficient industrial land remains available to existing businesses and for future industrial enterprises, strengthening Livermore's position as an employment center, fostering continued innovation, and supporting a resilient local economy. Several modified and new goals and policies (e.g., LU-6.1 and LU-6.2) support this objective by maintaining and allowing a variety of industrial land uses, which provide living-wage jobs and generate significant tax revenue. While the existing General Plan also provides for tax-generating land uses, it does not include goals and policies that focus on providing a diverse range of industrial jobs, and, therefore, only partially achieves this objective.	**Partial.** Industrial lands support a range of businesses, many of which provide significant tax revenue. The City is committed to ensuring sufficient industrial land remains available to existing businesses and for future industrial enterprises, strengthening Livermore's position as an employment center, fostering continued innovation, and supporting a resilient local economy. Because this alternative would not be able to fully accommodate the square footage allowed under the industrial designations as provided in the proposed Project, it would provide for less tax-generating land uses and would only partially achieve this objective.
Plan for future circulation and infrastructure improvements.	Yes	**No.** Alternative A would not update the General Plan to ensure consistency with regional and local plans (such as those discussed in Section 3.16, *Transportation*, and Section 3.17, *Utilities and Service Systems*), planning for future circulation and infrastructure improvements. Furthermore, Alternative A would not implement the new or modified General Plan 2045 goals, policies, and actions prepared as part of the proposed Project, specifically the policies in the Mobility Element, to improve transit, roadway, bicycle pedestrian facilities, and the overall circulation system.	**Yes.** Alternative B would update the General Plan to ensure consistency with regional and local plans (such as those discussed in Section 3.16, *Transportation*, and Section 3.17, *Utilities and Service Systems*), planning for future circulation and infrastructure improvements. Furthermore, Alternative B would implement the new or modified General Plan 2045 goals, policies, and actions prepared as part of the proposed Project, specifically the policies in the Mobility Element, to improve transit, roadway, bicycle pedestrian facilities, and the overall circulation system.

Table 4-3 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
		Therefore, Alternative A would not achieve the same level of consistency with plans addressing the circulation system and would not achieve this objective.	Therefore, Alternative B would fully achieve this objective.
Keep the community safe from natural and human-caused hazards, such as earthquakes, landslides, floods, and wildfires, including increased risks from climate change.	Yes	**Partial.** Future development under Alternative A would be required to comply with adopted local, regional, and State plans and regulations addressing community safety. However, Alternative A would not include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically those within the Safety Element, and, without adoption and implementation of those goals and policies, would not be consistent with new state laws regarding issues such as efficient evacuation planning. Therefore, Alternative A would only partially achieve this objective.	**Yes.** Future development under Alternative B would be required to comply with adopted local, regional, and State plans and regulations addressing community safety. Alternative B would also include the new or modified General Plan 2045 goals and policies that were prepared as part of the proposed Project, specifically those within the Safety Element. Therefore, Alternative B would achieve this objective.
Protect natural resources, such as agriculture, water, air, and biological resources, and preserve and improve open spaces, including open space for recreation, for habitat, or for public health and safety.	Yes	**Partial.** Future development under Alternative A would be required to comply with adopted local, regional, and State plans and regulations addressing the protection of natural resources. However, Alternative A would not implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, adopted for the purpose of protecting natural resources. Therefore, Alternative A would only partially achieve this objective.	**Yes.** Future development under Alternative B would be required to comply with adopted local, regional, and State plans and regulations addressing the protection of natural resources. In addition, Alternative B would implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, adopted for the purpose of protecting natural resources. Therefore, Alternative B would achieve this objective.

Table 4-3 Ability to Meet Proposed Project Objectives

Objective	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Industrial and Concentrated Residential Alternative
Provide public services that support the health, welfare, and civic engagement of all members of the community.	Yes	**Partial.** Future development under Alternative A would be required to comply with adopted local, regional, and State plans and regulations addressing the provision of public services. However, Alternative A would not update the General Plan to ensure consistency with local and regional plans. Furthermore, Alternative A would not implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, specifically the goals and policies in the Community Services and Infrastructure Elements, to ensure community services keep pace with development. Therefore, Alternative A would only partially achieve this objective.	**Yes.** Future development under Alternative B would be required to comply with adopted local, regional, and State plans and regulations addressing the provision of public services. Alternative B includes updates to the General Plan to ensure consistency with local and regional plans. Furthermore, Alternative B would implement the new or modified General Plan 2045 goals and policies prepared as part of the proposed Project, specifically the goals and policies in the Community Services and Infrastructure Elements, to ensure community services keep pace with development. Therefore, Alternative B would fully achieve this objective.

4.7.1 Summary of Alternative A: No Project Alternative

As shown in Table 4-2, the No Project Alternative would result in similar impacts related to agricultural resources, air quality, GHG emissions, mineral resources, noise, public services, parks, and recreation, transportation, and utilities and service systems to the proposed Project. Impacts related to aesthetics, biological resources, cultural and tribal cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, and wildfire would be greater when compared to the proposed Project.

As shown in Table 4-3, the No Project Alternative would not meet the project objectives to establish a comprehensive framework to guide Livermore or promote Livermore's long-term fiscal sustainability. It would partially meet all other objectives.

4.7.2 Summary of Alternative B: Reduced Industrial and Concentrated Residential Alternative

As shown in Table 4-2, the Reduced Industrial and Concentrated Residential Alternative would result in similar impacts related to aesthetics, biological resources, cultural and tribal cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services, parks, and recreation, transportation, and wildfire when compared to the proposed Project. All other impacts (agricultural resources, air quality, GHG emissions, mineral resources, and utilities and service systems) would be reduced when compared to the proposed Project.

As shown in Table 4-3, the Reduced Industrial and Concentrated Residential, this alternative does not meet the project objectives to the same degree as the proposed Project.

4.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the proposed Project and the alternatives, CEQA Guidelines Section 15126.6 requires that an "environmentally superior" alternative be selected and the reasons for such a selection be disclosed. In general, the environmentally superior alternative is the alternative to the proposed Project that would be expected to generate the least number of significant impacts compared to the proposed Project while still meeting most of the basic project objectives. Identification of the environmentally superior alternative is an informational procedure and the alternative to the proposed Project selected may not be the alternative to the proposed Project that best meets the goals or needs of the City of Livermore.

Because CEQA Guidelines Section 15126.6(c) requires an evaluation of a reasonable range of alternatives to the proposed Project, the proposed Project under consideration cannot be identified as the environmentally superior alternative. Additionally, in accordance with CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

As shown in Table 4-2, the Reduced Industrial and Concentrated Residential Alternative (Alternative B), would reduce impacts for 5 out of 18 environmental topics when compared to the proposed Project and is considered the environmentally superior alternative. However, this alternative does not meet the project objectives to the same degree as the proposed project, specifically it would accommodate less industrial square footage than the proposed Project, and accordingly, result in fewer jobs, which could result in a jobs to housing imbalance and residents commuting to other communities for work.

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5. OTHER CEQA CONSIDERATIONS

This chapter provides a discussion of the effects of the proposed Project based on the analyses presented in Sections 3.1 through 3.18 of this Draft Environmental Impact Report (EIR). The topics covered in this chapter include effects found not to be significant, significant and unavoidable impacts, significant irreversible changes to the environment, and growth-inducing effects. A more detailed analysis of the effects that the proposed Project would have on the environment, and proposed mitigation measures to minimize significant impacts, are provided in Chapter 3, *Environmental Analysis*, of this Draft EIR.

5.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

California Environmental Quality Act (CEQA) Guidelines Section 15128, *Effects Not Found to be Significant*, allows environmental issues for which there is no likelihood of significant impact to be "scoped out" and not analyzed further in the Draft EIR.

Forestry Resources

Because the EIR Study Area does not contain any national- or State-designated forestland and the woodland/forest communities do not qualify as forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)), the significance thresholds outlined in Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines related to forestry resources are not evaluated in this Draft EIR (California Department of Forestry and Fire Protection 2026).

5.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(a) requires that "[d]irect and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short- and long-term effects." CEQA Guidelines Section 15126.2(c) requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Table ES-1, *Summary of Significant Environmental Impacts and Mitigation Measures*, in the *Executive Summary* of this Draft EIR summarizes the significant impacts, mitigation measures, and levels of significance with and without mitigation.

Though mitigation measures, where feasible, would reduce the level of impact of the proposed Project, the following impacts would remain significant and unavoidable:

Agricultural Resources

- **Impact AGR-1:** Implementation of the proposed Project could result in the conversion of Prime Farmland, Unique Farmland, and 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 nonagricultural uses.
- **Impact AGR-2:** Implementation of the proposed Project could conflict with existing zoning for agricultural use and Williamson Act contracts.
- **Impact AGR-3:** Implementation of the proposed Project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.
- **Impact AGR-4:** Implementation of the proposed Project could result in a significant cumulative impact with respect to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), existing zoning for agricultural uses, and Williamson Act properties, and farmland to nonagricultural uses.

Air Quality

- **Impact AQ-2:** Implementation of the proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard during construction and operation.
- **Impact AQ-5:** Implementation of the proposed Project could result in cumulative air quality impacts with respect to generation of criteria pollutants and exposure of substantial pollutant concentrations at sensitive receptors.

Greenhouse Gas Emissions

- **Impact GHG-1:** Implementation of the proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- **Impact GHG-2:** Implementation of the proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- **Impact GHG-3:** Implementation of the proposed Project could result in a significant cumulative impact with respect to generation of greenhouse gas (GHG) emissions that may have a significant impact on the environment and conflict with an applicable plan adopted for the purpose of reducing GHG emissions.

Mineral Resources

- **Impact MIN-1:** Implementation of the proposed Project could result in the loss of availability of known mineral resources that would be of value to the region and the residents of the State.
- **Impact MIN-3:** Implementation of the proposed Project could result in a significant cumulative impact with respect to the loss of availability of known mineral resources that are of value to the region and the residents of the State.

Noise

- **Impact NOI-1:** Implementation of the proposed Project could generate 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.
- **Impact NOI-4:** Implementation of the proposed Project could generate 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, resulting in a significant cumulative impact.

5.3 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss whether "[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely." The discussion shall consider primary and secondary impacts that generally commit future generations to similar uses, irreversible damage from environmental accidents, and irretrievable commitments of resources. The three CEQA-required categories of irreversible changes are discussed herein.

Changes in Land Use that Commit Future Generations

As described in detail in Chapter 2, *Project Description*, of this Draft EIR, the proposed Project changes some parcels' land use designations, most of which are to create the Midtown Specific Plan Area, though generally maintains the land use pattern of the existing General Plan. Development is encouraged in existing urban areas, and new development is required to be adjacent to the existing City Limit. The existing General Plan provided development allocations for buildout of the city through the year 2025. Some future development consistent with the proposed Project would be on land that is generally urbanized or on infill sites and sites in developed areas that are underutilized. However, some future development may occur on vacant non-urban sites that are already designated for development. Once future development

occurs, it would not be feasible to return the developed land to its existing (pre-project) condition. Therefore, there is potential that some of the development consistent with the proposed Project would lead to irreversible changes in land use.

Irreversible Damage from Environmental Accidents

Irreversible changes to the physical environment could occur from accidental release of hazardous materials associated with development activities under the proposed Project; however, compliance with the applicable existing regulations and proposed General Plan 2045 goals, policies, and actions as discussed in Section 3.9, *Hazards and Hazardous Materials*, of this Draft EIR would ensure these impacts would be less than significant. Therefore, irreversible damage is not expected to result from the adoption and implementation of the proposed Project.

Large Commitment of Nonrenewable Resources

Future development would result in the commitment of limited, renewable resources, such as lumber and water. In addition, future development would irretrievably commit nonrenewable resources for the construction of buildings, infrastructure, and roadway improvements. These nonrenewable resources include mined minerals, such as sand, gravel, steel, lead, copper, and other metals. Future development also represents a long-term commitment to the consumption of fossil fuels, such as natural gas and gasoline. Increased energy demand would be used for construction, lighting, heating, and cooling of residences, and transportation of people. However, as discussed in Section 3.6, *Energy,* and in Section 3.17, *Utilities and Service Systems*, of this Draft EIR, several regulatory measures and proposed General Plan 2045 goals and policies, and actions encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building. Future development would be required to comply with all applicable building and design requirements, including those set forth in Title 24 relating to energy conservation. In compliance with CALGreen, the State's Green Building Standards Code, future development would be required to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

Consumption of building materials and energy, as described, is common to most other development in the region. The commitments of resources associated with the proposed Project are not unique or unusual. Although future development would require nonrenewable resources during construction and operation, compliance with applicable standards and regulations and implementation of proposed General Plan 2045 goals and policies would reduce the use of nonrenewable resources to the maximum extent practicable. Therefore, development would not be expected to involve an unusual commitment of nonrenewable resources, nor be expected to consume any resources in a wasteful manner.

While development would increase resource consumption during construction and operation, it would also result in some benefits related to long-term resource consumption in the region. The proposed Project would allow for the development of future housing to meet the housing needs in the city and region. Additionally, future development would accommodate much of the anticipated growth within existing developed areas. Prioritizing infill development protects natural lands and open space and reduces fossil fuel consumption attributable to longer commuting distances and lack of transit options. For these reasons, the irretrievable commitment of resources attributable to the proposed project would not be considered significant.

5.4 GROWTH-INDUCING EFFECTS

Section 15126.2(e) of the CEQA Guidelines requires that an EIR discuss the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical factors may include the removal of obstacles to population growth, such as through a major expansion of a wastewater plant.

This section evaluates the proposed Project's potential to create such growth inducements. As CEQA Guidelines Section 15126.2(e) requires, "[it] must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment." Negative impacts associated with growth inducement occur only where the projected growth would cause significant adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct or indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary growth-inducing impacts consist of growth induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

As discussed in detail in Section 3.14, *Population and Housing*, of this Draft EIR, the General Plan is the policy document that plans ahead to accommodate the amount of reasonably foreseeable growth given past growth trends and the ability of existing services and infrastructure to support future growth. Therefore, the proposed Project would not directly induce growth but rather is a response to growth that is likely to occur whether the proposed Project is adopted or not. Because the proposed General Plan 2045 also includes recommendations for future roadway and infrastructure extension, as it is required to do by State law, it has the potential to indirectly induce growth. However, the proposed General Plan 2045 itself is the City's effort to adequately plan for this growth.

This additional growth would likely occur incrementally over a period of approximately 20 years and a policy framework is in place to ensure adequate planning occurs to accommodate. The proposed Project would allow mixed-use development and employment centers and would implement energy and water conservation requirements related to existing and new development, thereby minimizing consumption of non-renewable resources to the extent practicable.

Direct Impacts

The proposed Project consists of plan-level documents and does not propose any specific development; however, implementation of the proposed Project would induce growth by increasing the development potential in the EIR Study Area, as shown in Table 2-3, *Proposed 2045 Buildout Projections in the EIR Study Area*, in Chapter 2, *Project Description*, of this Draft EIR. As shown in Table 2-3, the 2045 forecast for the EIR Study Area is approximately 131,750 total population, 49,640 housing units, and 63,330 jobs.

State law requires the City to promote the production of housing to meet its fair share of the regional housing needs distribution made by the Association of Bay Area Governments in the Regional Housing Needs Assessment (RHNA). While the City provides adequate sites to meet its fair-share housing obligations, the additional housing capacity provided by the proposed Project would meet the additional demand generated by new job growth. Furthermore, pursuant to Senate Bill 166, Housing Elements are required to include a "buffer" of additional sites to ensure that if the sites listed in the housing opportunity sites inventory are developed without housing, or are developed with less than the full amount of housing claimed in the inventory, there is remaining capacity to ensure an ongoing supply of sites for the full RHNA during the eight years of the Housing Element cycle. The proposed General Plan 2045 land use map includes enough land designated for housing to fulfill the City's 2023-2031 RHNA as well as future buffer sites identified through the 2023-2031 Housing Element.

In addition, the proposed Project would result in regional benefits by directing growth in a manner that supports reduced automobile dependence, which could result in improved air quality and reduced greenhouse gas (GHG) emissions. Encouraging infill growth in designated areas would help to reduce development pressures on lands outside the City Limit.

Indirect Impacts

The proposed Project could be considered growth inducing because it includes goals and policies that encourage new growth. Much of the development would consist of infill development on underutilized sites, sites that have been previously developed, and that are vacant and have been determined to be suitable for development. However, infrastructure is largely in place, and growth would be required to comply with the proposed General Plan 2045,

zoning regulations, and standards for public services and utilities; secondary effects associated with this growth do not represent a new, significant environmental impact that has not already been addressed in the individual resource sections of this Draft EIR. As discussed in detail throughout Chapter 3, most of the potential environmental impacts would be avoided or lessened with adherence to federal, State, and local policies and implementation of proposed General Plan 2045 policies, including policies related to growth management, and by implementation of mitigation measures. Therefore, by design, the General Plan 2045 reduces most of the impacts of the growth it could otherwise have induced. Those impacts that cannot be reduced to a less-than-significant level are described in Section 5.1, *Significant Unavoidable Impacts*. Additional population and employment growth would likely occur incrementally over a period of approximately 20 years and would be consistent with the regional planning objectives established for the Alameda County region.

5.5 REFERENCES

California Department of Forestry and Fire Department. 2026. CAL FIRE Timber Harvesting Plans All WGS84. https://www.arcgis.com/apps/mapviewer/index.html?layers=e465165103474d14b684b7effb3e1a43, accessed January 30, 2026.

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