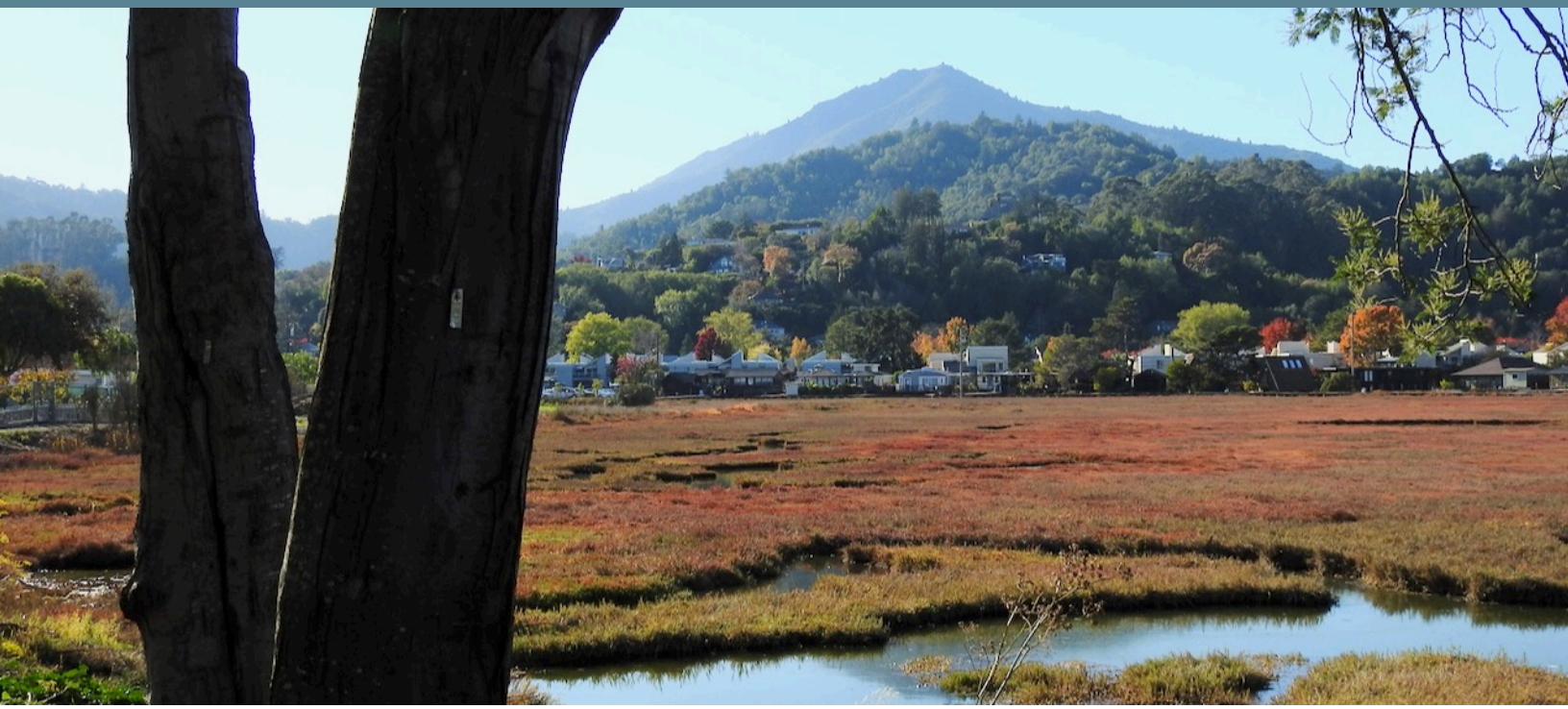

CITY OF LARKSPUR

2040 GENERAL PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

DECEMBER 2022

STATE CLEARINGHOUSE NO. 2020120517

Larkspur General Plan 2040

Draft Environmental Impact Report

State Clearinghouse Number 2020120517

December 1, 2022

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1.0 Introduction Chapter

The City of Larkspur has prepared an update to its 1990 General Plan. A general plan is often characterized as the constitution of a city or county. The State's 2017 General Plan Guidelines states that the general plan is more than the legal underpinning for land use decisions; it is a vision about how a community will grow, reflecting community priorities and values while shaping the future. California state law requires each city and county to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (Gov. Code § 65300). The general plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. The California Supreme Court has described general plans as the "charter to which [zoning] ordinance[s] must conform", but the general plan extends far beyond zoning and land use (Lesher Communications, Inc. v. City of Walnut Creek (1990) 52 Cal.3d 531, 540).

This Draft EIR is intended to review potential environmental impacts associated with the adoption and implementation of the Larkspur General Plan 2040, herein referred to as the proposed project, and to determine corresponding mitigation measures, as necessary. This Draft Environmental Impact Report (Draft EIR) is a program-level EIR and does not evaluate the impacts of specific, individual developments that may be allowed in the future under the proposed project. Each future project will conduct additional environmental review, as required by CEQA, to secure any necessary discretionary development permits. As part of this process, subsequent projects will be reviewed by the City for consistency with the General Plan and this Draft EIR.

The proposed project that is the subject of this Draft EIR consists of long-term plans and regulatory changes that would be implemented over time as policies and regulations guiding future development activities and City actions. No specific development projects are proposed as part of the proposed project. Therefore, as a program EIR, it is not project specific and does not evaluate the impacts of individual projects that may be proposed in the future under the General Plan 2040. However, where the program EIR addresses the program's effects as specifically and comprehensively as is reasonably possible, later activities that are within the scope of the effects examined in the program EIR, may qualify for a streamlined environmental review process or may be exempt from environmental review.

1.1 Purpose

This Draft EIR was prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses the potentially significant environmental impacts of a project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the lead agency). The City of Larkspur (City) is the lead agency for the proposed City of Larkspur General Plan 2040. Public agencies are charged with the duty to

consider and minimize environmental impacts of proposed development where feasible. and they have the obligation to balance economic, environmental, and social factors.

This EIR is an informational document for use in the City's review and consideration of the proposed project. It will be used to facilitate development of a General Plan that incorporates environmental considerations and planning principles into a cohesive policy document. The General Plan 2040 will guide subsequent actions taken by the City in its review of new development projects. This EIR discloses the possible environmental consequences associated with the proposed project.

This Draft EIR identifies mitigation measures and alternatives to the proposed project that would avoid or reduce potentially significant impacts. This Draft EIR compares the development potential of the proposed project with the existing baseline condition that is described in detail in each section of Chapter 4, Environmental Analysis, of this Draft EIR. The City of Larkspur (City) is the lead agency for the proposed project. This assessment is intended to inform the City's decision-makers, other responsible agencies, and the public-at-large of the nature of the proposed project and its potential effect on the environment.

If approved by the Larkspur City Council, the proposed project would replace the City's existing 1990 General Plan with an updated General Plan. The proposed project would build off the existing 1990 General Plan to provide a framework for land use, transportation, and conservation decisions through the horizon year of 2040.

1.2 Type of EIR and EIR Scope

This Draft EIR has been completed in accordance with CEQA, which requires that State and local public agencies analyze proposed projects to determine potential impacts on the environment and disclose any such impacts. The City of Larkspur (City) is the lead agency for the environmental review of the proposed project. Chapter 4, Environmental Analysis, of this Draft EIR provides a programmatic analysis of the environmental impacts associated with projected development under the proposed project by 2040. Program-level environmental review documents are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria. The proposed project that is the subject of this EIR consists of long-term plans and zoning changes that will be implemented as policy documents guiding future development activities and City actions.

This EIR fulfills the requirements for a Program EIR. A program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed General Plan 2040. This Draft EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed General Plan 2040.

1.3 Environmental Review Process

Notice of Preparation

In accordance with the *CEQA Guidelines*, the City determined that the proposed project could result in potentially significant environmental impacts and that a program EIR would be required. A Notice of Preparation (NOP) of a Draft EIR was circulated to the State Clearinghouse, responsible, and trustee agencies and persons requesting notice on December 21, 2020. The NOP, included in Appendix A, stated that all issues included in Appendix A (Environmental Checklist) of the CEQA Guidelines would be discussed in the EIR.

The City received written responses to the NOP regarding the scope and content of the EIR. Those responses, included in Appendix A, are addressed in the analysis contained in the topical subsections of Section 4, Environmental Impact Analysis.

Draft Environmental Impact Report

This Draft EIR contains a description of the proposed General Plan 2040, a description of the environmental setting, an identification of the proposed General Plan 2040's direct and indirect impacts on the environment, the proposed General Plan 2040 policies and programs that reduce potential impacts, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Comments received in response to the NOP were considered in preparing the Draft EIR.

Public Notice and Public Review

Upon completion of the Draft EIR for the proposed General Plan 2040, the City of Larkspur will file a Notice of Completion (NOC) with the State Clearinghouse (SCH) of the Governor's Office of Planning and Research to begin the public review period (PRC § 21161).

Concurrent with the NOC, the City will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR will be no less than 45 days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Elise Semonian
Community Development Director
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939
Phone: 415-927-6713
Email: esemonian@cityoflarkspur.org

In addition, the City will consider the Draft EIR at one or more public hearings before the Planning Commission and/or City Council. The public will have an opportunity to provide verbal comments on the Draft EIR during public hearings. Notice of public hearings will be posted on the City's website, in the local newspaper, and through direct mailing to interested parties that have requested notification. Notice of the hearings will be posted to the following three public bulletin boards in the City:

A. The bulletin board on the front porch of City Hall.
B. The bulletin board in the entrance of Bon Air Shopping Center.
C. The bulletin board in the entrance of Larkspur Landing Shopping Center.

Response to Comments and Final EIR

Following the public review period on the Draft EIR, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments made at public hearings. The Final EIR may also include corrections, clarification, and additional explanatory information that is being added to the Draft EIR.

Certification of the EIR and Project Considerations

The City Council is the decision-making body on the proposed General Plan 2040 and Draft EIR.If the City Council finds that the Final EIR is "adequate and complete," it may certify the Final EIR in accordance with CEQA Guidelines. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed project that take account of environmental consequences. Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or reject the proposed General Plan 2040. A decision to approve the proposed General Plan 2040, for which this Draft EIR identifies significant environmental effect must be accompanied by written findings, in accordance with CEQA Guidelines Sections 15091 and 15093.

A Mitigation Monitoring and Reporting Program (MMRP) would also need to be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097. The MMRP will list all mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the Draft EIR.

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 all feasible mitigation measures identified in the EIR and may also require other feasible mitigation measures.

In some cases, the City Council may find that certain mitigation measures are outside the jurisdiction of the City to implement, or that no feasible mitigation measures have been identified for a given significant impact. In that case, the City Council would have to adopt a

statement of overriding considerations that determines that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable, significant effects on the environment.

1.4 Organization and Scope

CEQA Guidelines Sections 15122 through 15132 identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The environmental issues addressed in the Draft EIR were established through review of environmental and planning documentation developed for the proposed General Plan 2040, environmental and planning documentation prepared for recent projects located within the City of Larkspur, and responses to the NOP and public scoping meeting comments.

This Draft EIR is organized in the following manner:

Chapter 1–Introduction. This chapter briefly describes the proposed General Plan 2040, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

Chapter 2–Summary. The Summary summarizes the characteristics of the proposed General Plan 2040, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed General Plan 2040's significant environmental impacts and mitigation measures consistentwith CEQA Guidelines Section 15123.

Chapter 3–Project Description. This chapter provides a detailed description of the proposed General Plan 2040, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA Guidelines, subsequent projects and activities, and a list of related agency action requirements.

Chapter 4–Environmental Impact Analysis. This chapter contains the analysis of environmental topic areas as identified below. Each section contains a description of the existing environment as it pertains to the topical area as well as a description of the regulatory environment that may be applicable to the proposed General Plan 2040. Each section also identifies thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact. The following environmental topics are addressed in this chapter:

1. Aesthetics
2. Air Quality
3. Biological Resources
4. Cultural and Tribal Cultural Resources

5. Energy
6. Geology, Soils, and Seismicity
7. Greenhouse Gas Emissions
8. Hazards and Hazardous Materials
9. Hydrology and Water Quality
10. Land Use and Planning
11. Noise
12. Population, Housing, and Employment
13. Public Services and Recreation
14. Transportation
15. Utilities and Service Systems
16. Wildfire

Chapter 5–Project Alternatives. This chapter provides a comparative analysis of the proposed General Plan 2040 and the selected alternatives, including the mandatory "No Project" alternative.

Chapter 6– CEQ-Required Conclusions and Findings. This chapter evaluates and describes the following CEQA required topics: impacts considered significant and unavoidable, significant and irreversible impacts, and growth-inducing effects.

Appendices. This chapter includes the NOP and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support impact analyses

Areas of No Impact. The Planning Area is a developed suburban area and does not contain agricultural, forestry, or mineral resources as described in more detail below. Accordingly, this EIR does not further address impacts to these resources since those resources do not exist in the Planning Area. As regards agricultural resources, the Planning Area does not contain:

- Prime Farmland, Unique Farmland or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency;
- Zoning for agricultural use or a Williamson Act contract; or
- Zoning for 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)).

Accordingly, the project would not result in loss or conversion of these agricultural or forestry lands or resources to another use.

The Planning Area also does not contain the following:

- Known mineral resources that would be of value to the region and the residents of the state; or
- Important mineral resource recovery site delineated on a local general plan.

2.0 Summary Chapter

2.1 Introduction

This summary chapter presents an overview of the proposed General Plan 2040 hereafter referred to as the "proposed project." This chapter also provides a summary of the alternatives to the proposed project, identifies issues to be resolved, areas of controversy, and conclusions of the environmental analysis described in Chapter 4.0 of this Draft EIR.

This Draft EIR addresses the environmental effects associated with adoption and implementation of the proposed project. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An EIR is a public document designed to provide the public, local, and State government decision-makers with an analysis of the potential environmental consequences to support informed decision-making. As previously described in Chapter 1.0, this Draft EIR has been prepared pursuant to the requirements of CEQA and the State CEQA Guidelines to determine if approval of the identified discretionary actions and related subsequent development could have a significant impact on the environment.

An EIR is one of various decision-making tools used by a lead agency to consider the merits of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly 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 the proposed project would result in significant impacts that cannot be avoided.

2.2 Type and Purpose of This EIR

This EIR fulfills the requirements for a Program EIR. A program-level analysis considers the broad environmental effects of the proposed project. Because of the long-term planning horizon of the proposed project and the scope of the actions that are related both geographically and as logical components needed for implementation, this Draft EIR has been prepared as a program EIR. Pursuant to CEQA Guidelines Section 15168, activities within the program must be evaluated to determine whether additional CEQA review is needed. However, where the program EIR addresses the program's effects as specifically and comprehensively as is reasonably possible, later projects or activities that are within scope of the impacts examined in the program EIR, may qualify for a streamlined environmental review process or may be exempt from environmental review.

2.3 Summary of Proposed Project

The proposed project would replace the City's existing General Plan, which has a buildout horizon to 2010, with an updated General Plan. The existing Larkspur General Plan 1990-2010 involved a major overhaul and modernization of the 1972 General Plan. Because Larkspur is a largely a built-out community, there has been little change to the long-range development vision of the community. The community prizes the City's existing small-town character and its historic downtown and neighborhoods. The City determined that General Plan 1990-2010 provided a good foundation for the proposed General Plan 2040. Many of the community issues vetted in General Plan 1990-2010 are still relevant, well addressed, and do not require major changes. Therefore, the proposed General Plan 2040 is not a major departure from General Plan 1990-2010 in terms of its underlying vision and fundamental growth concepts.

As discussed in more detail in Chapter 3.0, Project Description and Chapter 4.10, Land Use and Planning, of this Draft EIR, the proposed General Plan 2040 builds off the current General Plan 1990-2010 by incorporating the topics that are now required by State law and revising relevant goals, policies, and programs to meet those requirements, including growth targets set by ABAG in the Final 2023-2031 RHNA and the *Plan Bay Area 2050*.

The proposed General Plan 2040 includes changes that may influence the types and intensities of land uses permitted on different sites in the city.

- Several policies in the Land Use Chapter have been revised to encourage development of upper-story housing above commercial development and reuse and redevelopment of large commercial lots.
- A new "Mixed Use I" designation was added, and the chapter encouraged a Planned Development District for a large vacant parcel; in the Larkspur Landing Area.
- A program was added to consider amending commercial and industrial development standards in the Zoning Ordinance to be more flexible (such as reduced on-site or shared parking, more unified parking standards, increased building heights and FAR, amended sign regulations, etc.).
- A plan to conduct studies of other commercial sites to allow a mix of uses that includes new housing was recommended.
- A land use classification and pre-zoning designation were added to the State-owned parcel at the east end of the City's Sphere of Influence.

The proposed General Plan 2040 also extends the planning horizon forward by 20 years, consistent with other regional plans, including *Plan Bay Area 2050*. Additionally, the proposed General Plan 2040 maintains 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 Planning Area.

2.4 Summary of Project Alternatives

This Draft EIR analyzes alternatives to the proposed project that are designed to reduce the significant environmental impacts of the proposed project and feasibly attain most of the proposed project objectives. Identification of the environmentally superior alternative involves weighing and balancing all of the environmental resource areas by the City. The following alternatives to the proposed project were considered and analyzed in detail:

> Alternative A: No Project. Consistent with Section 15126.6(e)(2) of the CEQA Guidelines, Alternative A presents the No Project scenario. Accordingly, under this alternative the proposed project would not be adopted or implemented, and further development in the city would continue to be subject to existing policies, regulations, development standards, and land use designations under the existing General Plan 1990-2010as well as the City's requirement to meet its identified share of State housing development to 2040. This would result in the same number of new housing units as projected for the proposed project.
>
> Alternative B: Reduced Residential Growth, presents a lower residential buildout when compared to the proposed project. Alternative B uses the projected growth in Larkspur projected in the *Plan Bay Area 2040* and used in the TAM Demand Model for projecting Vehicle Miles Travelled (VMT) to 2040. This projection would add an additional 640 dwelling units, or approximately half the number of units projected for the proposed project. Alternative B includes all the goals, policies, and programs of the proposed General Plan 2040 and the mitigation measures recommended in this EIR.

Chapter 5.0, Alternatives to the Proposed Project, of this Draft EIR, includes a complete discussion of these alternatives. As discussed in Chapter 5.0, Alternative B is the Environmentally Superior Alternative pursuant to CEQA Guidelines Section 15126.

2.5 Issues to Be Resolved

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the City of Larkspur related to:

- Whether this Draft EIR adequately describes the environmental impacts of the proposed project.
- Whether the benefits of the proposed project override environmental impacts that cannot be feasibly avoided or mitigated to a level of insignificance.
- Whether the identified goals, policies, or mitigation measures should be adopted or modified.
- Whether there are other mitigation measures that should be applied to the proposed project besides those goals, policies, or mitigation measures identified in the Draft EIR.

- Whether Alternative B is feasible given ABAG's RHNA 2023-2031 RHNA and the targets included in the Final Blueprint Compendium for the Plan Bay Area 2050
- 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 objectives.

2.6 Areas of Controversy

The City issued a Notice of Preparation (NOP) on December 21, 2020. The CEQA-mandated scoping period for this EIR was between December 22, 2020 and January 22, 2021, during which interested agencies and the public could submit comments about the potential environmental impacts of the proposed project. The City held an EIR Scoping Meeting on January 7, 2022. No comments pertinent to the scope of the EIR were received at that meeting. During this time, the City received comment letters from five State and local agencies as well as several organizations and members of the public.

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. This list is not necessarily exhaustive but identifies concerns that are likely to generate the greatest interest based on the input received during the scoping process.

- Potential barriers to implementing evacuation plans in the event of wildfire
- Watershed restoration
- Status of air quality and reduction of greenhouse gas emissions (OHO)
- Provision of adequate housing
- Protection of the shoreline and of development related to sea level rise
- Protection of cultural and historic resources
- Vehicular circulation and traffic impacts on congestion
- Visual impacts of higher-density development
- Impacts of development on public services
- Effects of cumulative development

2.7 Summary of Significant Impacts and Mitigation Measures

Table 2-1 summarizes the conclusions of the environmental analysis in this Draft EIR and presents a summary of significant impacts and mitigation measures identified. It is organized to correspond with the environmental issues where impacts were found to be significant. These topics include air quality, biological resources, cultural and tribal cultural resources, greenhouse gas emissions, noise and vibration, and utilities and service systems. All other topics were determined to be less than significant, and no mitigation measures were required beyond the goals, policies, and action programs of the proposed project. Table 2-1 is arranged in four columns: (1) impact; (2) significance without mitigation; (3) mitigation measures; and (4) significance with mitigation. Changes to plan policies and action program listed in the mitigation measures are denoted by underlining for additions and strike-through for deletions.

For a complete description of potential impacts, including those where no mitigation measures are required please refer to the specific discussions in Chapters 4.1 through 4.16.

2.8 Significant Unavoidable Impacts

Five impacts cannot be reduced to a less-than-significant level by Implementation of the goals, policies, and action programs of the Larkspur General Plan 2040. The five impacts include impacts related to inadequate water supply and greenhouse gas emissions. These impacts are discussed in detail in Chapter 4.0 of this EIR. They include:

1. Specific reductions and tools are not available to document the GHG emissions generated by buildout can reach a level that is 60-percent below 1990 levels, as required to meet the 2050 reduction goal of Executive Order S-03-05. Therefore, the project is considered to have a significant and unavoidable impact with respect to GHG emissions.
2. Implementation of the City's Climate Action Plan 2939 and the goals, policies, and action programs of Larkspur General Plan 2040 would ensure that the City is tracking and monitoring the City's GHG emissions to chart a trajectory to achieve the long-term year 2050 GHG reduction goal set by Executive Order S-03-05. However, at this time, there is no plan that extends beyond 2030 that achieves the long-term GHG reduction goal established under Executive Order S-03-05. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impact would be significant and unavoidable.
3. The Marin Municipal Water District (Marin Water) may need to develop additional sources of water to meet the demand of buildout under the Larkspur General Plan 2040. Development of possibly needed new sources of water could have a significant and unavoidable impact on the environment.
4. Marin Water may not have adequate sources of water to serve the proposed project and foreseeable future development in its service area during dry and multiple-dry years. Developing additional sources of water to meet demand during these dry year scenarios could have significant and unavoidable impacts on the environment.
5. Implementation of the proposed project could result in a cumulatively considerable impact to water service. Again, additional sources of water may need to be developed.

Table 2-1: Significant Impacts and Mitigation Measures			
Impact	**Impact Significance**	**Mitigation**	**Impact Significance After Mitigation**
Aesthetics			
Impact AES-1: Implementation of the proposed project could have a substantial adverse effect on a scenic vista.	S	~~**Mitigation Measure AES-1-1:** Replace Action Program CHAR-1.2c with the following program:~~ *Action Program CHAR-1.2.c: Develop objective design standards, objective zoning standards, objective subdivision standards, and objective design review standards and add these standards to Chapter 18.100 of the Larkspur Municipal Code. These standards will comply with State laws for such standards. Development and adoption pf these standards will be a first priority action item for implementing the General Plan.*	LTS
Impact AES-3: Implementation of the proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings.	S	Mitigation Measure AES-1 applies to this impact.	LTS
Impact AES-5: Implementation of the proposed project could result in a cumulatively considerable impact to aesthetic resources.	S	Mitigation Measure AES-1 applies to this impact.	LTS
Air Quality			
Impact AIR-2: Future development allowed by the project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions	S	**Mitigation Measure AIR-1:** Modify Policy SAF-9.3 of the Community Health and Safety Chapter as follows: Policy SAF-9.3: Ensure that *construction activity and* traffic generated by new development does not lead to non-	LTS

which exceed quantitative thresholds for ozone precursors).		attainment of state and federal ambient air quality standards in Marin County.	
Impact AIR-3: The project could expose sensitive receptors to substantial pollutant concentrations during operation.	S	**Mitigation Measure AIR-2:** Add the following Action Programs under Policy SAF-9.4 *Action Program SAF-9.4.b: Projects that may result in additional toxic air contaminants that are located within 1,000 feet of a sensitive receptor(s) or would place sensitive receptors within 1,000 feet of uses generating toxic air contaminants, such as roadways with volumes of 10,000 average annual daily trips or greater, shall implement Bay Area Air Quality Management District Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring health risk assessments (HRAs) for residential development and other sensitive receptors; screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the HRA, identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of a proposed project and implemented prior to project occupancy or public use.* *Action Program SAF-9.4.c: As recommended by the California Air Resources Board, require projects that would result in construction activities within 1,000 feet of residential and other land uses that are sensitive to toxic air contaminants (e.g., hospitals, nursing homes, day care centers), as measured from the property line of the project, to prepare a construction health risk assessment in accordance with policies and procedures of the Office of Environmental Health Hazard Assessment and the BAAQMD CEQA Guidelines that identifies mitigation measures are capable of reducing*	LTS

		potential cancer and noncancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0)	
Impact AIR-5: Implementation of the proposed project could cumulatively contribute to air quality impacts in the San Francisco Bay Area.	S	**Mitigation Measures AIR-1** and **AIR-2** presented above also apply to this cumulative impact.	LTS
Biological Resources			
Impact BIO-1: Implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	S	**Mitigation Measure BIO-1**: To ensure sensitive species of any kind are not adversely impacted by implementation of the proposed project, the City shall adopt revisions to Policy ENV-1.1 in the form of the addition of the following action programs: Action Program ENV-1.1.d: Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of special status species or sensitive natural communities prior to development approval. Such surveys should be conducted by a qualified biologist and occur prior to development-related vegetation removal or other habitat modifications. Action Program ENV-1.1.e: Nests of native bird that are in active use should be avoided in compliance with state and federal regulations. For new development sites where, nesting birds may be present, vegetation clearing, and construction should be initiated outside the bird nesting season (February 01 through August 31) or preconstruction surveys should be conducted by a qualified biologist no more than 14 days in advance of any disturbance. If active nests are encountered, appropriate buffer zones should be established based on recommendations by the qualified biologist and remain in place until the biologist has confirmed that all young birds have successfully left the nest.	LTS
Impact BIO-2: Implementation of the proposed project could have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified	S	**Mitigation Measure BIO-1** listed above also applies to this impact.	LTS

in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.			
Impact BIO-3: Implementation of the proposed project could 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.	LS	**Mitigation Measure BIO-1** listed above also applies to this impact.	LTS
Impact BIO-4: Implementation of the proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	S	**Mitigation Measure BIO-2** Revise Policy ENV-1.5 as follows: Policy ENV-1.5: Endeavor to preserve and enhance wildlife habitat *and important wildlife movement* corridors, including those in watercourses and riparian areas, and control human use of these areas as necessary to protect them. Add the following Action Programs to Policy ENV-1.5. Action Program ENV-1.5.b: Preserve and protect those areas that provide natural connections thereby permitting wildlife movement between larger natural areas. Action Program ENV-1.5c: Support mapping of wildlife corridors within the City. Use this data to determine where conservation easements may be appropriate in the event properties within these corridors are subdivided, or when other opportunities arise for securing such easements. Consider climate change impacts when evaluating corridor importance.	LTS
Impact BIO-7: Implementation of the proposed project could result in a cumulatively considerable impact to biological resources.	S	**Mitigation Measures BIO-1** and **BIO-2** also apply to this cumulative Impact.	LTS

Cultural Resources and Tribal Cultural Resources			
Impact CULT-2: Implementation of the proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	S	**Mitigation Measure CULT**-*1* To ensure sites where archaeological resources are unearthed during the construction phase of development projects are mitigated to an acceptable level, the City shall add Action Program CHAR-4.2.e to develop an Archaeological Resources Ordinance. Action Program CHAR-4.2.e: Add the following construction best management practices to the Larkspur Municipal Code Chapter 14.42.040 (C) to follow if a potentially significant archaeological resource is encountered during ground disturbing activities. Best management practices could include: • All construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study. • All developers, contractors, and subcontractors in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. • Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archaeologist. • If the resource is a tribal resource, the consulting archaeologist shall consult with the appropriate tribe to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find,	LTS

		proposed project design, costs, and other considerations. • If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented. • If the resource is a nontribal resource determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. • The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. • The report shall be submitted to the City of Larkspur, Northwest Information Center, and State Historic Preservation Office, if required.	
Impact CULT-4: Implementation of the proposed project would not cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: i) Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k), or ii) 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 the PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance to a California Native American tribe.	S	**Mitigation Measure CULT-1** applies to this impact.	LTS

Impact CULT-5: Implementation of the proposed project would cause impacts that are not cumulatively considerable when viewed in connection with the effects of past, present, and reasonably foreseeable projects.	S	**Mitigation Measure CULT-1** applies to this cumulative impact.	LTS
Greenhouse Gas Emissions			
Impact GHG-1: The project could result in the generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	S	Since specific GHG reductions and tools to document these GHG reductions to a level that is 60-percent below 1990 levels are not available, the project is considered to have a significant and unavoidable impact with respect to GHG emissions.	S
Impact GHG-2: Implementation of the proposed project could cumulatively contribute to GHG emissions and global climate change.	S	At this time, there is no plan that extends beyond 2030 that achieves the long-term GHG reduction goal established under Executive Order S-03-05. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impacts would be significant and unavoidable.	S
Hydrology & Water Quality			
Impact HYD-5 Implementation of the proposed project could risk release of pollutants due to project inundation if a development site is in a flood hazard, tsunami, or seiche zone.	S	**Mitigation Measure HWQ-1**. Add the following policy and program to Goal SAF-4.4: Policy SAF-4.5: Minimize the release of hazardous pollutants from sites inundated by sea level rise. *Action Program SAF-4.5.a: Work with Marin County Department of Public Works, other agencies and organizations (e.g., San Francisco Bay Conservation and Development Commission, California Coastal Conservancy, etc.) to develop and adopt standards for identifying hazardous materials or contaminated sites that could be inundated by sea level rise and for treating or protecting such sites to*	LTS

		eliminate or minimize the risk of contamination of bay waters due to that inundation.	
Noise			
Impact N-2: Implementation of the proposed project could expose persons to or generate excessive groundborne vibration or groundborne noise levels.	S	**Mitigation Measure N-1** Revise Health & Safety Policy SAF-11.1 to add the following two new Action Programs to that policy. Action Program SAF-11.1.d: Revise the Municipal Code to add a standard to require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. Prior to issuance of any demolition, grading, or building permits (whichever occur first), the project applicant shall provide a vibration construction plan to reduce construction impacts at buildings where vibration level would exceed the vibration limits. Action Program SAF-11.1.e: Require new development near the SMART Station to provide adequate mitigation to avoid vibration damage from rail operations in Larkspur.	LTS
Utilities and Service Systems			
Impact UTIL-4: Implementation of the proposed project could require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	S	Marin Water has not completed feasibility studies and CEQA analyses of new water sources that may be needed to provide water for General Plan 2040 buildout. It is possible that providing additional water supply sources would have a significant and unavoidable impact on the environment.	S
Impact UTIL-5: Implementation of the proposed project could have sufficient water supplies available to serve the	S	Marin Water has not completed feasibility studies and CEQA analyses of new water sources that may be needed to provide water for General Plan 2040 buildout. It is possible	S

project and reasonably foreseeable future development during normal, dry, and multiple dry years.		that providing additional water supply sources would have a significant and unavoidable impact on the environment.	
Impact UTIL-6: Implementation of the proposed project could result in a cumulatively considerable impact to water service.	S	Marin Water has not completed feasibility studies and CEQA analyses of new water sources that may be needed to provide water for 2040 buildout of its service area. It is possible that providing additional water supply sources would have a significant and unavoidable impact on the environment.	S

3.0 Project Description

This chapter of the Draft Environmental Impact Report (EIR\\) describes the proposed Larkspur General Plan 2040 hereinafter referred to as "proposed project." The proposed project including potential new development associated with implementation of General Plan 2040 and the remaining buildout potential in the Association of Bay Area Governments (ABAG) 2050 projections (as adjusted for 2040). The potential buildout of the City is discussed in Section 3.8, 2040 Development Projections, of this chapter.

This chapter provides a detailed description of the proposed project, including the location, setting, and characteristics of the area studied in the EIR, as well as the project objectives, the principal project components,and required permits and approvals.

3.1 Background

Every city and county in California are required to have an adopted comprehensive long-range general plan for the physical development of the county or city. The General Plan is the principal policy document guiding the development of local municipalities and is often referred to as the "constitution" of local development. The General Plan also reflects the vision and values of a community. The City's General Plan serves as a basis for decisions that affect the City's growth and development, relative to transportation, land use, streets and infrastructure, parks and open space, housing and neighborhood character, recreation and community facilities, downtown, environmental resources, public health and safety, and hazards such as wildfire and flooding. The General Plan is a strategic and long-term document identifying goals and policies that guide and direct the City in terms of implementing policies, programs, and resources. While serving as an overarching guide for the future, many of the policies and program of the General Plan are implemented through other specific documents, regulations, and programs, such as the Municipal Code, the Capital Improvement Program (CIP), and the Bicycle and Pedestrian Master Plan (BPMP).

To remain effective, a General Plan usually focuses on a time horizon of 20 years. The City's General Plan was last completely updated in 1990 and has been subject to several amendments since that time. The Housing Element was adopted by the City in November 2011 and was revised and re-adopted by Resolution No. 31/15 in May 2015 to be consistent with that General Plan.

The City of Larkspur's Draft General Plan 2040 addresses updates to six of the seven State-required "elements": Land Use, Circulation, Conservation, Open Space, Noise, and Safety, as required by State law. The Housing Element was last updated and approved by the City Council on May 20, 2015 and approved by the State Housing and Community Development Department on May 28, 2015. Consistent with State Law, the current Housing Element remains effective through 2023. The City is currently preparing update to the Housing element for the 6th Regional Housing Need Allocation (RHNA).

3.2 Overview

The existing Larkspur General Plan 1990-2010 involved a major overhaul and modernization of the 1972 General Plan. Because Larkspur is largely a built-out community, there has been little change to the long-range development vision of the community. The community prizes the City's existing small-town character and its historic downtown and neighborhoods. The City determined that General Plan 1990-2010 provided a good foundation for the proposed General Plan 2040. Many of the community issues vetted in General Plan 1990-2010 are still relevant, well addressed, and do not require major changes. Therefore, the proposed General Plan 2040 is not a major departure from General Plan 1990-2010 in terms of its underlying vision and fundamental growth concepts. Rather, it builds off the current General Plan by incorporating the topics that are now required by State law and revises relevant policies and programs.

3.3 Location and Setting

The City of Larkspur is located in the eastern part of central Marin County. It is bounded by the City of San Rafael to the north; the Cities of Corte Madera and Mill Valley to the south, the San Francisco Bay to the east, and unincorporated Marin County to the west (see Figure 3.3-1). The City is accessed by Interstate 580 (Highway 580) via the Richmond-San Rafael Bridge and U.S. Highway 101 (Highway 101). The Sonoma-Marin Area Rail Transit (SMART) Train has a station immediately to the east of Highway 101 and north of Sir Francis Drake Boulevard not far from the Golden Gate Ferry terminal on the south side of Sir Francis Drake Boulevard. Reflecting its past as a summer home retreat and its more recent role as a "bedroom community," Larkspur is primarily a residential community. Major commercial areas include the historic downtown and shopping centers near both the west and east sides of Highway 101.

3.4 The Larkspur Planning Area

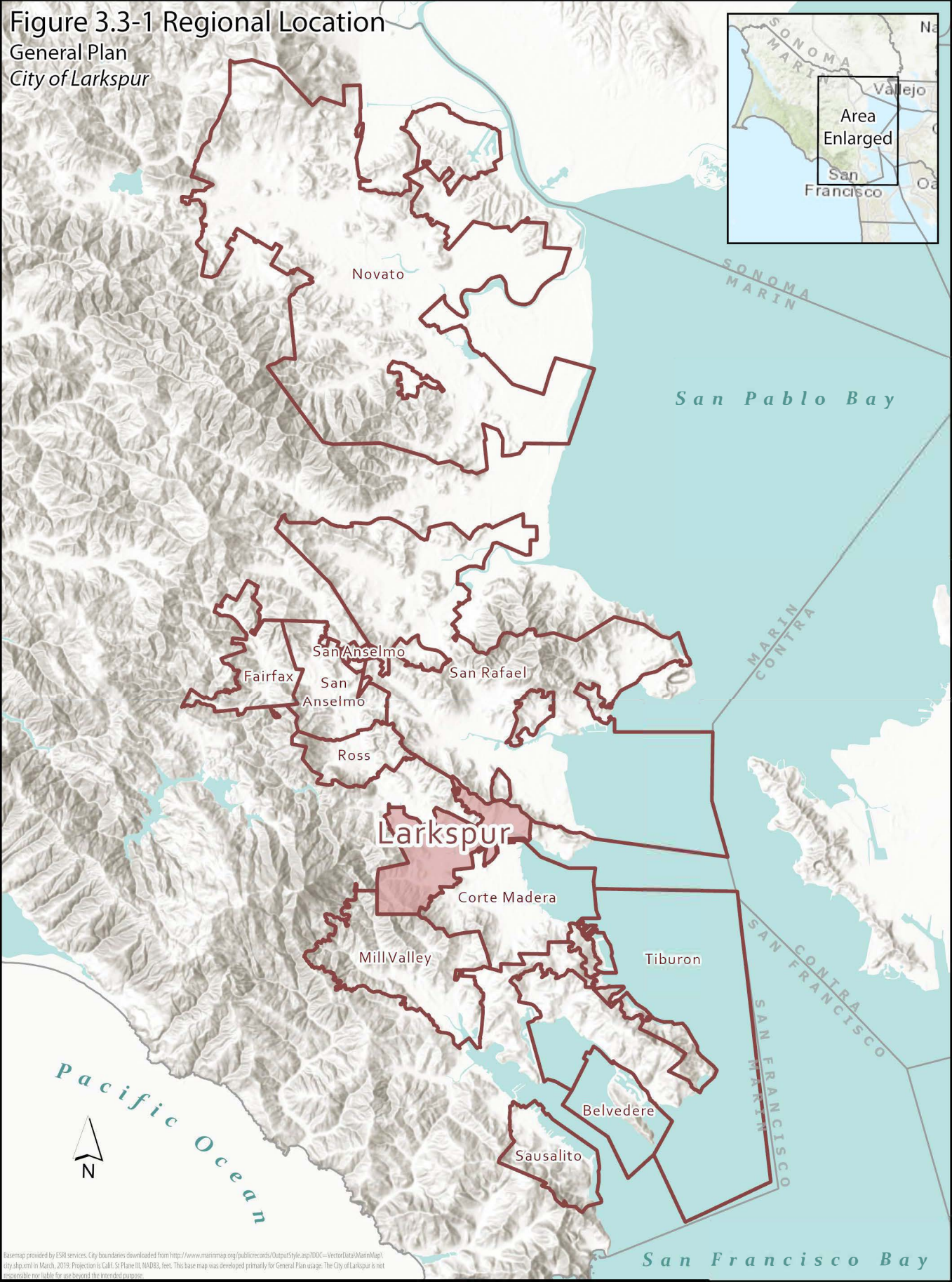
The Larkspur city limits enclose an area of approximately 3.24 square miles, of which 0.21 square miles consist of the Bay Waters, and the remaining 3.03 square miles consist of land. The City has primary authority over land use and other governmental actions within this area.

According to State planning law (California Government Code Section 65300), a city's general plan may cover "any land outside its boundaries which in the planning agency's judgment bears relation to its planning." By this definition and as described in Chapter 2 of the General Plan 1990-2010, the Larkspur Planning Area encompasses the adjacent unincorporated land in its "Sphere of Influence" (SOI), which is the probable ultimate physical boundaries and service area of the city as determined by the Marin County Local Agency Formation Commission (LAFCO) to be Larkspur's Urban Service area." The urban service area encompasses only those lands outside the [boundaries] that the City is committed to supplying municipal services "now or in the next 5-10 years," and includes Murray Park, west Greenbrae, and the southeast portion of the San Quentin Peninsula. The lands within the SOI consist of well-established, built-up communities on one side, and a State prison on the other. See Figure 3.4-1. None of the area within the SOI is interested in annexation to the City with the possible exception of State-

Figure 3.3-1 Regional Location

General Plan

City of Larkspur



Basemap provided by ESRI services. City boundaries downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=-VectorData\MarinMap\city.shp.xml in March, 2019. Projection is Calif. St Plane III, NAD83, feet. This base map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

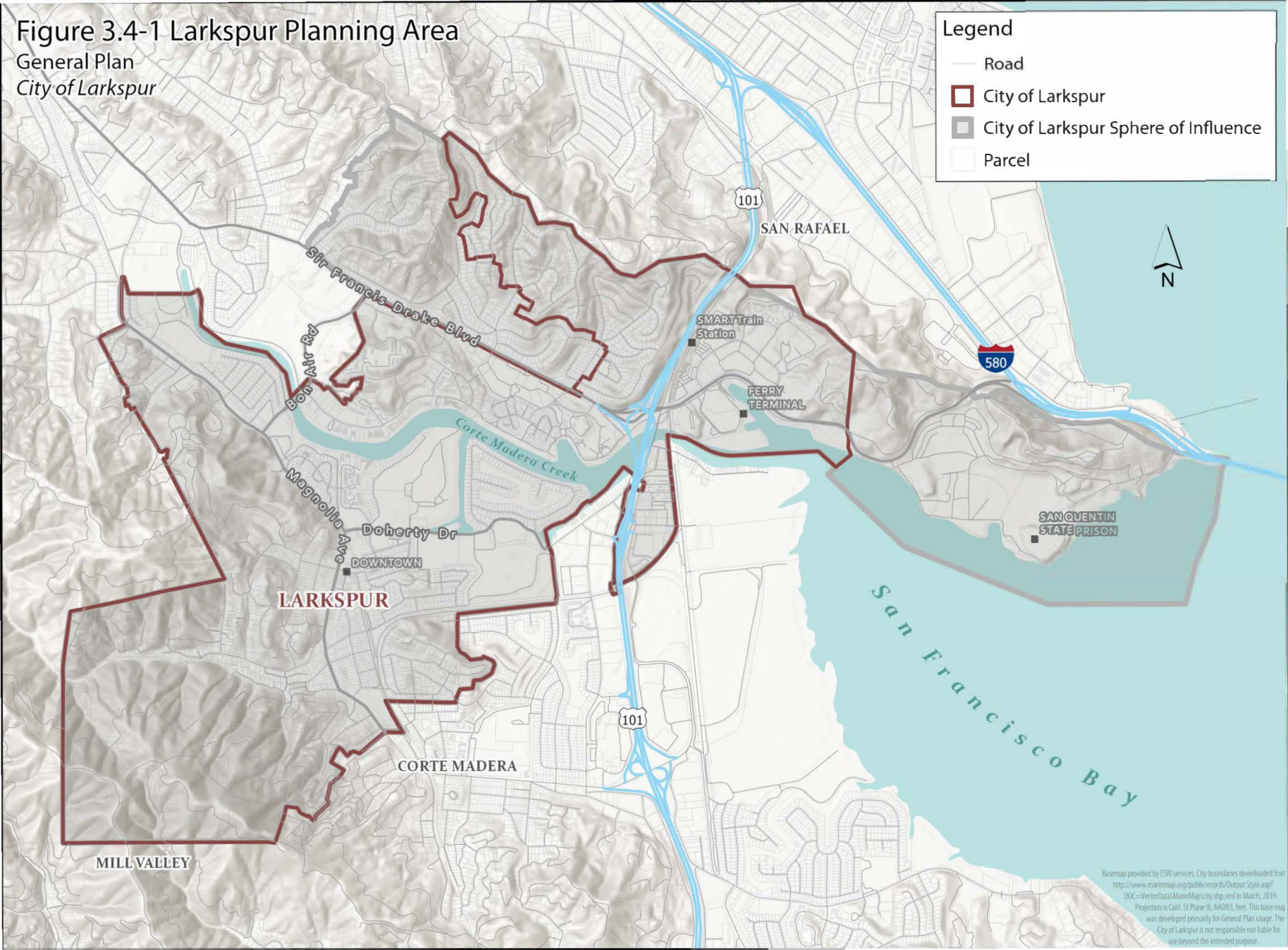


Figure 3.4-1 Larkspur Planning Area
General Plan
City of Larkspur
Legend
Road
City of Larkspur
City of Larkspur Sphere of Influence
Parcel
N
101
SAN RAFAEL
Sir Francis Drake Blvd
Bon Air Rd
SMART Train Station
580
FERRY TERMINAL
Corte Madera Creek
Magnolia Ave
Doherty Dr
DOWNTOWN
LARKSPUR
SAN QUENTIN STATE PRISON
San Francisco Bay
101
CORTE MADERA
MILL VALLEY
Basemap provided by ESRI services. City boundaries downloaded from http://www.marinmap.org/publicrecords/Output Style.asp?DOC=VectorData\MainMap\city.shp.xml in March, 2019. Projection is Calif. St Plane III, NAD83, feet. This base map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

designated surplus portions of the San Quentin Prison property. The established communities in the SOI include Kentfield, Kent Woodlands, and part of Greenbrae. These unincorporated communities curve around Larkspur's northwestern boundaries and cover a land area about two-thirds the size of Larkspur.

The State prison (San Quentin) occupies most (432 acres) of the 450 acres that lie between Larkspur's eastern boundary and the Richmond-San Rafael Bridge. The State has declared that an 8.3-acre site at the west end of the prison property as "surplus" State land dedicated for the purposes of constructing housing under Executive Order EO N-06-19. In the future, the City may seek to annex this site and/or the larger 48.77-acre parcel that includes this site. This EIR assesses the potential impacts of such an annexation at a programmatic level. See the subsequent Chapter 3.7, Project Components for additional description of this possible future annexation application. Kentfield, Kent Woodlands, and Greenbrae have strong social, economic, and transportation ties to Larkspur and could be covered in the Larkspur General Plan. However, Kentfield, Kent Woodlands, and Greenbrae prepared their own Community Plan (approved by the Marin County Board of Supervisors, May 1987). The Community Plan covers most of the subject areas typical of general plans. It presents clear statements of the goals and policies needed to preserve the single-family character and natural amenities of those communities. Generally, the Community Plan and the Larkspur General Plan are in harmony. Accordingly, the City's General Plan does not include General Plan land use designations for this part of the SOI.

3.5 Planning Process

In 2010, a Draft General Plan Update began under the direction of a General Plan Update Citizen's Advisory Committee (CAC) appointed by the City Council. The CAC consisted of 15 community members appointed by the City Council, and six appointed members representing City boards and commissions and the Marin Commission on Aging. The CAC was tasked with identifying important community issues, providing input on General Plan policies, and encouraging community involvement in the General Plan Update. In doing so, the City recognized the 1990 General Plan's continued relevance to community values and its effectiveness as a planning tool over the previous twenty years. This process resulted in a draft document in 2011 that was set aside while the City completed the Larkspur SMART Station Area Plan, a planning document for the Larkspur Landing area that was intended to inform the final General Plan Update. Ultimately in 2014, the City Council chose to terminate the Station Area Plan. Following that decision, it was necessary for the City to focus on several other key planning processes, most notably updating and obtaining recertification of the City's Housing Element Update before returning to the General Plan Update.

In 2016 the City re-initiated the update of the General Plan. At that time, it was clear there was additional work needed to address further changes in State law and changing conditions within the City. In March 2017, the City Council authorized formation of a General Plan Update Steering Committee (GPUSC) to be comprised of two Councilmembers and two Planning Commissioners, to build upon the earlier efforts of the General Plan Update Citizen Advisory

Committee (CAC). Since that time, the GPUSC met 13 times with two public workshops. On October 12, 2020, the GPUSC approved the Administrative Draft of the General Plan Update 2040, including all major policies, action programs, and updated data and diagrams. On October 27, 2021, the City Council authorized the circulation of the Draft General Plan and the preparation of this EIR.

The result of this effort is a General Plan built upon the ideas of Larkspur's citizens - a guide in text and maps to opportunities and conditions for new development based on an optimal balance among the social, environmental, and economic needs of (and costs to) the community.

3.6 Project Objectives

The primary purposes of the proposed project are to plan for the growth and conservation of resources in Larkspur over a 20-year time horizon and to achieve a more equitable, sustainable, and prosperous future for all residents. Objectives related specifically to growth include focusing growth on transit-rich areas and capitalizing on transit opportunities. This requires extending the buildout horizon to year 2040 and updating goals, policies, and programs so that they meet current State requirements and community priorities. Objectives also include conservation of sensitive environmental resources, adaptation to risks presented by climate change, and maintenance of high-quality services and infrastructure.

3.7 Project Components

Introduction

The proposed project updates the General Plan 1990-2010 goals, policies, and programs to reflect current conditions, regulatory requirements, issues, resources, and community perspectives. The update also incorporates regional forecasts for 2040 that extend the planning by 20 years into the future.

State law mandates that a General Plan contain seven elements, including land use, circulation, housing, conservation, open space, noise, and safety. An eighth element, Environmental Justice, is required for jurisdictions that contain disadvantaged communities. Larkspur does not contain such communities as they are defined by the State, so this element is not required for this General Plan. The existing Housing Element will be updated to address the next RHNA cycle (the 2023 to 2031 cycle) subsequent to this General Plan update and that future update is not addressed in this EIR.

The General Plan 2040 contains five chapters that address all the State requirements for the mandated elements as well as optional elements that address community character issues and sustainability. The General Plan 2040 includes the following chapters:

- The Land Use Chapter contains the required Land Use Element.

- The Natural Resources and Environment Chapter contains the required Conservation and Open Space Elements.
- The Community Health and Safety Chapter contains the required Safety and Noise Elements.
- The Circulation Chapter contains the required Circulation Element.
- The Community Facilities and Services Chapter is an optional chapter that describes community facilities and the provision of services to the residents.
- The Community Character Chapter is an optional chapter that contains policies and programs that guide development to preserve the existing character of the community.
- The Sustainability Chapter is an optional chapter that summarizes how policies and programs in the other chapters will help the community to be sustainable and resilient to sea level rise, increased wildfire hazard, and other challenges.

Plan Goals, Policies, and Action Programs

Each element of the proposed General Plan 2040 contains background information and a series of goals, policies, and action programs. The following provides a description of goals, policies, and programs and explainsthe relationship between them:

- A goal is a general, overall, and ultimate purpose, aim, or end toward which the City will direct effort.
- A policy is a specific statement of principle or of guiding action which implies clear commitment. It provides a general direction that the City elects to follow in order to meet its goals. Use of “must” or “shall” (or verbs like “require”) indicate mandatory requirements, and “should” or “may” (or verbs like “support” or “encourage”) indicate case-by-case flexibility.
- A program is an action, activity, or strategy carried out in response to adopted policy to achieve a specific goal.

A comprehensive list of the proposed goals, policies, and programs is provided in Appendix B, Proposed General Plan Goals, Policies, and Programs, of this Draft EIR. As previously described, the proposed General Plan 2040 builds off the current General Plan 1990-2010 by incorporating similar topics and revising or adding new goals, policies, and programs that are required by State law. Table 3-1 provides a list of the State laws that are addressed in the General Plan 2040, a summary of the purpose of the law, and the element that addresses the law.

Table 3-1: General Plan 2040 Updates Required by State Law		
Law	**Purpose**	**General Plan 2040 Chapter**
SB 743 (2013)	Changes the standard method of measuring transportation impacts from level of service to vehicle miles traveled; encourages transit-oriented development; reduces greenhouse gas emissions.	Land Use and Transportation
SB 18 (2004) and AB 52 (2014)	Requires consultation with Native American tribes as part of a general plan update, any specific plan update, and for any subsequent project which could have the potential to impact Native American resources.	Community Character
AB 1358 (2008)	Requires "complete streets" be addressed in a general plan which considers the needs of all modes of travel	Transportation
AB 32 (2018) and SB 375 (2008)	Addresses GHG reduction largely implemented on the State and regional levels.	Transportation and Sustainability
SB 379 (2015)	Requires a general plan to address climate resiliency.	Natural Environment & Resources Safety
AB 2140 (2006)	Requires a link between a city's local hazard mitigation plan and the general plan.	Safety
AB 747 (2019)	Safety element must identify evacuation routes and evaluate their capacity, safety, and viability under a range of emergency scenarios	Safety
SB 1241 (2012)	Requires that certain maps (e.g., high or very-high fire hazard severity zones) be included in the general plan and that California Department of Forestry and Fire Protection review safety elements to ensure policies provide adequate wildfire protection.	Safety
AB 162 (2007)	Requires general plans to identify areas subject to flooding using the latest flood hazard information, and to prohibit new housing in areas that are not adequately protected from flooding.	Safety
SB 99 (2019)	Safety element must identify residential developments in hazard areas that do not have at least two emergency evacuation routes	Safety

In addition to requirements of State laws, the goals, policies, and programs in the proposed General Plan 2040 are influenced by community input, best practices, and emerging issues (e.g., sea level rise, autonomous vehicles, and green infrastructure). An overview of major changes to the goals, policies, and programs in each General Plan 2040 chapter is provided below.

Land Use Chapter. Growth management policies have been updated to incorporate climate change considerations and to focus new growth in areas not as dependent on the single vehicle mode of transportation. The city is largely built out, with very few vacant parcels remaining. Policies have been modified to allow mixed-use and mixed-density developments on the commercial centers. Policies have been revised to allow new housing in areas with access to mass transit opportunities to help the City meet its share of regional housing needs and to maintain the integrity of existing neighborhoods.

Community Character Chapter. Policies and programs of this chapter have been updated to ensure the continued protection of visual quality and the sense of place of the community as well as to foster community interaction.

Circulation Chapter. This chapter maintains the City's goal of reducing traffic congestion while adding policies to reduce vehicle miles travelled (VMT) and the emission of greenhouse gas (GHG) as well as policies to address sea level rise impacts on the circulation system and changes to transportation modes.

Community Facilities and Services Chapter. This chapter has been updated to reflect changes in the community and the various service providers. Policies encourage coordination with school districts and other agencies to allow a high level of public use of facilities.

Community Health and Safety Chapter. To comply with new State requirements policies have been added to address wildfire hazard, sea level rise, GHG emissions, and hazard mitigation planning. Policies have been updated to address flooding, geologic hazards, and other environmental hazards.

Natural Environment and Resources Chapter. This chapter has been updated to add policies directed at proving protection for riparian resources. Other policies have been updated to reflect new knowledge about sensitive species and changes in the regulatory environment.

Sustainability Chapter. This chapter summarizes how policies and programs in other chapters address long-term sustainability. Sustainability for Larkspur includes those actions the City will take, and encourage its residents to take, to reduce energy use, GHG emissions and other waste products of urban living, and actions to adapt to the varied effects of climate change, including sea level rise, increased flooding, and increased risk of wildfires. This chapter addresses the importance of sustainability principles to the City's future and provides a guide to where sustainability issues are addressed in the chapters of the General Plan.

General Plan Land Use Categories

Table 3-2 describes the proposed General Plan land use designations. These land use designations are essentially the same as listed in the existing General Plan. The General Plan 2040 includes the following land use changes:

- Renamed the "Restricted Commercial" designation to "Neighborhood Commercial." The name change does not allow any changes to what development is allowed in that designation.
- Re-designated the west side of north Magnolia Avenue from the north city limit to where the street becomes a divided street, just south of Murray Avenue from General Commercial to Neighborhood Commercial to be consistent with the existing neighborhood-serving commercial development in this area.
- Instituted a new "Mixed Use I" designation and applied it to 2000 Larkspur Landing Circle, replacing the designations of "Low Density Residential," "Commercial," and "Public Facilities" on the site. This designation allows more flexibility in developing this vacant property. Retained the "Open Space" Designation on Northwest portion of property.
- Combined "Public Facilities" and "Schools" designations into a single designation, "Schools and Public Facilities".
- Redesignated a one-acre parcel (AP 021-240-25) from "Low Density Residential" to "Open Space." The site is an "island" within the Blithedale Summit Preserve owned by the Marin County Open Space District (MCOSD). The parcel does not have developed access or utilities.
- Redesignated several multi-use pathways (old railroad rights-of-way) from Open Space to Parkland to reflect their active use as pathways and greenways.
- Redesignated a band of "Wetland" along the Larkspur Landing bay frontage to "Parkland" to reflect the upland pathway and scenic amenities adjoining wetlands along the inlet.

In July 2021 the State announced it was designating 8.3 acres of State-owned Assessor's Parcel No. 018-152-12 adjacent to San Quentin State Prison as "surplus" property available for two developers to build a total of 250 units of affordable housing called The Village at Oak Hill (or Oak Hill Apartments). The entire parcel includes 48.77-acres. In March 2022, the State issued a Notice of Preparation to prepare an EIR on this proposed project. It is anticipated that EIR will be available for public review in the first quarter of 2023.

This parcel is within the City's SOI. In order to provide adequate coordinated public services to this future residential development, the City may submit an application to the Marin LAFCO to approve an annexation application for the proposed building sites and, possibly, the entire 48.77-acre parcel. The City did not foresee the State making part of its prison property available for residential development. Consequently, as explained in Chapter 3.4, The Larkspur Planning Area, the City did not provide a land use classification nor pre-zoning for this parcel in its 1990 General Plan. An application for annexation must include a general plan land use

classification and pre-zoning designation for the parcel proposed for annexation. To address this unforeseen project within its SOI, the City is adding the land use classification of High Density Residential (up to 21 units/acre) and a pre-zoning designation of R3 (Third Residential District) for the approximately 8.3-acre Oak Hill development site and classifying the remainder of the parcel as Open Residential (allowing up to 0.2 units/acre) with a pre-zoning of Residential Master Plan (RMP). The final General Plan Figure 3.7-1, Land Use will be revised to reflect these land use classifications for the State-owned parcel. in the SOI

The proposed development will be comprised of two affordable residential communities -115 apartments developed by Eden Housing serving lower income families, and 135 apartments to be built by Education Housing Partners (EHP) for income qualifying teachers and staff of local school districts and county employees.

General Plan Land Use Map

The General Plan land use map is a required component of the General Plan. It demonstrates the location of each land use designation described in the previous subsection. As noted in that previous subsection, the land use designation map contains very few changes from the previous General Plan land use map. The General Plan land use map will continue to be used to illustrate the proposed distribution, location, and extent of housing, businesses, industries, open space, recreation, education, and public buildings within the horizon of each general plan. The proposed General Plan 2040 land use map is shown on Figure 3.7-1.

Figure 3.7-1
Land Use

General Plan
City of Larkspur

Scale: 1:16,000

1,000 0 1,000
Feet

Larkspur General Plan

Residential
- Open Residential (up to 0.20 DU/Ac.)
- Low Density (up to 5 DU/Ac.)
- Medium Density (up to 12 DU/Ac.)
- High Density (up to 21 DU/Ac.)
- Mobile Home Park

Commercial
- Administrative and Professional Commercial
- Neighborhood Commercial
- Commercial
- Downtown
- Industrial and Service

Mixed Use
- Mixed Use 1

Public
- Schools and Public Facilities

Open Space
- Parkland
- Open Space
- Shoreline/Wetland Conservation Area
- Educational/Environmental Resources Area

Public
- Water Designation

Notes and Data Sources:

Disclaimer: This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Basemap: Esri, NASA, NGA, USGS, FEMA

Land use downloaded from: http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=VectorData\MarinMap\larkspur_general_plan.shp.xml on March 2019. Attributes consolidated and some minor corrections made per City of Larkspur staff directions.

Projection is Calif. St Plane III, NAD83, feet.

Larkspur Est. 1908

Date Exported: 2/28/2022 1:37 PM

Table 3-2: Larkspur General Plan 2040 Land Use Categories

Category Title	Density Range[1, 2]	Description	Corresponding Zoning District(s)
Residential Low Density	1 to 6 DU/acre	Low density and large lot single-family residential development	R-1, T-R, RMP, PD
Residential Medium Density	6 to 12 DU/acre	Low- to medium-density residential development	R-2, P-D
Residential High Density	13 DU/acre to 21 DU/acre	Medium- to high-density multi-family residential development and attached single-family residential development [3]	R-3, P-D
Mobile Home Park	Up to 14 DU/acre	Existing mobile home parks	MHP
Administration & Professional	N/A	Office-related activities that serve local and regional needs; Second level residential	A-P, P-D, C-2
Neighborhood Commercial	N/A	Neighborhood shopping areas to meet the recurring needs of nearby residents	C-1, P-D
Commercial	N/A	Commercial areas to meet the broader goods and service needs of residents of Larkspur and the region	C-2, P--D
Downtown	N/A	Specific guidance for Larkspur's Downtown properties	SD, GD, TD, P-D
Industrial & Service Commercial	N/A	Areas that provide a wide variety of commercial, wholesale, service, wholesale, processing, and freeway frontage retail and services	L-I, S
Mixed Use	Up to 21 DU/Acre	Medium- to high-density multi-family residential development and attached single-family residential; Commercial and Professional Office that serve local and regional needs; and Publicly Owned facilities	P-D
Education/Environ-mental Resource	N/A	This category applies solely to the College of Marin campus	E/ER
Public Facilities	N/A	Public school campuses, government and publicly owned facilities	R-1, R-2, R-3, SD, C-2, P-D, S
Parkland	N/A	Public parks	R-1, R-3, AP, P-D
Open Space	N/A	Public and private open space lands protected as a condition of project approval	R-1, P-D, P-D, S
Shoreline/Marsh Conservation/Water	N/A	Undeveloped areas used for conservation of environmental resources	R-1, RMP, P-D,
Open Residential	Up to 0.2 DU/acre	This category applies solely to a single-family site located at the Baltimore Park Railroad Jct. and to a portion of State-owned APN 018-152-12	RMP

[1] DU" denotes "dwelling unit." Density calculations (dwelling units per acre for specific development proposals are rounded up to the nearest whole number if the calculation results in more than 0.50 of a unit, rounded down to the nearest whole number if less than 0.50 of a unit). N/A denotes "not applicable.

[2] Density of a given development project may be approved at less than the stated minimum based on slope standards and/or by findings set forth in the Zoning Ordinance.

Note: Multi-family residential development is allowed above the first floor in all commercial land use categories except the Industrial & Service Commercial category.

3.8 2040 Development Projections

This EIR analyzes the potential for growth between 2020 and 2040, which represents a 20-year buildout horizon. Under CEQA Guidelines Section 15126.6(3)(A), when a project consists of the revision of a plan or policy, the project's impacts are assessed against existing conditions, and future conditions under the existing plan are treated as the "No Project" alternative.

The City has almost no undeveloped parcels and is largely built out. The City's population in 2010 was 11,925 people and in 2021 it was estimated to be 12,071 people (State Department of Finances estimate).

Per State Housing Element law every city and county in the State of California has a legal obligation to respond to its fair share of the projected future housing needs in the region in which it is located. For Larkspur and other Bay Area jurisdictions, the "fair share" housing need is determined by the Association of Bay Area Governments (ABAG), based upon an overall regional housing need number established by the State.

In January 2021, ABAG adopted its *Regional Housing Needs Allocation Plan 2023-2031*. Larkspur's share of the regional housing need would be 979 new dwelling units by 2031. Every Housing Element must demonstrate that the local jurisdiction has made adequate provisions to support the development of housing at the various income levels to meet its fair share of the existing and projected regional housing needs. The Larkspur Housing Element will be updated subsequent to the preparation of this EIR. Because the Housing Element needs to be consistent with the rest of the General Plan and because the Housing Element update will rely on and tier off the General Plan environmental analysis, this EIR assesses the long-term impacts of constructing as many as 979 new dwelling units in Larkspur by 2031.

The Metropolitan Transportation Commission and Association of Bay Area Governments (ABAG) adopted the *Plan Bay Area 2050* in October 2021. The plan is a long-range regional plan for the nine-county San Francisco Bay Area encompassing housing, economic, transportation, and environmental strategies designed to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. The plan serves as the region's 2021 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The plan describes eight housing strategies aimed at providing equitable housing for all income groups. The plan does not include specific housing targets for the municipalities in the region. It encourages allowing a range in densities in areas defined as "Growth Geographies," which are areas that have substantial mass transit opportunities. The Final EIR prepared for the plan states that development by 2050 would be projected to add 37,000 new households in Marin County between 2015 and 2050 of which 38% would be single-family units and 62% would be multi-family units.[4]

4 Plan Bay Area 2050 Draft Program EIR, October 2021, Table 2-1

An earlier draft of the *Plan Bay Area 2050* called the *Final Blueprint Compendium for the Plan Bay Area 2050* included projections for new housing. It projected the need for 9,000 additional households between 2015 and 2050 in the Southern Marin Superdistrict that includes Larkspur, Corte Madera, Mill Valley, Tiburon, Belvedere, and Sausalito and unincorporated areas in southern Marin such as Marin City and Homestead Valley. Assuming Larkspur's share of this Superdistrict's housing demand will remain approximately 25% (as is the case for the 2023-2031 RHNA cycle), the City would need to add 1,340 households between 2015 and 2040. To ensure a worst-case analysis, it is assumed that all these units will be needed between 2021 and 2040. Therefore, approximately 361 units would need to be developed between 2031 and 2040. Accordingly, the 2040 buildout assessed in this EIR will be existing development plus an additional 1,340 dwelling units.

Consistent with an overarching goal of reducing GHG emissions, the *Plan Bay Area 2050* projects growth to occur mainly in areas with abundant public transit opportunities, namely Priority Development Areas (PDAs), Transit Rich Areas (TRAs), and High Resource Areas (HRAs). Due to Larkspur's access to bus routes on Highway 101, the SMART Rail Station, the Golden Gate Ferry Terminal, and other arterial corridors with basic bus service, there are large areas of Larkspur categorized in *Plan Bay Area 2050* as Growth Geographies. See the subsequent more detailed. discussion of Transit Priority Areas and High Resource Areas in the Introduction to Chapter 4.0, Environmental Analysis in this report.

The ABAG RHNA and the *Plan Bay Area 2050* growth targets for Larkspur are consistent with the growth potential in the *SMART Station Area Plan* developed by the City in 2013 with a planning grant from MTC and ABAG. That plan identified six Opportunity Areas within the SMART Station and Ferry Terminal area and developed a plan that would result in 920 new dwelling units and approximately 300,000 square feet of retail and office use. After circulation of a Draft EIR on the project, the City Council stopped work on the plan citing a myriad of community concerns about the project. The buildout proposed for the SMART Area Station is consistent with the amount of new housing that would be needed to meet the 2023-2031 RHNA target. It also shows that there is feasible space in this TRA that could be redeveloped to meet much of the RHNA 2031 target.

Almost all new development in Larkspur is expected to consist primarily of additions to existing non-residential development, repurposing or redevelopment of existing non-residential development, and adding Accessory Dwelling Units/Junior Accessory Dwelling Units (ADUs/JADUs) in primarily residential areas.

The *Plan Bay Area 2050* does not specify where or what type of development will be built. Specific levels and types of development will be determined by the City through its General Plan. Specific properties where development will be allowed and encouraged to meet the RHNA 2023-2031 will be identified when the City prepares its 2023-2031 Housing Element (the update of the element began in 2021). This EIR assesses at a program level of analysis the impacts of adding 1,340 new dwelling units.

Given the lack of undeveloped land in Larkspur and the aim of encouraging new residential development to be built where residents have access to mass transit to travel to employment centers and regional shopping and entertainment centers, the City projects that, other than new ADUs that may be built in residential neighborhoods spread through the City, most development would occur within the two TRAs (mainly overlapping TRAs around the Larkspur SMART Station and the Golden Gate Ferry Terminal at Larkspur Landing) and the HRAs in Larkspur.

City staff has determined, given the General Plan and the City Zoning Ordinance's allowable maximum density of 21 dwelling units (DUs) per acre for non-residential land uses, that there is the maximum potential to develop approximately as many as 15,007 DUs (based solely on acreage and not considering possible site limitations) in the TRAs and HRAs. The City also projects that as many as 15 new ADUs/Junior ADUs would be developed per year. Maximum buildout of the non-residential areas is currently constrained by various zoning and environmental regulation. However, the General Plan 2040 goals, policies, and action programs would reduce some of these constraints and encourage additional residential development in commercial areas within the TRAs and HRAs. The subsequent Housing Element Update will identify specific target sites where development will be allowed and encouraged to meet the 2023-2031 RHNA allocation. As shown on Table 3-3 for the purposes of this programmatic EIR, the 2040 buildout to be assessed will be an additional 1,340 DU of which 300 will be ADUs in residential neighborhoods and 1,040 will mainly be in the two TRAs and the HRAs along Sir Francis Drake Boulevard and Magnolia Avenue.

Table 3-3: Proposed 2040 Buildout Projections

Category	Existing Conditions (2020)	Net Change (2020-2040)	Buildout Estimate
Dwelling Units	6,487[5]	1,340	7,827
Total Population	12,340[6]		15,154

As noted above, this 2040 buildout is consistent with the buildout numbers for Marin County in the *Plan Bay Area 2050*. It is entirely possible that even though when updating its Housing Element, the City provides appropriate zoning and other required means of allowing and encouraging new residential development to meet its RHNA allocation that these target properties will not be fully built out. High land development costs, lack of proximity to employment centers, and other economic factors could mean that this maximum buildout may

[5] E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, California Department of Finance, 2021
[6] Housing Element and the Transportation Authority of Marin Demand Model (TAMDM)assumptions

not occur by 2040. This EIR therefore assesses a "worst-case" (i.e., maximum development) scenario.

The *Plan Bay Area 2050* projects a 14% reduction in jobs in Marin County by 2050. Accordingly, Larkspur would not be expected to have any or, at least, not a substantial increase in employment over the next 20 years. While some new non-residential development may occur as part of redevelopment of existing commercial centers, the amount of such new development is speculative. It is not expected that there will be substantial increase in the total amount of non-residential development. The primary impact of new development on the environment will be from the substantial new residential development. The *Plan Bay Area 2050* projects that most new development will occur within Growth Geographies in Larkspur that are already developed. New non-residential development would be expected to be redevelopment of existing developed properties.

Additional new single-family housing and duplexes may be constructed in existing neighborhoods consistent with the recent signing of Senate Bill 9 by Governor Newsom, which went into effect on January 1, 2022. This bill allows a property owner of a single-family lot that is at least 2,400 square feet in size to split the lot into two lots and build up to two units on each lot if the lot meets various requirements. It is speculative how many new units will result from this new law. It is expected that if the bill does result in construction of new units in Larkspur, this would reduce the number of new units needed elsewhere to meet the City's regional housing allocation.

Similarly, the City may adopt an ordinance to facilitate the development of new multi-family developments of up to 10 dwelling units on any parcel as allowed by Senate Bill 10 that was signed into law by Governor Newsom in September 2021. Consistent with the bill, these units would be built on parcels located within the two TRAs or the HRAs.

3.9 Intended Uses of This EIR

This Draft 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 Draft EIR is a program-level EIR and does not evaluate the impacts of specific, individual developments that may be allowed in the future under the proposed project. Each future project will conduct additional environmental review to the level required by State housing legislation, to secure any necessary discretionary development permits. As part of this process, subsequent projects will be reviewed by the City for consistency with the General Plan and this Draft EIR.

3.10 Required Permits and Approvals

The proposed project would require adoption by the Larkspur 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 adoption of the updated General Plan Update. However, subsequent

development under the General Plan may require approval of State, federal, responsible, and trustee agencies that may rely on the programmatic EIR for decisions in their areas of permitting.

4.0 Environmental Analysis

Chapter Organization

This chapter describes the organization of the environmental analysis section of this Draft EIR and the assumptions and methodology used for the impact analysis and the cumulative impact setting.

Each subchapter is organized into the following sections:

- Environmental Setting offers a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed project can be compared, and an overview of federal, State, regional, and local laws and regulations relevant to each environmental issue. The description of the regulatory framework summarizes the more pertinent regulations and guidelines to allow the public and decision-makers understanding of the reach of these laws and regulations.[7]
- Standards of Significance are listed using thresholds of significance that are based primarily in the CEQA Guidelines. For each impact identified, a level of significance is determined using the following classifications:

  Significant (S). A significant impact is where an established or defined threshold would be exceeded.

  Less Than Significant (LTS). A less-than-significant impact includes effects that are noticeable, but do not exceed established or defined thresholds, or can be mitigated below such thresholds.

  No Impact (NI). A no impact conclusion describes circumstances where there is no adverse effect on the environment.

  Significant and Unavoidable (SU). A significant and unavoidable impact is one where there are no mitigation measures that can be applied to reduce the level of effect to a less-than-significant level.

- The Impact Analysis subsection offers the environmental analysis of each potentially significant impact on the environment. For each impact identified as being significant,

[7] The Environmental Setting of sections of Chapter 4.0 in this EIR includes pertinent portions of the Environmental Settings and Impact Discussions prepared for the *San Rafael General Plan 2040 & Downtown Precise Development Plan Final EIR (*Placeworks, May 2021), *City of Sausalito Revised General Plan Final* EIR (First Carbon Solutions, January 2021), and *Novato General Plan 2035 Final* EIR, (Rincon Consultants, Inc., June 2020). These certified FEIRs were professionally prepared and contain up-to-date descriptions of the regulatory settings common to Marin County jurisdictions. In the few cases warranted, the Setting sections of these EIRs were updated for use in this EIR.

the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. Revisions to plan policies or programs needed for mitigation are marked by underlining for additions and strike-throughs for deletions. Many of the mitigations will reference existing laws and regulations summarized in the Setting section since many impacts are reduced by adherence to these adopted laws and regulations. Following presentation of feasible mitigation measures, the EIR makes a determination of whether the impact can be reduced to a less-than-significant level by application of the mitigations. If the impact cannot be reduced to a less-than-significant level, then the impact would be designated a significant and unavoidable impact. Identifying a program-level significant and unavoidable impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance.

Environmental Baseline

As discussed in the previous Chapter 3.0, Project Description, the proposed project includes the General Plan 2040, a long-range planning document. The environmental analysis in this EIR discusses potential adverse impacts from extending the buildout potential in the Planning Area to horizon year 2040; increasing the buildout potential in the Planning Area; General Plan land use designation changes; and new and modified General Plan goals, policies, and programs.

The 2040 horizon development potential under the proposed project includes the net increase of maximum development potential for the plan area. As shown in Table 3-3, this combined projected new growth in the entire Planning Area for the 2040 horizon year includes 1,340 new residential units.

As discussed in Chapter 3.0, Project Description, although many of the goals, policies, and programs of the existing General Plan are being affirmed and incorporated into the proposed project, this EIR does not evaluate the proposed project compared to the full potential buildout allowed by the existing General Plan, but rather evaluates the impacts of the proposed project compared to existing conditions, as required by CEQA Guidelines Section 15126.2.

Existing conditions in the city include approximately 5,683 Dwelling Units.

Cumulative Impact Analysis

CEQA defines cumulative impacts as two or more individual actions that when considered together are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately but could have a significant impact when analyzed together.

Because the proposed project is comprised of a General Plan, cumulative impacts are treated somewhat differently than would be the case for a project-specific development impact

analysis. CEQA Guidelines Section 15130 permits two different methodologies for the cumulative impact analysis:

- The "list" approach permits the use of a list of past, present, and probable future projects producing related or cumulative impacts, including projects both within and outside the city.
- The "projections" approach allows the use of a summary of projections in an adopted plan or related planning document, such as a regional transportation plan, or in an EIR prepared for such a plan. The projections may be supplemented with additional information such as regional modeling.

For this EIR, the projections approach is used.

Regional Housing Needs Allocation

The cumulative impact analysis in this Draft EIR relies on a projections approach and takes into account growth from the proposed project in combination with impacts from projected growth in the rest of Marin County and the surrounding region, as described in ABAG's *Final Regional Housing Needs Allocation: San Francisco Bay Area 2023*-2031 (December 2021) for growth through 2031. Table 4.0-1 below lists the RHNAs for the jurisdictions in Marin County.

Table 4.0-1: Final 2023-2031 RHNAs

Jurisdiction	Final 2023-2031 RHNA Units
Larkspur	979
Belvedere	160
Corte Madera	725
Fairfax	490
Mill Valley	865
Novato	2,090
Ross	111
San Anselmo	833
San Rafael	3,220
Sausalito	724
Tiburon	639
Unincorporated Marin County	3,800
Total	14,636 dwelling units

Plan Bay Area 2050

As described in Section 3.8, 2040 Growth Projections, the Metropolitan Transportation Commission and Association of Bay Area Governments (ABAG) adopted the Plan Bay Area 2050 in October 2021. The plan is a long-range regional plan for the nine-county San Francisco Bay Area encompassing housing, economic, transportation, and environmental strategies designed

to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. The plan is a vision of what the Bay Area could look like in 2050 and not a mandate of how much housing should be constructed by a specific jurisdiction or where that housing should be located.

The Final EIR prepared for that plan states that for Marin County to meet its share of the State-predicted increase in population and jobs in the Bay by 2050, jurisdictions in the county would need to add 37,000 new households of which 38% would be single-family units and 62% would be multi-family units.[8] The plan and the EIR prepared for it do not include projections for each municipality in Marin County. An earlier draft of the *Plan Bay Area 2050* called the *Final Blueprint Compendium for the Plan Bay Area 2050*, which *Plan Bay Area 2050* is consistent with, included the following projections for new housing by 2050.

- Central Marin Superdistrict (includes San Rafael, Ross, San Anselmo, Fairfax, and unincorporated areas in Central Marin County) - 22,000 new households by 2050
- Southern Marin Superdistrict (includes Mill Valley, Belvedere, Tiburon, Larkspur, Corte Madera, Sausalito and unincorporated areas of South Marin County) – 9,000 new households by 2050
- North Marin Superdistrict (includes Novato and unincorporated areas in North Marin County) – 7,000 new households by 2050

These projections are approximately the same as the buildout assessed in the EIR prepared for the plan, and are, therefore, assumed to reflect where the new development would be generally located. Consistent with an overarching goal of reducing GHG emissions, the *Plan Bay Area 2050* projects growth to occur mainly in areas with abundant public transit opportunities. Due to Larkspur's access to bus routes on Highway 101, the SMART Rail Station, the Golden Gate Ferry Terminal, and other arterial corridors with basic bus service, there are several areas of Larkspur categorized in *Plan Bay Area 2050* as Growth Geographies. Designated growth geographies, include:

Priority Development Areas (PDAs)—Areas generally near existing job centers or frequent transit that are local identified (i.e., identified by towns, cities, or counties) for housing and job growth. Larkspur does not contain any PDAs. Though there is no designated PDA in Larkspur, the City received planning grants to develop a Station Area Plan that included the Larkspur Landing, Redwood Highway, and portions of the Greenbrae neighborhood. That plan projected 920 new dwelling units. As described in Chapter 3.0, planning for the Station Area Plan was eventually terminated in 2014 as the process ultimately produced a draft plan that the City Council and the community could not reconcile with the policies and vision of the City's General Plan.

[8] *Plan Bay Area 2050 Draft Program EIR,* October 2021, Table 2-1

Transit-Rich Areas (TRAs)—Areas either within 0.5 miles of an existing rail station or ferry terminal (with bus or rail service), a bus stop with peak service frequency of 15 minutes or less, or a planned rail station or planned ferry terminal (with bus or rail service). in general, TRAs meet State Transit Priority Area (TPA) criteria as well as additional MTC/ABAG criteria.

TPAS are areas within 0.5 miles of a major transit stop (i.e., a stop with service frequency of 15 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 Section 450.216 or Section 450.322 of Title 23 of the Code of Federal Regulations 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 projects in TPAs that meet defined criteria in the CEQA Guidelines may be eligible for CEQA streamlining. With respect to potential future development in a TPA, Senate Bill (SB) 743, which became effective on January 1, 2014, amended CEQA by adding Public Resources Code Section 21099 regarding analysis of transportation, aesthetics, and parking impacts for urban infill projects, among other provisions.

With respect to transportation impacts, SB 743 required the Governor's 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. Transportation impacts are discussed in Chapter 4.16, Transportation, of this Draft EIR.

With respect to aesthetics and parking, CEQA 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."[9] Accordingly, these topics are no longer to be considered in determining significant environmental effects for projects that meet all three of the following criteria:

- Is located on an infill site which 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 withqualified urban uses;"
- Is a residential, mixed-use residential, or an employment-center project; and
- Is in a transit priority area, which is defined as "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 orSection 450.322 of Title 23 of the Code of Federal Regulations."

9 A Transit Priority Area (TPA) is defined by Public Resources Code Section 21099 as "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program or applicable regional transportation plan." This is the same definition as applies to a TRA. The two TRAs in Larkspur are mapped as TPAs by the MTC. This EIR is consistent with the *Plan Bay Area 2050*, which defines these areas as TRAs.

Approval of an adopted SCS by CARB allows for CEQA streamlining benefits for transit priority projects (TPPs). A TPP is defined by statute, based on consistency with the following requirements:

- consistent with the general land use designation, density, building intensity, and applicable policies specified for the project area in the SCS;
- located within a half-mile of a major transit stop or high-quality transit corridor;
- made up of at least 50-percent residential use based on total building square footage or as little as 26-percent residential use if the project has a floor area ratio of not less than 0.75; and built out with a minimum of 20 dwelling units per acre (PRC Section 21155).

Larkspur includes two TRAs—one around the SMART rail station in Larkspur Landing and one around the Golden Gate Ferry Terminal in Larkspur Landing. These two TRAs overlap as shown on Figure 4.0-1.These two TRAs include much of the same plan area as was assessed in the Station Area Plan described above. These two TRAs are also identified in the Plan Bay Area 2050 as a Transit Rich Area (TRA) Growth Geography. As described in the Final EIR for *Plan Bay Area 2050*, TPAs are akin to TRAs, in that they are similar in emphasizing access to transit service and are appropriately planned for growth. As described above, TPAs are areas that meet specific considerations; though, TPAs are more narrowly defined than TRAs. The two TRAs in Larkspur meet the requirements to be designated as TPAs, however, to be consistent with the terminology of the *Plan Bay Area* 2050, they will be referred to as TRAs in the following analyses.

High Resource Areas (HRAs) are State-identified places with well-resourced schools and access to jobs and open space, among other advantages This designation only includes places that meet a baseline transit service threshold of bus service with peak headways of 30 minutes or better. Some HRAs also meet the designation of TRAs. The area along Highway 101 south of the TRAs centered around Larkspur Landing is mapped as Transit-Rich Area. The corridor along Sir Francisco Drake Boulevard west of Highway 101 and the corridor along Magnolia Avenue are mapped as High-Resource Areas.

The Final EIR for the *Plan Bay Area 2050* projects that 62% of the new development by 2050 in Marin County will be expected to be built in a Growth Geography.

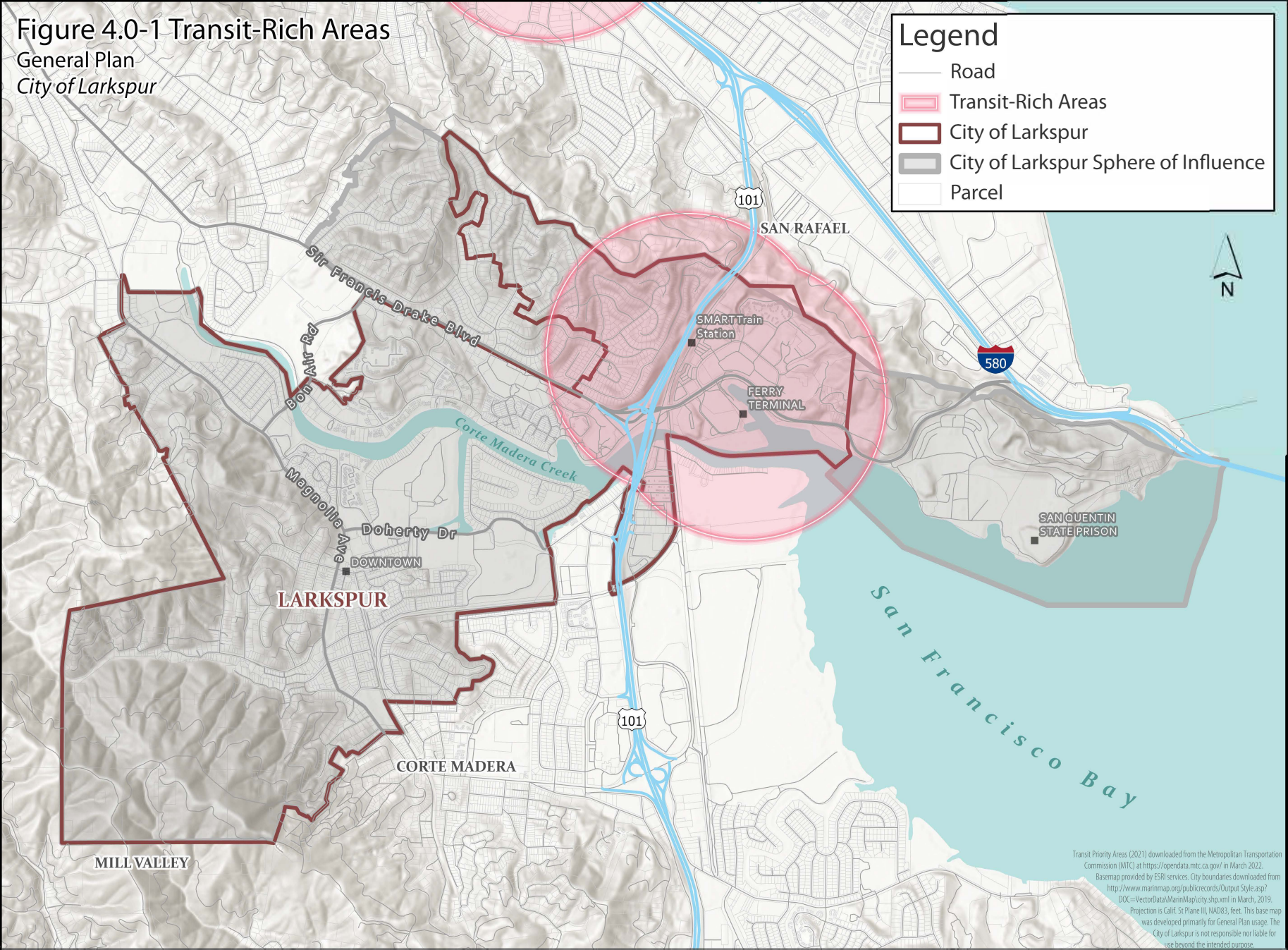
Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, other current projects, and probable future projects. In the case of a long-range plan such as the General Plan, cumulative effects occur when future development under the long-range plan is combined with development in the surrounding areas, or in some instances, in the entire region.

Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. The lead agency has discretion to

Figure 4.0-1 Transit-Rich Areas

General Plan

City of Larkspur



Transit Priority Areas (2021) downloaded from the Metropolitan Transportation Commission (MTC) at https://opendata.mtc.ca.gov/ in March 2022. Basemap provided by ESRI services. City boundaries downloaded from http://www.marinmap.org/publicrecords/Output Style.asp?DOC=VectorData\MarinMap\city.shp.xml in March, 2019. Projection is Calif. St Plane III, NAD83, feet. This base map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

determine if a project's contribution to a significant cumulative impact is cumulatively considerable.

The cumulative discussions in Chapters 4.1 through 4.16 of this Draft EIR describe the geographic scope of the area affected by each cumulative effect. The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing macro-scale air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions are appropriate for determining the cumulative impact. In assessing aesthetic impacts, on the other hand, only development within the local area of change is used for determining cumulative impacts.

Assessment of Impacts from Providing a Land Use Classification and Pre-Zoning to the State-Owned Parcel in the Sphere of Influence

As stated previously in Chapter 3.7, Project Components, the City is classifying the Oak Hill Apartments portion of the State-owned surplus property as High Density Residential (up to 21 units/acre) and pre-zoning it as R3 (Third Residential District). It is classifying the remainder of the undeveloped parcel as Open Residential (allowing up to 0.2 units/acre) and pre-zoning it as Residential Master Plan (RMP). The City is not proposing any development of the remainder portion nor has any other applicant proposed any future development of the remainder parcel. As noted previously, the City may opt in the future to annex the land to provide services to future residents of Oak Hill Apartments. Since the Oak Hill Apartments site is part of the larger approximately 49-acre parcel, the City may opt to apply to annex the entire parcel.

Because the State owns the property, it is the Lead Agency for CEQA and the authority responsible for approving or denying the Oak Hill Apartments project as well as any future State-initiated projects on the parcel. Development proposed by the State of California on State-owned land is exempt from discretionary land use permits. Therefore, State-proposed projects on portions of the surplus property under State ownership are not discretionary projects subject to approval by the County of Marin or the City of Larkspur if the site is annexed to the City. The State is preparing a site-specific and project-specific EIR for the Oak Hill Apartments project. That EIR will assess the project and cumulative impacts that would result from the development. Accordingly, this General Plan EIR does not include an assessment of impacts of this State-initiated project. The State will consider certifying that EIR and approving the project once the EIR undergoes public review and is certified; this review and approval process is expected to begin sometime during the first quarter of 2023

If the City applies to Marin County LAFCO to annex the entire 48.8-acre parcel or only the part where the Oak Hill Apartments project is proposed, Marin County LAFCO will review whether the annexation is consistent with the City's General Plan and zoning ordinance and whether the City is capable of providing services to development on the annexed land. It is expected that the CEQA analysis required by LAFCO for the annexation application will consist of the State's EIR for the Oak Hill Apartments project plus the programmatic impact analysis contained in this General Plan 2040 EIR.

The proposed pre-zoning of the remaining portion of the parcel would be Residential Master Plan (RMP). This zoning allows the City to establish an RMP District on the parcel. The land use classification of Open Residential would allow a maximum of 0.2 dwelling units per acre. The RMP would allow the same maximum density to be consistent with the General Plan land use classification.

Providing a land use classification and pre-zoning for the parcel will have no impacts on the physical environment. Future development of the remaining portion of the parcel pre-zoned could have future impacts on the environment just as development or redevelopment of other properties in Larkspur could have. This General Plan 2040 DEIR assesses the impacts of future development for all residential land use classifications and zoning districts in the city. It is not expected that development of the 40 acres of remaining land on the parcel would present unique impacts not assessed for all vacant lands in this DEIR. To provide Marin County LAFCO with clarification about the impacts of providing a land use classification and pre-zoning for the parcel, the sections of Chapter 4.0 will address how the impact analyses address the programmatic impacts of the proposed land use classification and pre-zoning.

The RMP pre-zoning requires the City to adopt an RMP Zoning District for the remaining portion of the parcel. A site-specific Residential Master Plan would be prepared for future development of the remaining portion of the parcel. The RMP District would be required to undergo CEQA review since approval of the RMP District would be a discretionary project that the City would need to review and approve. Any site- or project-specific impacts not identified or assessed in this program General Plan 2040 DEIR would be addressed at the time the RMP is considered. It is not expected that development of this site would result in new or unique impacts not assessed in this DEIR. However, the precise impacts would be assessed in that subsequent review of the Residential Master Plan so that the appropriate site-specific and project-specific mitigation measures can be identified to make the RMP consistent with the General Plan.

The subsequent analyses of the General Plan 2040 impacts will note possible future impacts that might result from future development of the remaining portion of the parcel to clarify how such possible impacts are similar to impacts addressed for other possible development sites in the city, and how these impacts are addressed by existing agency requirements, General Plan 2040 policies and programs, and mitigation measures included in this DEIR.

The remaining 40-acre property could result in a maximum of 8 new residential lots compared to approximately 50 residential lots that could occur under current County zoning (if developed under the Hillside Subdivision Design). Again, the description of possible future impacts is a programmatic discussion as no development proposal has been proposed. As is the case with other new development proposals in the city, site-specific impacts will be assessed as part of required subsequent CEQA analyses.

The possible future development of 8 residential lots would have no new impacts on service providers, water availability, greenhouse gas and air pollutant emissions, energy use,

population, and other areas where the programmatic EIR addresses impacts from a projected 2040 buildout of the city. Impacts in these resource areas are accounted for in the impact assessments of the 1,340 person buildout by 2040. The discussion of impacts is therefore focused on impacts and cumulative that are site-specific.

The parcel stretches from Sir Francis Drake Boulevard to the top of the ridge that runs more or less east-west along the San Quentin peninsula. Most of this parcel is vacant with a mixture of tall trees, brush, shrubs, tall grasses, and thicket. The prison gun range is located on the parcel. There are also remnant structures beneath some of the brushlands. An unpaved access road provides access from Sir Francis Drake Boulevard to the ridgetop. A sewage junction box, chemical dosing station, and an approximately 11,500-square-foot asphalt pad are located in the southwestern corner of the property. These structures are associated with an easement agreement between the Central Marin Sanitation Agency (CMSA) and the State of California allowing a wastewater pipeline to enter State property.

4.1 Aesthetics

1. Environmental Setting

Existing Conditions

Larkspur's natural setting is an integral component of the community's character. The city is bordered by the Baltimore Canyon, King Mountain, and Blithedale Summit Open Space Preserves, which provide access to Mt. Tamalpais and hiking, mountain biking, and equestrian trails. The San Francisco Bay borders its eastern limits, and Corte Madera Creek and its tributaries divide north Larkspur from south Larkspur. In Larkspur and throughout Marin County, the natural environment - particularly hillsides and ridgelines - has played a major role in shaping the urban form.

The City is a suburban area dominated by low- to medium-density residential development, shopping centers, and smaller commercial districts that include retail and office development. Parks and open space areas exist throughout the area, with the largest being regional Mount Tamalpais State Park. The terrain varies with large expanses of level topography interspersed with many low-lying hillsides. Views from roadways that may be limited by hillsides in one area, open up to long-distance vistas when the terrain becomes more level. Mount Tamalpais is the dominant visual feature from many locations in Larkspur.

While there is some recognition of a larger image of community, most Larkspur citizens also see themselves as coming from a specific neighborhood. Many of these 29 neighborhoods are named after the original development, which may have had only a few dozen homes. The size and location of these neighborhoods are a direct product of the scale and pace of development in Larkspur over the years. Thus, one way to define Larkspur is as a collection of neighborhoods. These neighborhoods are described and mapped in Appendix A of the Larkspur General Plan 2040.

Other than Highway 101, there are only two continuous routes through Larkspur. Sir Francis Drake Boulevard is the east-west connection between West Marin, the Upper Ross Valley, Larkspur, San Quentin, and Highway 580. After going east through the center of the Ross Valley, the road hugs the base of the Southern Heights Ridge (Greenbrae), and after passing north of Wood Island and the Ferry Terminal (two important landmarks), the road follows the shoreline of the Corte Madera Channel before diverting northward over the ridge and around San Quentin Prison to the Richmond Bridge. The north-south route (College Avenue, Magnolia Avenue, Corte Madera Avenue, and Camino Alto) hugs the base of Ross Hill (opposite College of Marin) and the base of King Mountain (at Bon Air Road).

Most of the area between these roads is flat land, water, and marsh. Major exceptions are Bon Air Hill, Wood Island, and Palm Hill. Corte Madera Creek flows through the center of the valley floor. Although the once natural lines of the creek have been engineered into a wide flood-

control channel, the creek still meanders in several "S" curves. Overall, it provides a view of open water and, in some locations, adjacent riparian growth.

The Built Environment

All of Larkspur's "flatland" housing lies in the valley between Magnolia Avenue and Sir Francis Drake Boulevard. The community's hillside houses are located on Palm Hill (a small landmark hill of single-family houses), on Bon Air Hill (a larger landmark, all multiple-family), in Greenbrae (north of Sir Francis Drake Boulevard to the top of Southern Heights Ridge, and all single-family), west of Magnolia Avenue (primarily single-family housing with Skylark Apartments being a major exception), and east of Highway 101 north of Sir Francis Drake Boulevard (all multiple-family). Commercial uses are concentrated along Magnolia Avenue in the historic downtown and the north Magnolia Avenue area, along Sir Francis Drake Boulevard (SFD), and along Redwood Highway.

Scenic Vista and Scenic Corridors

Scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space lands, mountain ridges, bay, or ocean views). Cities may also recognize scenic corridors as being locally significant. Scenic corridors are considered a defined area of landscape, viewed as a single entity that includes the total field of vision visible from a specific point, or series of points along a linear transportation route. Public view corridors are areas in which short-range, medium-range, and long-range views are available from publicly accessible viewpoints, such as from city streets.

There are no officially designated scenic vistas in the Planning Area. The General Plan 1990-2010 does not identify any designated scenic vistas. That said, Larkspur contains several undeveloped landscapes that provide scenic vistas from various viewpoints in the city. Corte Madera Ridge, forming the city's south and western boundary and Southern Heights Ridge, forming the city's northern boundary, define Larkspur's urban form and separate it from other communities. Corte Madera Ridge in particular, with Big and Little King Mountains standing out in the foreground, is a symbol of the community. Corte Madera Ridge lies on the northeastern slopes of Mount Tamalpais. Part of Corte Madera Ridge lies within the Blithedale Summit Open Space Preserve (639 acres), which is one of three open space districts owned and managed by the Marin County Open Space District (MCOSD), that are located in the City’s Planning Area. The 108-acre King Mountain Open Space Preserve, encompassing Big and Little King Mountains, provides trail connections to neighboring open space preserves. The Baltimore Canyon Open Space Preserve encompasses 193 acres in the southeast portion of Larkspur’s Planning Area and contains the headwaters of the Larkspur Creek.

Views of these scenic resources are primarily from vantage points in people’s homes or yards, including views of the wooded ridges to the west. For most residents, views of scenic vistas are from the main arterials passing through the city that provide access to Highway 101, the Richmond-San Rafael Bridge, the main shopping areas, and schools. Views from these streets are summarized below.

Highway 101. Views of Larkspur from Highway 101 are dominated by commercial and office buildings. There is a view of open water and the boat docks of the Marin Rowing Association as the highway crosses Corte Madera Creek. There are views on Mount Tamalpais in the background as well as views of San Quentin prison from some vantage points.

Sir Francis Drake Boulevard. Entering the city from the west, views are of commercial development to the south and residential and commercial to the north. As one passes the Bon Air Shopping Center and the Drake's Landing commercial and office development on the south side of the road, one travels beneath Highway 101. Views along the eastern portion of SFD are of commercial development, including the Marin Country Mart Shopping center to the north and the ferry terminal and its parking lot to the south. Traveling past the ferry terminal, there are views of Corte Madera Creek as it widens before reaching the bay and marsh to the south with the row of houses built along the Greenbrae Boardwalk set back from the creek to the south. As this road passes east of the City limits, there are views of the steep undeveloped hillside to the north and the bay and San Quentin Prison to the south.

Doherty Drive. Doherty Drive provides access from Highway 101 to Magnolia Avenue in the Downtown. Travelling west, one passes Redwood High School with its extensive athletic playing fields. There are unobstructed views of the wooded hills on ridges to the west, including spectacular, unobstructed views of Mount. Tamalpais. To the south are views of the Corte Madera Creek lagoon with views of some homes with boat slips backing onto the channel. Further west are views of the newer Rose Garden housing development to the south and a school and community buildings to the north. To the north are views of Corte Madera Creek and trees and other vegetation in Piper Park.

Magnolia Avenue. Magnolia Avenue is the final main arterial. Entering Larkspur from Corte Madera to the south, the street passes through an older residential area before reaching the historic Downtown area. The Downtown, a designated State and City historic district that is also officially listed on the National Register of Historic Places, is comprised of views of one- and two-story commercial outlets, a school, and some multifamily residential units. As the street passes the intersection with Doherty Drive, it follows the base of the hillside to the west. There are views of trees and the old Escalle winery building to the west and residential development to the east. Passing the Bon Air Bridge, the street passes through primarily one-story commercial development until it reaches the City limits at which point the street passes the College of Marin and a public school before reaching SFD. Views to the west from this street are primarily of buildings, though there are vantage points where one can see trees at a higher elevation to the west of the buildings. There are also a few vantage points near the northern end of the street where there is a view of Mount Tamalpais.

Bon Air Road. Bon Air Road travels north from Magnolia Avenue and crosses Bon Air Bridge where there are views of the open water of Corte Madera Creek and the Hal Brown Park located along the north side of the creek. Past the Bridge is the Marin General Hospital on the east. Traveling south on Bon Air Road there are spectacular views of Mount Tamalpais, framed

by the green hills to the west and the and open water and wetlands of Corte Madera Creek and oak trees in Hal Brown Park.

Neighborhoods

In addition to natural and built scenic resources, the city of Larkspur is known for its varied neighborhoods, each with their own unique visual character. In many ways, the city is defined as a collection of neighborhoods. Every neighborhood in the city is unique in its character, design, and physical amenities, each contributing to the diversity and vitality of the community. As described previously, the General Plan has catalogued 29 distinct neighborhoods that are described in detail in Appendix A of the plan.

Light and Glare

Existing development and motor vehicles in Larkspur produce light and glare. Primary sources of light are streetlights, parking lot lighting, and automotive headlights. Glare refers to the discomfort or impairment of vision experienced when a person is exposed to a direct or reflected view of a light source, causing objectionable brightness that is greater than that to which the eyes are adapted. General sources of glare include reflected sunlight from the windows of buildings, from automobiles, and from glass building facades.

Transit-Rich-Area

As described in Chapter 4.0 and shown on Figure 4.0-1 of this Draft EIR, the Transit-Rich Areas (TRAs) surrounding the Larkspur SMART Station and the Golden Gate Ferry Terminal are areas where no significant aesthetic impacts findings can be identified in this environmental analysis pursuant to SB 743. These two overlapping TRAs include: 1) all of Larkspur and most of its SOI east of Highway 101 except for the area along Redwood Highway south of Rich Street; 2) all of the Drakes Landing area south of SFD; 3) the easternmost end of the Bon Air Shopping Center; and 4) a portion of the residential Greenbrae hillside neighborhood.

2. Regulatory Framework

State Regulations

California State Scenic Highways Program

California's Scenic Highway Program was created by the State of California. The State laws governing the Scenic Highways is maintained by the California Department of Transportation (Caltrans). The Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality. Suitability for designation as a State scenic highway is based on vividness, intactness, and unity, as described in Caltrans Guidelines for OfficialDesignation of Scenic Highways (Caltrans 1995).

Caltrans has not designated any highway within the city of Larkspur as a State Scenic Highway. Furthermore, there are no officially designated State Scenic Highways in the County of Marin.

California Building Code: CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code, alsoknown as CALGreen. 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.

Senate Bill 743

Senate Bill (SB) 743 (2013) amended the California Environmental Quality Act (CEQA) by adding California Public Resources Code Section 21099 regarding analysis of aesthetics impacts for urban infill projects. Among other provisions. CEQA 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 transit priority area (TPA) shall not be considered significant impacts on the environment.” As described in the introductory section of Chapter 4.0, aesthetic changes from new development in the two TPAs (or TRAs as they are referred to in this EIR) in Larkspur are not identified as environmental impacts and are not assessed in this chapter.

Aesthetic impacts are only considered for potential future development outside of these areas.

Senate Bill 9 (2021)

This bill allows a property owner to construct "by right" two residential units on a single lot including in single-family residential zones. An application shall be considered ministerially, without discretionary review or a hearing, if the proposed housing development meets objective design standards. “Objective design standard” means a design standard that involves no personal or subjective judgment by a public official and is uniformly verifiable by reference to an external and uniform benchmark or criterion available and knowable by both the development applicant or proponent and the public official before submittal of an application.

This bill also allows a property owner to split “by right" a parcel (including in areas zoned for single-family residential development) into two legal parcels. A local agency shall ministerially approve a parcel map for an urban lot split only if the local agency determines that the parcel map for the urban lot split meets adopted objective zoning standards and objective subdivision standards. "Objective zoning standards" “objective zoning standards,” “objective subdivision standards,” and “objective design review standards” mean standards that involve no personal or subjective judgment by a public official and are uniformly verifiable by reference to an external and uniform benchmark or criterion available and knowable by both the development applicant or proponent and the public official prior to submittal. These standards may be embodied in alternative objective land use specifications adopted by a local agency, and may include, but are not limited to, housing overlay zones, specific plans, inclusionary zoning ordinances, and density bonus ordinances.

The City of Larkspur has added Chapter 18.100, Objective Standards for Qualified Senate Bill 9 Subdivisions and Development Projects. This is an extension to an urgency ordinance and shall become effective immediately upon its adoption if adopted by at least four-fifths of the City Council and shall be in effect for an additional 10 months and 15-days from the end of the initial 45-day timeframe of Ordinance 1055 unless further extended by the City Council as provided for in Government Code section 65858.

Senate Bill 10 (2021)

This bill provides that local agencies may adopt an ordinance to allow up to 10 dwelling units on any parcel, at a height specified in the ordinance, if the parcel is located within a transit-rich area or urban infill site. An urban infill site is one where 75 percent of its perimeter is developed with urban uses and where the site is designated in the general plan for residential or mixed residential use with two-thirds of the square footage of the development designated for residential use.

Pursuant to SB 10, adoption of such an ordinance would not be subject to the California Environmental Quality Act (CEQA). However, an application to construct new housing on the lot would not be exempt from CEQA. In adopting an ordinance pursuant to SB 10, a local agency must declare that the zoning ordinance is adopted pursuant to SB 10, clearly demarcate the areas that are zoned pursuant to this section and make findings that the increased density supports the agency's duty to affirmatively further fair housing. Up to two accessory dwelling units (ADUs) or junior ADUs (JADUs) would be permitted on each parcel, and these would not count toward the 10-unit threshold.

As of June 2022, the City of Larkspur had not introduced an ordinance to allow rezoning permitted under SB 10.

Local Regulation

Larkspur General Plan 1990-2010

The Larkspur General Plan 1990-2010 goals, policies, and programs relevant to aesthetics are primarily in the Land Use and Community Character Chapters. As part of the proposed project, some existing General Plan goals, policies, and programs would be amended or revised, or some new policies would be added. A comprehensive list of policy changes is provided in Appendix B, Proposed General Plan Goals, Policies, and Programs, of this Draft EIR. Applicable goals, policies, and programs are identified and assessed for their effectiveness and potential to result in an adverse physical impact later in this chapter under the Impact Discussion below.

Larkspur Municipal Code–

The City of Larkspur's Municipal Code Design Review Guidelines (Section18.64) states that a key goal of the guidelines is maintaining a proper balance between manmade features and the natural environment. The location, design, material and color of manmade development should

harmonize and be compatible with the natural setting. Section 18.64.050 states that new structures subject to design review shall be designed in a manner such that impacts to any environmental features on or near the lot, including but not limited to streamcourses, marshlands, prominent trees and landforms. Grade changes shall be minimized and shall be in keeping with the general appearance of neighboring developed areas. Open areas shall be preserved to the extent practicable. Overall, the extent of the improvements shall be compatible with the topographical and geologic constraints imposed by the site. This section also regulates new lighting, stating that exterior light sources shall not create a glare or hazard on adjoining streets or be annoying to adjacent properties or residential areas. Finally, to reduce the impacts of new structures blocking views, the maximum building height is 35 feet in the R-1 zone and 35 feet in the R-2 and R-3 zones.

Specific Plans

The City has adopted specific plans for two areas. The Central Larkspur Specific Plan (CLASP – adopted in 2006) that provides land use regulations for a housing development (Rose Garden) that has been completed (with the exception of one parcel to be developed for a library 0r other public use) as well as two subareas fronting Doherty Drive and/or Magnolia Avenue, which are designated for commercial development. The CLASP contains land use regulations for future redevelopment or additions to the existing retail subarea of the plan area. The 1992 Downtown Specific Plan has land use, circulation, and urban design elements. The latter specific plan contains specific design guidelines for the historic Downtown area. Pertinent guidelines of these two specific plans have been incorporated into the City's Municipal Code.

3. Project Impacts

Standards of Significance

Assessing aesthetic impacts is qualitive and necessarily subjective. Level of change and Impact vary according to the viewer. This section evaluates the anticipated changes in the City's visual environment from existing conditions to buildout of the proposed project. This is a programmatic analysis It and does not assess specific development proposals.

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in a significant aesthetic-related impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.
4. Create a new source of substantial light or glare which would adversely affect day or

nighttime views in the area.

5. Result in significant cumulative impacts related to aesthetics.

With respect to standard number three, CEQA states that "urbanized" is defined as a city of more than 100,000 people or that the population of that city, and not more than two contiguous incorporated cities combined, equals at least 100,000 persons. The population of Larkspur is approximately 12,400. According to the U.S. Census, the population of Mill Valley to the south is approximately 14,231. Corte Madera to the south has a population of 10,222. San Rafael to the north has approximately 61,271 residents. This brings the total for the three largest contiguous cities to 87,902 people. Therefore, Larkspur is not considered an urban area under CEQA Guidelines Section 21071.

Impact Discussion

This section analyzes the proposed project's potential impacts to aesthetics. Changes to aesthetic resources from implementation of the proposed project are identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewer's sensitivity.

Impact AES-1: Implementation of the proposed project could have a substantial adverse effect on a scenic vista.

Future development under the proposed General Plan 2040 would have the potential to affect scenic vistas if new or intensified development blocks views of areas that provide or contribute to such visual resources. Potential effects could include blocking views of a scenic vista/corridor from public vantage points or the alteration of the overall scenic vista itself. Most views in Larkspur are of manmade buildings and other structures. Significant scenic vistas include views of Mount Tamalpais and adjacent higher elevation wooded ridges and views of Corte Madera Creek and the bay.

Most new development is expected to occur in the two Transit-Rich Area (TRAs) or the HRAs along Sir Francis Drake Boulevard (SFD) and Magnolia Avenue. Changes in view from projects in TRAs are not considered impacts under CEQA, as described in Chapter 4.0 of this EIR. Therefore, aesthetic impacts from new development in the TRAs, including the western part of the State-owned surplus property adjacent to San Quentin Prison is not discussed further in this EIR.

Views of Corte Madera Creek and the bay are possible mainly from the two TRAs. Views of the creek and adjacent bay are mainly visible for a very short period as one travels over the creek on Highway 101. Vantage points along the highway are elevated above the surrounding landscape. It is not expected that there would be new tall structures constructed in this area adjacent to the highway that would block scenic vistas of the creek, bay, or Mount Tamalpais. Corte Madera Creek is also visible from Bon Air Road where it crosses the creek and a few vantage points on Magnolia Avenue north of Bon Air Road where buildings do not block the views. New structures would not block views of the creek as drivers cross Bon Air Bridge. There could be blocking of views of the creek caused by new development on the north side of

Magnolia Avenue. However, there are very few locations where unobstructed views of the creek are possible. The views are possible looking away from the travel lane and looking due north. The view, where possible, is a fleeting view of water and the bank on the north side of the creek and would not be considered a scenic vista. Therefore, the primary scenic vistas that can be seen from public vantage points are of Mount Tamalpais and its adjacent high elevation, wooded ridges.

Most new development by 2040 is projected to occur in the two TRAs or along the HRAs that include Sir Francis Drake Boulevard (SFD) and Magnolia Avenue. Scenic vistas along SFD lying west of the TRAs include long-distance views of Mt. Tamalpais and adjacent high elevation wooded ridges, though along much of its length, views of Mount Tamalpais are blocked by existing development on the south side of the roadway. Some of the new development projected to be built on the south side of SFD would undergo design review that would be expected to require setbacks of new development from SFD to retain views of these distant scenic vistas. Currently, new buildings are limited to two stories (though exceptions can be approved if the City makes findings that an additional third floor would meet criteria listed in the LMC for Commercial zones). Adding new 2-story buildings along this arterial that have undergone design review would not be expected to further block views of the distant wooded hills. City approval of a third floor would be allowed only if the additional floor maintained the visual character of the area.

Larkspur General Plan 2040 Action Program LU-5.2.b states that the City should consider amending commercial and industrial development standards in the Zoning Ordinance to be more flexible, including allowing increased building heights and FAR, in order to encourage the economic success of the City's businesses. The Program states that standards should be amended only where it can be demonstrated that no adverse traffic, aesthetic, or land use compatibility impacts will result. If such Zoning Ordinance revision s occur after adoption of the new general plan, then 3-story buildings would be allowed in existing commercial areas along SFD.

Proposed residential and mixed-use projects with a residential component that complies with the City's inclusionary requirements set forth in LMC Chapter 18.25.040(A) are entitled to seek waivers or modifications of development standards (e.g., height or setback standards). Applicants seeking such waivers could propose 3-story building. These requests for waivers and concessions can only be denied if the City finds that the project would have specific adverse impacts to health and safety or adverse impacts on designated historic resources. A proposal seeking a waiver of height standards could result in new 3-story buildings along SFD. A waiver or modification that relaxes setback standards could result in 3-story buildings near the SFD right-of-way. Furthermore, if the City revises zoning standards to allow increased building heights as recommended by Action Program JU-5.2.b, then projects that meet the City's inclusionary requirements could result in 4-story buildings along SFD. It is possible that 3- or 4-story buildings along the south side of SFD, including in the Bon Air Shopping Center, would block some of the remaining scenic views of Mount Tamalpais and adjacent undeveloped hillsides to the south and west.

Therefore, revising the Zoning Ordinance to allow taller buildings and/or approving large affordable housing projects may result in new buildings that have the potential to block views of scenic vistas from some public vantage points along SFD.

New development allowed by Senate Bill 9 could result in up to four units on what is now a single-family residential lot. Development of additional units allowed by this bill would not result in large or tall structures that could block views. Therefore, development allowed by this bill could affect the visual character of the area (see subsequent discussion under Impact AES-3), but it would not be expected to block scenic vistas. Senate Bill 10 allows rezoning of a single-family lot to allow 10 new units plus 2 ADUs. The change in zoning is exempt from CEQA, but any development proposal for a rezoned lot is not exempt. Therefore, it is expected that any new proposal under SB 10 would be subject to City design review. Also, it is not expected that 10-unit buildings would be taller than two stories and, therefore, would not substantially block views.

The City is currently (as of June 2022) developing new objective design standards to apply to new applications being made under the new State housing laws and projects meeting the City's inclusionary requirements. The Housing Accountability Act (SB 167 [2017]), among other things, prohibits a local agency from disapproving, or conditioning approval in a manner than renders infeasible, a housing development project for very low, low-, or moderate-income households unless the local agency makes specified written findings based upon substantial evidence in the record. Per State law, only the objective standards in a community's zoning code can be applied to qualifying multi-unit projects. An objective standard involves no personal or subjective judgment.

These objective design standards would include objective design review standards that would apply to new multifamily residential and "by right" applications. It is possible that these standards would include objective building height and setback standards. These standards could, at a programmatic level of analysis, reduce the impacts of new development on views from SFD to a less-than-significant level. However, because these objective design standards have not been finalized nor adopted by the City, the impact of new development not subject to existing design review requirements is considered a potentially significant impact.

The General Plan 2040 would allow three-story buildings along the west side of the North Magnolia Avenue commercial corridor (from Skylark Drive to the end of the commercial area south of Murray Lane). As long as new development or additions to existing development do not block views to the west, new development subject to design review would not be expected to significantly affect views along this street. However, as described above for impacts on views from SFD, new multi-family affordable housing or mixed-use proposals could result in proposals for 3- or 4-story buildings.

A 3- or 4-story building on the west side of this street could block public views to the wooded hillside to the west from some vantage points along Magnolia Avenue. As noted in the previous discussion of SFD views, it is expected that the City may adopt objective design standards to

address height and other design issues along Magnolia Avenue. Again, because those standards have not been finalized nor adopted, the impact would be potentially significant.

The section of Magnolia Avenue to the south of Skylark Drive includes residential neighborhoods and the historic Downtown commercial center. Development of the Tiscornia property (A.P.N. 020-160-15) could result in blocking views of the wooded hillside that includes that site. This could be a potentially significant impact.

Development in the Downtown is limited to two stories. Given required design review, new residential development that included a second story of buildings would not be expected to substantially alter the scenic vista of the historic commercial area. However, there remains the potential that a project application eligible for a waiver of design standards could seek a third story. Views could be blocked by a project that sought a height waiver for a third story. The LMC states that waivers can be denied if they would have an adverse effect on State-listed historical resources. The Downtown along Magnolia Avenue is a State-listed Historic District. Therefore, the City has the option of not approving waivers that would adversely affect views along Magnolia Avenue in the Downtown area.

Most of the Redwood Highway area located east of Highway 101 is in the TRA. The southernmost portion that includes the Cost Plus Shopping Center is within an HRA. Views towards the bay are already blocked by existing buildings. the addition of new taller buildings here would not further block views to the east. The western part of the State-owned surplus parcel adjacent to San Quentin Prison is within the Golden Gate Ferry Terminal TRA. Possible future development of the remainder of that parcel would be expected to include a maximum of 8 residential lots. Development of this area would not block views of the bay. This development would be built consistent with an adopted Residential Master Plan and reviewed by the City for consistency with the Genera Plan policies related to aesthetics and view protection described in this section. It is expected that the ridgeline area on the site would be designated as open space in the RMP District, which would be consistent with City approvals of other ridgeline properties on the San Quentin peninsula.

The proposed Community Character Chapter contain goals, policies, and programs that require local planning and development decisions to consider impacts to scenic vistas and resources. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts on scenic vistas:

Goal CHAR-1: A strong and distinctive community identity

> *Action Program CHAR-1.2.b: Continue to implement and update, as appropriate, design review standards established in the Larkspur Municipal Code to ensure development is compatible with the natural setting, preserves the character of the existing neighborhood, and considers neighbors' concerns with respect to privacy, solar access, views, and scale and massing.*

Goal CHAR-2: A livable and attractive environment

Policy CHAR-2.1: Promote development and redevelopment that preserves and blends harmoniously with the natural environment.

Policy LU-2.3: Promote residential infill development and/or redevelopment that accommodates additional housing that fits in aesthetically and architecturally with the community and neighborhood character, as determined through the City's design review process and/or zoning standards.

Policy LU-5.3: Maintain and enhance landscaping in commercial areas.

Action Program LU-5.3.a: Encourage landscape screening of off-street parking.

Action Program LU-5.3.b: Continue to apply landscape design guidelines established in the Downtown Specific Plan, the Central Larkspur Area Specific Plan, and any forthcoming specific plans or community plans that address commercial areas.

Downtown Policies

Policy LU-4.4: Preserve the current mix of commercial, public and institutional, residential, and professional office uses in the Downtown and the residential areas nearby.

Policy LU-4.5: Maintain the existing scale of commercial establishments (smaller services and retail business), and the walkability of the Downtown.

Action Program LU-4.5.a: Continue to implement incentives to promote the retention and development of rental residential units on the upper floors of buildings in the Downtown. (Note: see the Housing Element for policies and programs addressing upper-story residential units above Downtown commercial properties.)

Action Program LU-4.5.b: Implement the Downtown Specific Plan.

Action Program LU-4.5.c: As necessary, update the Downtown Specific Plan to reflect current conditions, market trends, technical data, and community priorities. In addition to any new goals or policies, any updates to the Specific Plan should retain the intent of the goals and policies in the 1992 Specific Plan, specifically those pertaining to creating public spaces, enhancing non-motorized access, and supporting public events.

Policy LU-4.6: Maintain the architectural and historic character of Downtown and the surrounding neighborhoods.

Policy LU-5.4: Strengthen the aesthetic tie between the Magnolia Avenue Downtown shops and the shopping center near the corner of Magnolia Avenue and Doherty Drive.

Action Program LU-5.4.a: Create a community-serving outdoor space at or near the Ward-Magnolia intersection, in accordance with the design and development goals established in the Downtown Specific Plan and the Central Larkspur Area Specific Plan.

Policy LU-5.5: Encourage commercial uses in the Downtown that enhance the area's vitality as a commercial and community center.

North Magnolia Commercial Corridor Policies

Policy LU-5.6: Enhance the economic vitality of the North Magnolia commercial corridor and promote its development as a vibrant community center.

Action Program LU-5.6.a: Develop a Community or Local Plan for the North Magnolia commercial area or amend the zoning ordinance, depending on funding availability, to achieve the following objectivee:

- Allow second or third story residential development over existing commercial development on the west side of Magnolia Avenue, where it can be accommodated and without impacting the views and safe circulation in the existing residential neighborhoods.

Action Program LU-5.6.b: Consult with the residents, business owners, and property owners in the North Magnolia commercial area to identify a unifying theme for the area. The theme shall guide the development standards in the Community or Local Plan or when amending the zoning ordinance to achieve the objectives established in Action Program LU-5.6.a.

Central Larkspur Area Specific Plan Subarea Policies

Policy LU- 7.2: Develop the CLASP subareas into an integrated and cohesive mixed-use neighborhood in accordance with the guiding goals, policies, and programs established in the CLASP.

Action Program LU-7.2.a: As necessary, update the CLASP to reflect up-to-date data and trends, and to address changing relationships and interconnectivity between the subareas as a result of the development of one or more of the subareas.

Policy LU- 7.3: Development in the CLASP subareas will provide the maximum community benefit possible, e.g., provide a mix of housing types and minimize impacts on traffic and schools.

Policy LU- 7.4: The CLASP subareas 1 and 2 will be a focal point and activity center for the Downtown

The proposed General Plan 2040 reinforces existing land uses in most areas while encouraging mixed use in the TRAs and major shopping centers along SFD, the west side of North Magnolia Avenue, and Redwood Highway. It is expected that sufficient opportunities exist for development in these areas, along with opportunities for new ADUs in residential neighborhoods to meet the projected 2040 buildout without needing to increase existing and proposed allowed densities or heights beyond what is allowed under the General Plan 2040 and the Larkspur Municipal Code.

The future General Plan Housing Element Update may allow increased densities, heights, or other Zoning Code waivers to comply with the next RHNA cycle. If additional density is needed, it is expected that the Housing Element would identify sites within the TRAs or along the HRAs for this additional development potential. As described in Chapter 4.0, potential future development in the TRAs surrounding the Larkspur SMART Station and the Golden Gate Ferry Terminal would be exempt from an aesthetics evaluation.

Some of the projected new development would be adding ADUs and Junior ADUs on existing residential properties. The LMC includes guidelines and restrictions regarding ADUs. Chapter 18.23.060(H) of the LMC requires new ADUs to abide by "architectural standards" intended to protect views from public vantage points. It is expected that these ADUs would not block views of scenic vistas from public vantage points in the area nor substantially change the residential character of the neighborhoods.

All potential future multi-family and mixed-use development that is subject to discretionary approval would be required to undergo environmental and design review prior to project approval pursuant to LMC Chapter 18.64, Design Review and possibly Section 18.34, Slope and Hillside Development Regulations. The environmental and design review process reduces the risk of development blocking public views of significant visual resources. Furthermore, potential future development in the city would be subject to the various planning documents that govern scenic quality in the city, as described in the previous Regulatory Framework. However, as discussed above, the State requires that objective standards be used for design review of affordable housing projects. Affordable multifamily development will no longer be subject to the City's existing design review process**.** The City's design review guidelines, like the guidelines of most jurisdictions, is a set of expectations, goals, values, and qualities by which projects are evaluated in the discretionary review process. Typically, design guidelines are phrased as non-objective standards. Guidelines typically address a wide variety of topics ranging from site design, building design, architectural style, and landscaping. Under new State laws, many design guidelines will not meet the requirements for Objective Design and Development Standards.

Accordingly, development and design review on a proposal subject to the existing City design review process would limit the significant adverse impact that potential future development could have on a scenic vista or corridor. However, as discussed above, projects not subject to existing design review guidelines could result in tall buildings, reduced setbacks from streets, and/or other architectural or siting concessions that could result in adverse impacts on a scenic vista or corridor. Therefore, some new development could result in a significant impact on scenic vistas. Compliance with LMC Sections 18.64 and 18.34, along with implementation of the proposed General Plan 2040 goals, policies, and programs, would not necessarily reduce all impacts to scenic vistas and/or corridors to a less-than-significant level. The impact would remain potentially significant.

Mitigation Measures

Mitigation Measure AES-1

Replace Action Program CHAR-1.2.c with the following program.

Action Program CHAR-1.2.c: Develop objective design standards, objective zoning standards, objective subdivision standards, and objective design review standards and add these standards to Chapter 18.100 of the Larkspur Municipal Code. These standards will comply with State laws

for such standards. Development and adoption of these standards will be a first priority action item for implementing the General Plan.

Impact Significance After Mitigation

Compliance with LMC Sections 18.64, 18.34, and 18.36 (Residential Master Plan), along with implementation of the proposed General Plan 2040 goals, policies, and programs, would reduce impacts of projects subject to those sections of the LMC to a less-than-significant level. Impacts from future "by right" projects or projects complying with the City's inclusionary ordinance would be expected to be reduced by subjecting those projects to the objective review standards required in the recommended mitigation measure. While there would be some change in views along HRAs and other streets outside the two TRAs, it is expected that future projects would still undergo design review to comply with objective standards rather than subjective standards such as the project's effect on the "character" of the project's surroundings. However, changes to the existing developed viewscape in the City would not be substantial and would be reviewed and conditioned to the degree allowed by State housing laws. Providing an Open Residential land use classification and RMP pre-zoning to the State-owned property would not result in any new aesthetic impacts or substantially increase the impact described above. Visual impacts of possible future development of 8 residential lots on the parcel would be reduced to a less-than-significant level by abiding by the policies and programs and the recommended mitigation measure listed in this impact discussion as well as complying with all conditions set forth in the RMP that will be required for development of the remaining portion of the parcel. Development consistent with the RMP would reduce the programmatic impacts of possible annexation of this property to a less-than-significant level. Therefore, the impact of blocking scenic vistas would be reduced to a less-than-significant level with existing plus proposed design review.

Impact AES-2: Implementation of the project could substantially damage scenic resources, including, but not limited to, trees, rock outcroppings,and historic buildings within a state scenic highway.

As described in the previous Regulatory Framework, there are no State-designated scenic highways within, or in the vicinity of, the Planning Area. Therefore, implementation of the proposed project would not damage existing scenic resources within a state scenic highway and no impact would occur.

Impact AES-3: Implementation of the proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings.

As described in Impact AES-1, new development is expected to mainly occur within the two TRAs and along the HRAs plus new ADUs and Junior ADUs and projects allowed by existing zoning and by SB 9 within existing residential neighborhoods. The goals, policies, and programs listed in Impact AES-1 require local planning and development decisions to consider impacts that development could have on existing visual character.

A principal goal of the General Plan 2040 is to maintain the historic character of Larkspur. Goal LU-2 states the City goal of maintaining cohesive residential neighborhoods that retain their integrity, historic quality, and scale. Pertinent policies and programs aimed at protecting this visual character include the following.

> Policy LU-2.2: Limit the bulk of dwellings so that they visually fit in with neighboring homes and the physical characteristics of the site.
>
> Policy LU-2.3: Promote residential infill development and/or redevelopment that accommodates additional housing that fits in aesthetically and architecturally with the community and neighborhood character, as determined through the City's design review process and/or zoning standards.
>
> Policy LU-3.1: Allow flexibility in residential design and layout, with respect for the integrity of surrounding neighborhoods, to encourage a broad range of housing types.
>
> > *Action Program LU-3.1.b: Continue to implement and update, as appropriate, standards to incentivize installation of accessory dwelling units and junior accessory dwelling units in a manner consistent with the scale and character of existing residential neighborhoods.*
> >
> > *Action Program LU-3.1.c: Investigate impacts of allowing a mix of low- to moderate-density housing within single-family neighborhoods in existing structures (e.g., conversion of larger, older homes to multiple units), with design guidelines in place to ensure neighborhood character (e.g., scale and architectural style) is maintained and impacts on circulation, parking, and the environment are mitigated.*

As discussed previously, almost all potential future development under the proposed General Plan 2040 is expected to occur on previously disturbed and/or on a limited number of currently developed parcels in TRAs and HRAs. By encouraging new residential development in TRAs and HRAs, new development in the residential neighborhoods and the historic Downtown commercial center would be expected to make an insubstantial change to the visual character of these neighborhoods, thereby retaining the character of the community, which as defined previously is a collection of historic neighborhoods. Denser levels of development would be focused on commercial/mixed use areas that are already developed with commercial and mixed-use development. Further development of these denser, commercial areas would not substantially affect the visual character of these areas. As discussed under the previous impact, some future development proposals that include a residential component may not be subject to existing City design review guidelines or may seek exceptions to building standards (e.g., seeking a right to develop an additional story, a reduced setback, or some other design exception). it is possible that such exceptions could result in new buildings that change the visual character along SFD and Magnolia Avenue. However, the overall highly developed character of these corridors would not be substantially changed.

New ADUs and Junior ADUs as well as increased density from "by right" lot splits and additional units allowed under SB 9 in residential neighborhoods could alter the visual character of those historic neighborhoods. General Plan 2040 Action Program LU-3.1.c states that the City will investigate impacts of allowing a mix of low- to moderate-density housing within single-family

neighborhoods in existing structures (e.g., conversion of larger, older homes to multiple units), with design guidelines in place to ensure neighborhood character (e.g., scale and architectural style) is maintained and impacts on circulation, parking, and the environment are mitigated. However, the increased density possible from development allowed by SB 9 and the fact that the development is not subject to existing design review guidelines could affect the visual character of some existing neighborhoods. It is speculative how many units and lot splits allowed by SB 9 would actually be developed in the mainly older residential neighborhoods, but if these lot splits and development did occur, the impacts on the visual character and public views of these neighborhoods could be significant.

Mitigation Measures

Mitigation Measure AES-1 would apply to this impact.

Impact Significance After Mitigation'

Requiring projects not subject to the City's existing design review guidelines to meet the objective design standards would reduce the impact on visual character to the degree allowed by State housing laws. These objective standards will comply with current State law and provide standards that all applicants must follow to reduce the visual impacts of new development. While these new objective standards may result in the City approving designs that previously would not have been approved under the existing design review standards, new projects would be subject to design standards that would still limit significant adverse changes in the viewscape. Therefore, it is expected that new development subject to objective design standards would not have a significant adverse impact on scenic resources. It is expected that development of additional objective design standards that objectively define required setbacks and height limitations would, at a programmatic level of analysis, reduce impacts from new residential development in areas outside the TRAs and HRAs to a less-than-significant level. Approval of an RMP District on the State-owned parcel near San Quentin Prison would require development of an RMP plan and design review of any new residential development on that site to ensure consistency with General Plan view protection policies, thereby reducing programmatic impacts to a less-than-significant level.

Impact AES-4: Implementation of the proposed project could create a new source of light that could affect day or nighttime views in the area.

Currently, the Planning Area contains many existing sources of night lighting, including street and parking area lights, security lighting, and exterior lighting on existing residential, commercial, and institutional buildings. New development that could occur at plan buildout would add additional sources of lighting. Principal light sources such as streetlights, parking lighting, and security and external lighting of buildings would not be expected to increase since the main transportation corridors and development along those corridors is already lit with many sources of lighting. Some additional sources of lighting may occur in new development above existing buildings. However, this lighting would occur within an existing and lit urban setting. It would not result in a substantial increase that would significantly change the

nighttime visual environment in TRAs and HRAs. The nighttime visual environment in most residential neighborhoods and along most streets would remain the same. Any changes to possible long distant views of lights on second or third floors of residential development, like existing conditions in the neighborhoods which do not create a significant environmental impact, would not be substantial enough to cause a significant impact. A few lights on the State-owned property uphill of Sir Francis Drake Boulevard near the well-lighted State prison would not substantially change nighttime views along this busy arterial. In addition, new lighting at this site would be reduced by implementing requirements regarding exterior lighting and glare set forth in the RMP required for that property.

New two- to three-story, even possibly four-story, buildings could also increase glare at certain vantage points. However, as is the case for lighting, the increased glare would not be widespread enough to be considered substantial at a program level. Potential sources of new glare from some individual projects may be subject to Design Review and be required to reduce glare per the Design Review Guidelines and General Plan 2040 policies and programs. However, as described in the previous impact discussions in this chapter, some projects that include affordable housing may request exceptions to design standards. However, it is not expected that such requests would be waivers to lighting and glare standards. In addition, proposals would be subject to the new objective design standards once the City finalizes and adopts these standards.

Other than the Tiscornia property located on Magnolia Avenue between the Downtown and the North Magnolia Commercial Corridor, no new development of any size would add new lighting to a currently unlit setting. The LMC includes design review requirements for new development to reduce offsite impacts from lighting and glare. Therefore, at a program level of analysis development of this property would not cause a substantial increase in light or glare.

Besides general best management practices that require lighting that is context sensitive in style and intensity required under CALGreen, new developments would also have to comply with the General Plan goals, policies, and programs and LMC provisions that ensure new land uses do not generate excessive light levels. Furthermore, future development would occur in existing developed areas and would be concentrated on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing development, where existing development already contributes to nighttime illumination or glare. Therefore, the lighting associated with the proposed General Plan 2040 would not substantially increase nighttime light and glare within the Planning Area or its surroundings, and impacts relating to lighting and glare would be less than significant.

Impact AES-5: Implementation of the proposed project could result in a cumulatively considerable impact to aesthetic resources.

As discussed previously in Chapter 4.0, the cumulative setting includes growth within the Planning Area in combination with projected growth in the rest of Marin County and the surrounding region. The cumulative setting for visual impacts includes potential future

development under the proposed General Plan, combined with effects of development on lands adjacent to the Planning Area. Significant impacts, including those associated with scenic resources, visual character, and increased light and glare would generally be site-specific and would not contribute to cumulative impacts after implementation of the General Plan 2040 goals, policies, the provisions stated in the LMC, and new objective design standards recommended in Mitigation Measure AES-1.

Because of the developed nature of the projected areas of growth in Larkspur, future development under General Plan 2040 in combination with other new development would not negatively impact the visual character of the city or the surrounding communities.

The proposed General Plan 2040 goals, policies, and programs listed in Impact Discussions AES-1 and AES-3 plus Mitigation Measure AES-1 would not at a program level cause adverse physical changes that could create aesthetic impacts in Larkspur. Individual developments would continue to be subject to General Plan goals, policies, and programs and the LMC provisions related to aesthetics, including potential project-level design review requirements. As part of the approval process, potential new development would be subject to architectural, environmental, and site design review, as applicable, to ensure that the development is aesthetically pleasing and compatible with adjoining land uses. With the development review mechanisms in place, approved future development under the proposed project would not create substantial impacts to visual resources in Larkspur or the surrounding communities. Therefore, with the addition of Mitigation Measure AES-1, the proposed project would not result in a cumulatively considerable impact to aesthetic resources and cumulative impacts would be less than significant.

4.2 Air Quality

1. Environmental Setting

The project is located in Marin County, which is part of the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

This project is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Air pollutants are governed by multiple federal and State standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO2), ozone (O3), suspended particulate matter (PM: PM2.5 and PM10), and sulfur dioxide (SO2). California sets standards, similar to the NAAQS as California Ambient Air Quality Standards (CAAQS). Health effects of the primary criteria pollutants (i.e., the NAAQS) and their potential sources are described below and summarized in Table 4.2-1. Note that California includes pollutants or contaminants that are specific to certain industries and not associated with this project. These include hydrogen sulfide and vinyl chloride.

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOX). The main sources of ROG and NOX, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels

of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection. On January 22, 2010 the U.S. Environmental Protection Agency (EPA) strengthened the health-based NAAQS for NO_2.

Sulfur Dioxide is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO2 levels in the region. SO2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM10). PM2.5 refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM10 and PM2.5. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead 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 phase-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 manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from

Table 4.2-1: Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organics	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	• Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials & products.	• Cancer. • Chronic eye, lung, or skin irritation. • Neurological and reproductive disorders.

Source: CARB, 2009. ARB Fact Sheet: Air Pollution and Health, accessed May 1, 2018. Web: https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm

gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the eastern Marin County. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Rainfall amounts vary due to terrain but are around 30 inches in the lowlands. Wind patterns are influenced by local terrain, with a westerly to southwesterly breeze in response to the sea breeze infiltrating San Francisco Bay and gaps in the terrain typically developing during the daytime. Winds are usually stronger in the spring and summer. Southerly winds are experienced more often in late fall, winter, and early spring.

Air Pollution Potential

Ozone and fine particle pollution, or PM2.5, are the major regional air pollutants of concern in the San Francisco Bay Area. Along the Marin County coast and in southern Marin County, clean air from the Pacific Ocean helps to keep air pollution at a minimum. Elsewhere in Marin, ozone only rarely becomes a concern, but the hilly terrain and colder winter temperatures can trap PM2.5 near the surface, resulting in air quality that occasionally exceeds health standards.

Attainment Status Designations

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all state standards. An “attainment” designation for an area signifies that

pollutant concentrations did not violate the standard for that pollutant in that area. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data does not support either an attainment or nonattainment status. Table 4.2-2 shows the state and federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to national and state ambient air quality standards.

Table 4.2-2: NAAQS, CAAQS, and San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment
	1-Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	Annual Mean	0.030 ppm (57 mg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1-Hour	0.18 ppm (338 µg/m^3)	Attainment	0.100 ppm	Unclassified
Ozone (O_3)	8-Hour	0.07 ppm (137 µg/m^3)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m^3)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM_{10})	Annual Mean	20 µg/m^3	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Suspended Particulate Matter ($PM_{2.5}$)	Annual Mean	12 µg/m^3	Nonattainment	12 µg/m^3	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3	Nonattainment
Sulfur Dioxide (SO_2)	Annual Mean	Not Applicable	Not Applicable	80 µg/m^3 (0.03 ppm)	Attainment
	24-Hour	0.04 ppm (105 µg/m^3)	Attainment	365 µg/m^3 (0.14 ppm)	Attainment
	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	Attainment

Source: Bay Area Air Quality Management District, 2017. *Air Quality Standards and Attainment Status.* January 5, 2021. Data for 2018-2021 not yet posted.

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s. ppm = parts per million, mg/m3 = milligrams per cubic meter, µg/m3 = micrograms per cubic meter

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest air monitoring station that monitors O_3, CO, NO, NO2, PM10, and PM2.5 is in San Rafael, approximately two miles northwest of Larkspur. This monitoring site is located in a more urban setting and likely measures similar or higher air pollutant levels that would occur in Larkspur, with the exception of locations immediately adjacent to U.S. Highway 101. The data shows that during the past few years, the project area has not exceeded the state and/or federal O_3 standards PM10, and PM2.5 ambient air quality standards have been exceeded up to 8 monitoring days, mainly due to wildfire smoke.

Sensitive Receptors

There are groups of people more affected by air pollution than others. The California Air Resources Board (CARB) has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children.

2. Regulatory Framework

Pursuant to the Federal Clean Air Act of 1970, the EPA established the NAAQS. The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established ambient air quality standards for common pollutants: CO, O_3, NO_2, SO_2, Pb, and PM. 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 public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the FCAA, which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). Federal

standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.[10] The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, state and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS

[10] See: U.S. Environmental Protection Agency, Web: https://www.epa.gov/criteria-air-pollutants/naaqs-table, Accessed August 13, 2020

(which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the state endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the state standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines. CARB subsequently developed an Air Quality and Land Use Handbook (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Planning Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Truck and Bus Regulation

CARB is actively enforcing heavy-duty diesel vehicle regulations that require fleets to replace or retrofit heavy-duty diesel vehicles, with full implementation of the program scheduled for January 1, 2023. Compliance with the program is generally considered vehicles equipped with a

2010 or newer engine model year. As of January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

Other CARB diesel programs affecting heavy-duty diesel vehicles include:

- Idling limits of no more than 5 minutes with special exceptions.
- Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.
- The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.
- The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free.

Off-Road Vehicle and Equipment Regulations

CARB has also adopted and implemented regulations to reduce DPM and nitrogen oxides (NOx) emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NOx exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, is expected to substantially reduce emissions of diesel particulate matter (DPM) and NOx.

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should report using DOORS, which is CARB's online reporting tool. CARB issues a unique Equipment Identification Number (EIN) that is assigned to each vehicle. The fleet owner must label their vehicles with the EIN.

Other CARB diesel programs affecting off-road vehicles and equipment include:

- Idling limits of no more than 5 minutes with special exceptions.
- Portable engines 50 hp or greater may require a permit or registration to legally operate. BAAQMD is responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

Regional Regulations

Bay Area Air Quality Management District

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NOX), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAQMD's board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[11] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has

[11] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program, accessed 2/18/2021.

identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. Recently, BAAQMD identifies an *overburdened* community as an area located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract. Larkspur, with the exception of the Larkspur Landing area, is not within an identified overburdened community area. The census tract containing the Larkspur Landing area is "overburdened." As of 2021, new project applications within "overburdened" census tracts are subject to more stringent cancer risk limits (6 new cases in 1 million people as compared to 10 new cases per 1 million people for unburdened areas), updated health screening guidelines for gasoline dispending facilities, and enhanced public notification for new projects within the community.

Planning Healthy Places

BAAQMD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommends best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines[12] 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 including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. On June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts. A recent update to the Guidelines was published in May 2017.

The CEQA Guidelines define air pollution sources that would exist in Larkspur as highways, roadways with greater than 10,000 average daily trips, and stationary sources of air pollutants that are permitted by BAAQMD. Projects that have TAC emissions that could adversely affect

[12] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

sensitive receptors are recommended to prepare health risk assessments to quantify the potential and, if appropriate, identify mitigation measures to reduce impacts.

BAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly cooling towers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators and some minor emissions from cooling towers. Certain emission sources would be subject to BAAQMD Regulations and Rules.

City of Larkspur

Larkspur General Plan 1990-2010

The Larkspur General Plan 1990-2010 goals, policies, and programs relevant to air quality are contained in the Health and Safety Chapter. In general, the policies and programs are aimed at reducing air pollution. Many of these policies and programs are outdated, and they have been updated in the proposed project.

Larkspur Municipal Code

The Larkspur Municipal Code (LMC) Chapter 18.16.280 sets performance standards that prohibit noise and dust from being noticeable off a project site.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to air quality if it would:

1. Conflict with or obstruct implementation of an applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

BAAQMD revised its CEQA Guidelines in May 2017. The thresholds identified in Table 4.2-3 and Table 4.2-4 represent the most recent guidance provided by BAAQMD. Though not necessarily a CEQA issue, the effect of existing TAC sources on future sensitive receptors (e.g., residences) is analyzed to comply with BAAQMD's Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

Table 4.2-3: BAAQMD Recommended Plan-Level Air Quality Significant Thresholds

Pollutant/Contaminant	Construction	Operational
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet from all freeways and high-volume roadways For this analysis – overlay zones are based on potential for sources to result in the following impacts: 1. Excess cancer risk >10.0 chances per million 2. Annual PM2.5 Concentration > 0.3 µg/m^3 3. Hazard Index >1.0
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors

Table 4.2-4. BAAQMD Recommended Project-Level Air Quality Significance Thresholds

	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other BMPs	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all Sources within 1,000-foot zone of influence)	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 µg/m^3	0.8 µg/m^3	
Odors	Complaints		
Detection	5 confirmed complaints per year averaged over three years		
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. *BAAQMD does not have a recommended post-2020 GHG threshold.			

Source: Bay Area Air Quality Management District, 2017

Emissions of air pollutants from possible development of 8 lots on the State-owned property near San Quentin Prison are included in the emission projections from City buildout to 2040. These emission impacts are addressed in this section of the EIR. Any development of the remainder portion of the State-owned property would not result in any additional impact of

substantially increase the severity of any air quality impacts identified and assessed in this section of the EIR.

Impact AQ-1: The project would not conflict with or obstruct implementation of an applicable air quality plan.

BAAQMD is the regional agency responsible for overseeing compliance with State and federal laws, regulations, and programs within the San Francisco Bay Area Air Basin. The BAAQMD, with assistance from Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), has prepared and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[13] The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

Consistency of the proposed General Plan with Clean Air Plan control measures is demonstrated by assessing whether the proposed plan implements the applicable Clean Air Plan control measures. The 2017 Clean Air Plan includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The control measures are divided into five categories that include:

- 40 measures to reduce stationary and area sources;
- 8 mobile source measures;
- 23 transportation control measures (including land use strategies);
- 4 building sector measures;
- 2 energy sector measures;
- 4 agriculture sector measures;
- 3 natural and working lands measures;
- 4 waste sector measures;
- 2 water sector measures; and
- 3 super-GHG pollutants measures.

In developing the control strategy, BAAQMD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources.
- Revisions to the BAAQMD's permitting requirements for stationary sources.

[13] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*

- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines.
- Allocation of grants and other funding by the Air District and/or partner agencies.
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures.
- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups.
- Public outreach and education.
- Enhanced air quality monitoring.
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA.
- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities. To address this impact, the General Plan's effect on implementing the Clean Air Plan is evaluated based on consistency with Clean Air Planning projections (i.e., rate of increase in population versus vehicle travel).

Consistency with Clean Air Plan Projections

Table 4.2-5 summarizes existing conditions, buildout under existing conditions, and buildout under the proposed General Plan 2040 conditions. The project would allow for a potential increase in the Larkspur population of approximately 2,814 persons associated with the additional 1,340 residential units that could be developed under the project. Daily vehicle miles traveled (VMT) for buildout of the Planning Area were provided by the project traffic consultant (see the discussion of VMT in the subsequent Section 4.14, Transportation). Using "Existing" as a baseline condition (estimated at 193,775 miles), VMT attributable to the project is anticipated to increase 3.8 percent at buildout (201,130 miles). The VMT per capita is projected to decrease from 15.6 miles to 13.3 miles with the project, since there would be more housing. Note that the project would increase the number of trips, but those trips would have shorter trip lengths. In summary, the project increases population and slightly increases traffic. The rate of increase in traffic, measured as the rate of trips or VMT, would be less than the 22.3 percent increase in population.

Table 4.2-5 also shows the projected traffic for the No Project scenario. That scenario uses the TAM Demand Model (TAMDM) 2040 projections that are based on projections of population and VMT growth in the county. That scenario does not include the expanded residential growth that would occur under implementation of the Larkspur General Plan 2040. Table 4.2-5 allows the reader to compare the impacts of buildout under the project with the TAMDM projections.

Table 4.2-5: Larkspur Traffic and Population Projections

Scenario	Population	Daily Trips	Daily VMT	VMT/Capita	Dwelling Units
Existing Conditions	12,400	41,761	193,775	15.6	6,306
2040 No Project	13,604	41,761	185,010	13.6	6,800
General Plan 2040 Project Buildout	15,154	48,243	201,130	13.3	7,646
Change 2040 Project – minus Existing	+2,764	+6,482	+7,355	-2.3	+1,340

Source: Parisi Transportation Consulting, Nov. 3, 2021

Consistency with Clean Air Plan Control Measures

The BAAQMD CEQA Air Quality Guidelines set forth criteria for determining consistency with the Clean Air Plan control measures. In general, a plan is considered consistent if a) the plan supports the primary goals of the Clean Air Plan; b) includes control measures; and c) does not interfere with implementation of the Clean Air Plan measures. Growth under the project is considered a sustainable development since it is an infill development that would mainly be transit-oriented and located near a mix of uses that include employment and services. As a result, these types of communities reduce the rate of per capita VMT, as reflected in the projections presented in Table 4.2-5.

The General Plan 2040 includes a range of goals, policies, and programs to foster the city's long-term sustainability. The Sustainability Chapter of the Larkspur General Plan 2040 (Chapter 2) summarizes the policies and programs most pertinent to fostering and supporting sustainable practices. One section of Chapter 2 summarizes policies and programs aimed at reducing vehicle use. Implementation of the following policies and recommendations would reduce the use of motor vehicles.

- Land Use Policy 1.1 and programs under that policy recommend that high density residential development be encouraged in areas in close proximity to arterials, collector roads, public transit, and commercial centers that provide a range of goods and personal services.
- Several Land Use policies and programs encourage implementation of pedestrian and bicycle facilities in commercial areas, linkages between commercial areas and surrounding neighborhoods, and also encourage a mix of commercial uses to serve the local community to reduce vehicle trips for services and goods.
- Circulation Policy 1.1 calls for developing a coordinated system of transportation options to serve all users. This includes developing Complete Streets that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets for safe and convenient travel.

- Circulation Policy 3.3 recommends developing high intensity land uses in proximity to transit routes and transportation facilities.
- Circulation Policy 4.2 calls for developing a policy for new development to achieve a minimum percentage reduction in Vehicle Miles Traveled (VMT) per capita or per service population.
- Several Circulation policies under Goal 6 encourage use of various alternative modes of travel to and between retail areas.
- Circulation Policy 7.2 aims to develop and maintain paths and bicycle lanes and routes linking Larkspur to neighboring communities.
- Several Circulation policies call for trail access to open space.
- Policies CIR-11.1 and 11.2 call for avoidance or providing mitigation for circulation facilities at risk from sea level rise and other hazards.
- Community Character Program 1.2a requires all major new development or redevelopment to provide connectivity to and from the site for bicyclists and pedestrians.
- The City's Bicycle & Pedestrian Master Plan, which was prepared to be consistent with the General Plan, contains policies to encourage and enhance pedestrian and bicycling access.
- The CAP includes recommendations to increase the use of alternative modes of transit and ridesharing, reduce VMT for new City operations and programs, accelerate installation of infrastructure to support electric vehicles, and encourage sustainable transportation modes.

The Larkspur General Plan 2040 also include the following policies and programs pertinent to air quality.

Goal SAF-9: Improved air quality in Larkspur

Policy SAF-9.1: Seek to comply with state and federal Ambient Air Quality Standards.

Action Program SAF-9.1.a: Work with the Bay Area Air Quality Management District to identify measures which Larkspur might take to improve air quality within the City.

Policy SAF-9.2: Seek to reduce auto travel and, thereby, the pollutants from auto emissions.

Policy SAF-9.3: Ensure that traffic generated by new development does not lead to non-attainment of state and federal ambient air quality standards in Marin County.

Action Program SAF-9.3.a: During environmental review, reference current guidelines released by the Bay Area Air Quality Management District to evaluate the significance of a project's air quality impacts, and to establish appropriate minimum submittal and mitigation requirements necessary for project approval.

Policy SAF-9.4:Ensure sufficient buffers between sensitive land uses (e.g., residential, schools, and public facilities) and sources of air pollution. If sufficient buffers cannot be achieved, require adequate mitigation measures to protect sensitive receptors located near emission sources.

Action Program SAF-9.4.a: Only allow emission sources or other uses in the vicinity of air pollution or odor sources if the minimum screening distances between sources and receptors established in the BAAQMD CEQA Guidelines can be met, unless detailed project-specific studies demonstrate compatibility with adjacent uses despite separations that do not meet the screening distance requirements.

The General Plan 2040 also contains goals, policies, and programs aimed at encouraging new residential development in areas near mass transit and to reduce motor vehicle use. These goals, policies, and programs are listed in full in the subsequent Section 4.12, Transportation. The more pertinent policies and programs are reproduced here.

Action Program CIR-3.3a: In reviewing new development and redevelopment proposals, the City will weigh the benefits of new commercial development that addresses local resident's *shopping and employment needs and multi-family housing that meets the City's needs to provide adequate housing in the City against possible impacts on intersection congestion.*

Policy CIR-4.6: Strive to reduce the amount of land and infrastructure devoted to parking through such measures as development of consolidated parking facilities, the application of shared parking for mixed-use developments, car share programs, alternative investment in bike and pedestrian facilities, and the implementation of Transportation Demand Management programs to reduce parking demand.

Goal CIR-6: Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles travelled, and transportation-related sources of air pollution and energy consumption.

Policy CIR-6.1: Maintain and update the City's Bicycle & Pedestrian Master Plan to encourage bicycling and walking to reduce the Vehicle Miles Travelled in the City of Larkspur, while ensuring the City's ability to accommodate changing demand for bicycle and pedestrian facilities and plan for increasing volumes of pedestrians, bicyclists and other pathway users.

Policy CIR-6.4: Encourage increased transit service and ridership, and other innovative programs and alternative transportation solutions to reduce single-occupancy vehicle use.

Action Program CIR-6.4.a: Collaborate with TAM and/or County of Marin to study and implement TDM incentive programs as a means for employers to participate in reducing automobile traffic by providing information on available transit services, sample employee incentive programs including shared-ride programs, transit passes, and bike-to-work programs, and maps of nearby pedestrian and bicycle routes.

Action Program 6.4.b: Consistent with Policy CIR-3.2, require developers of projects that generate traffic above what is considered an acceptable LOS to implement and/or fund transportation improvements and/or TDM programs to reduce vehicle use.

Action Program CIR-6.4.d: Cooperate with Golden Gate Transit, Marin Transit, and private transit providers to consider the transit needs of all residents, workers, students and visitors, including seniors, low-income, disabled, and transit-dependent persons in making decisions regarding transit services.

Policy CIR-6.11: Encourage neighborhood and local consumer services that can be reached safely and conveniently by pedestrians and bicyclists.

Action Program CIR-6.11.b: Review and update the zoning ordinance to encourage a mix of local resident-serving uses (food stores, groceries, personal services …etc.) over destination retail, in all commercial areas, utilizing shared parking models

Policy LU-3.1: Allow flexibility in residential design and layout, with respect for the integrity of surrounding neighborhoods, to encourage a broad range of housing types.

Action Program LU-3.1.a: Encourage maximum densities and require minimum densities in the medium and high-density residential categories where projects promote social and economic diversity and environmental benefits and impacts on existing neighborhood scale and character are mitigated. Update the zoning ordinance to require minimum densities at no less than 75% of the maximum densities in these residential categories, taking into account environmental or compatibility issues, such as sloping hillside areas, that warrant density reduction.

Action Program LU-3.1.c: Investigate impacts of allowing a mix of low- to moderate-density housing within single-family neighborhoods in existing structures (e.g., conversion of larger, older homes to multiple units), with design guidelines in place to ensure neighborhood character (e.g., scale and architectural style) is maintained and impacts on circulation, parking, and the environment are mitigated.

Policy LU-6.1: Encourage the development of upper-story housing, where appropriate, in commercial areas.

Policy LU-6.2: Encourage pedestrian and bicycle linkages between commercial areas and surrounding neighborhoods.

Action Program LU-6.2.a: Require new development or significant redevelopment of existing commercial areas to incorporate design features (building orientation, building materials, pedestrian connections, bicycle parking, parking location, landscaping) that encourage pedestrian and bicycle use and emphasize positive relationships with neighboring buildings and uses.

These policies and programs encourage redevelopment of existing commercial developments to allow housing on upper stories and to create commercial areas that have safe and easy bicycle and pedestrian access. There are policies to encourage availability of mass transit and to develop new residential development in areas served by efficient mass transit.

These goals, policies, and programs are also in line with Clean Air Plan control measures. As sustainable development occurs in Larkspur under the General Plan 2040 and the Larkspur CAP, the General Plan would generally be consistent with Clean Air Plan measures intended to reduce automobile and energy use. Table 4.2-6 lists those Clean Air Plan policies relevant to the project and judges consistency with the policies.

Table 4.2-6: BAAQMD Control Strategy Measures from the Clean Air Plan	
Applicable BAAQMD Control Strategy Measures	**Consistency**
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent The project, the CAP, and the LMC require the implementation of TDM programs for large new commercial development, which would include measures such as increased support for telecommuting
TR2: Trip Reduction Programs	Consistent The project, the CAP, and the LMC require the implementation of TDM programs for large new development, which would include measures such as transit subsidies, carpool incentives, bicycling incentives, carshare memberships, and/or vanpools.
TR 5: Transit Efficiency and Use	Consistent For example, Policy CIR-1.1 calls for a coordinated transportation system to serve all users.
TR7: Safe Routes to Schools and Safe Routes to Transit	Consistent The project (e.g., Policy CIR-6.1) and the incorporated BPMP would ensure clear and safe pedestrian circulation. Convenience, safety and integrated access would be prioritized for all modes of transportation.
TR8: Ridesharing, Last-Mile Connection	Consistent The project, the LMC, and the CAP encourage the implementation of TDM programs (e.g., Policy CIR-6.4 which may include measures such as carpool incentives, carshare memberships, additional Last Mile services, and/or vanpools).
TR9: Bicycle and Pedestrian Access and Facilities	Consistent Larkspur has walkable commercial areas and clear and safe pedestrian and bicycle circulation. Policy CIR-6.1 and the BPMP support this measure
TR10: Land Use Strategies	Consistent The project supports the implementation of Plan Bay Area 2050 by focusing new development on infill areas in close proximity to transit, creating opportunities for more sustainable transportation modes that are less reliant on automobiles.

Table 4.2-6: BAAQMD Control Strategy Measures from the Clean Air Plan	
Applicable BAAQMD Control Strategy Measures	**Consistency**
TR13: Parking Policies	Consistent Growth in Larkspur, which is considered built out, would be mostly residential. In addition, Policy CIR-4.6 supports this measure
Building Control Measures	
BL1: Green Buildings	Consistent New construction allowed under the project would meet new Title 24 standards as well as City LMC requirements. General Plan Policies LU-12. 1, LU-12, 2 and LU-12.5 support this measure.
BL2: Decarbonize Buildings	Consistent The Larkspur CAP would encourage energy generation through on-site photovoltaic on buildings and would discourage the use of natural gas. In addition, the CAP supports the goal of net zero energy on-site over time as the electricity provider, Marin Clean Energy, strives to provide carbon free generated electricity to their customers as well as the purchase of renewable energy credits. CAP measures EE-C3 and C4 and General Plan Policies LU-12.1, LU-12.2, and LU-12.5 also support this measure.
BL4: Urban Heat Island Mitigation	Consistent The CAP measure SA-C1 would plant trees where feasible would reduce cooling load by maximizing shading. Land Use Policy 3.5 also supports this measure.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent Land Use Policy 3.5 and CAP measure SA-C1 will increase carbon sequestration through the expansion and enhancement of green spaces and planting of trees wherever feasible.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent General Plan Policies ENV-5.3 and ENV-5.4 and CAP measure WR-C3 implement a construction waste management plan to meet the waste diversion goals outlined in the California Integrated Waste Management Act and AB 935. Additional measures WR-C1 through WR-C7 further support this measure.

Table 4.2-6: BAAQMD Control Strategy Measures from the Clean Air Plan	
Applicable BAAQMD Control Strategy Measures	**Consistency**
WR2: Support Water Conservation	Consistent As a community frequently subject to drought conditions, Larkspur has established strict water conservation measures through Marin Municipal Water District. General Plan Policy ENV-5.2, the LMC, and CAP measure WC-C1 ensure water efficient landscaping and is included in new developments and encourages installation of greywater and rainwater collections systems.

As indicated in Table 4.2-6, the project would include implementing policies and measures that are generally consistent with and supportive of the applicable Clean Air Plan control measures. The Larkspur General Plan 2040 has been designed to reduce impacts on natural resources to ensure a sustainable future. Land Use, circulation, and natural resource policies are tailored to reduce emissions of air pollutants and greenhouse gas emissions. The land use policies that focus new development into developed areas with many mass transit alternatives are one reason that the VMT per capita is reduced by over 15 percent despite the addition of 1,340 new dwelling units by 2040. Therefore, there would not be a significant impact as regards plan consistency, and no mitigation is required.

Impact AIR-2: Future development allowed by the project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and particulate matter (i.e., $PM_{2.5}$ and PM_{10}), the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts for projects. The thresholds do not apply to plans, such as the Larkspur General Plan 2040.

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

General Plan 2040 Construction Period Emissions

Implementation of the Plan would result in temporary emissions from construction activities associated with subsequent development, including demolition, site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, that is the dominant source of PM10 and PM2.5 emissions is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impact from construction is addressed under Impact AIR-3.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM10 and PM2.5. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. Mitigation Measure AQ-1 would require BAAQMD-recommended best management practices during construction.

Construction exhaust emissions include those from equipment (i.e., off-road) and traffic (on-road vehicles and trucks). Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Architectural coatings and application of asphalt pavement are dominant sources of ROG emissions. The BAAQMD CEQA Air Quality Guidelines do not identify quantified plan level thresholds for construction emissions. There are project-level thresholds of 54 pounds per average day for NOx, ROG, and $PM_{2.5}$ exhaust and 82 pounds per average day for PM_{10} exhaust. Unless controlled, the combination of temporary dust from activities and diesel exhaust from construction equipment and related traffic may pose a nuisance impact to nearby receptors or exceed acceptable levels for projects. In addition, NO_X emissions during grading and soil import/export for large projects may exceed the BAAQMD NO_X emission thresholds for projects.

General Plan 2040 Operational Period Emissions

Implementation of the project would result in long-term area and mobile source emissions from operation and use of subsequent development. As described above, implementation of the General Plan would contribute to a decrease in VMT associated with the General Plan area (see discussion under Impact AIR-1). There are no significance thresholds applicable to emissions associated with plan- level development; however, there are project-level thresholds (see Table 4.2-7).

California Emissions Estimator Model (CalEEMod) Modeling Assumptions

Operational air emissions from the project would be generated primarily from autos driven by future residents and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these type uses. CalEEMod Version 2020.4.0 was used to predict net emissions from operation of the proposed project assuming full buildout in 2040 or later. Appendix C includes the output for project criteria air pollutants as well as the input assumptions used for land uses, model year. Traffic inputs, the EMFAC2021 Adjustment, consumer products, energy use, electricity generation, and other inputs.

Summary of Operational Period Emissions

Table 4.2-7 reports the predicted emissions from existing 2020 conditions and complete buildout of the city in terms of annual emissions in tons and average daily operational emissions, assuming 365 days of operation per year. The table also shows the "No Project" scenario. Net emissions between the project and existing uses are also shown. There are no emission thresholds that apply to potential emissions generated by a General Plan. Therefore, as shown in Table 4.2-7, average daily and annual emissions of criteria air pollutants (or their precursors) associated with operations in the Planning Area are compared to the BAAQMD significance thresholds for projects. The project emissions would not exceed any of these thresholds when 2040 project emissions are compared to existing or 2040 No Project conditions. Emissions resulting from development of up to 8 residential lots on the State-owned parcel are part of the projected General Plan buildout emissions shown in Table 4.2-7. Providing a land use classification and pre-zoning for this parcel would not result in any new or substantially greater air quality impacts than described in this Air Quality section of this EIR.

Table 4.2-7: Larkspur Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Existing Annual Emissions in 2020	95.61 tons	35.46 tons	28.70 tons	10.99 tons
2040 No Project Annual Emissions[1]	76.42 tons	19.58 tons	27.49 tons	10.55 tons
2040 Project Annual Emissions	83.59 tons	21.45 tons	28.64 tons	10.96 tons
Net Project Operational Emissions Project minus Existing	-12.02 tons	-14.01 tons	-0.06 tons	- 0.03 tons
Net Project Operational Emissions Project – compared to No Project	+7.17 tons	+1.87 tons	+1.15 tons	+0.41 tons
BAAQMD Project Thresholds (tons per year)	10 tons	10 tons	15 tons	10 tons
Average Daily Net Emissions Project – minus Existing Emissions	-65.9 lbs/day	-76.8 lbs/day	-0.3 lbs/day	-0.2lbs/day
Average Daily Net Emissions; Project compared to No Project	+39.3 lbs/day	+10.2 lbs/day	+6.3 lbs/day	+2.2 lbs/day
BAAQMD Thresholds (pounds per day)	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day

[1] This scenario is the emissions from the same 2020 population and VMT under 2040 required emission controls. All emissions from 365-day operation.

Carbon Monoxide

Carbon monoxide (CO) is a pollutant that affects air quality locally. Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing carbon monoxide levels are currently below national and California ambient air quality standards. Monitored CO levels have decreased substantially since 1990 as newer vehicles with greatly improved exhaust emission control systems have replaced older vehicles. The Bay Area has been designated as an attainment area for the CO standards. The highest measured levels in the Bay Area during the past three years are 3.0 ppm or less for eight-hour averaging periods, compared with state and federal criteria of 9.0 ppm.

Even though current CO levels in the Bay Area are well below ambient air quality standards, and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis. CO hotspots (occurrences of localized high CO concentrations) could still occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAQMD's CEQA Air Quality Guidelines state that a project would have a less-than-significant impact if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Peak hour traffic volumes at intersections affected by implementation of the General Plan area would be less than 10,000 per hour. Therefore, this carbon monoxide impact would be less-than-significant.

Mitigation Measures

Mitigation Measure AIR-1: Modify Policy SAF-9.3 of the to the Community Health and Safety Chapter as follows (revision is demarked by double underlining):

Policy SAF-9.3:Ensure that *construction activity and* traffic generated by new development does not lead to non-attainment of state and federal ambient air quality standards in Marin County.

Impact Significance After Mitigation

The added language ensures that emissions from construction will also be evaluated to determine if mitigations are needed to ensure project construction does not result in non-attainment of ambient air quality standards. The screening tables included in the BAAQMD *CEQA Air Quality Guidelines* can be used to demonstrate less-than-significant criteria air pollutant emissions for small projects. Most construction projects in Larkspur are expected to be within the screening criteria and not require construction emissions analysis. The mitigation would reduce the impact to a less-than-significant level.

Impact AIR-3: The project could expose sensitive receptors to substantial pollutant concentrations during operation.

It is not expected that future development would include new light industrial development nor construction of new stationary sources of TACs. However, if such a source was proposed, the

Health and Safety Chapter of the Larkspur 2040 General Plan includes the following policies and program that would serve to minimize impacts from new sources of TACs:

> Policy SAF-9.4: Ensure sufficient buffers between sensitive land uses (e.g., residential, schools, and public facilities) and sources of air pollution. If sufficient buffers cannot be achieved, require adequate mitigation measures to protect sensitive receptors located near emission sources.
>
> > *Action Program SAF-9.4.a: Only allow emission sources or other uses in the vicinity of air pollution or odor sources if the minimum screening distances between sources and receptors established in the BAAQMD CEQA Guidelines can be met, unless detailed project-specific studies demonstrate compatibility with adjacent uses despite separations that do not meet the Buildout under the proposed General Plan 2040 could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways, industrial uses, etc.).*

Developing new sensitive land uses near sources of emissions could expose persons that inhabit these sensitive land uses to potential air quality-related impacts. However, the purpose of environmental evaluations is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project (*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 TAC sources.

While it is generally not within the purview of CEQA to analyze impacts of the environment on a project, the Clean Air Plan contains the following goal: “Protect air quality and health at the regional and local scale. “ One objective under this goal Is to “reduce population exposure to harmful air pollutants, especially in vulnerable communities and populations.” Therefore, the potential community risk impact to future on-site receptors is addressed here.

To address exposure of sensitive receptors to substantial pollutant levels, the BAAQMD CEQA Guidelines developed thresholds that address community health risk. These include increased cancer risk, non-cancer hazards, and increased annual concentrations of $PM_{2.5}$. Sources of TACs and $PM_{2.5}$ can result in increased community risk levels. Diesel particulate matter (DPM) is the predominant TAC emitted in the area.

The project would allow development of new residential development housing people who are sensitive receptors. Substantial sources of air pollution can result in impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically assessed. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day), and sources that have an air quality operating permit. BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying a potential community health risk from siting a new sensitive receptor within this radius.

There are 16 stationary sources identified within the 1,000-foot influence area using the BAAQMD's stationary source website map and GIS map tool.[14] Emissions from most of these sources (e.g., service stations) do not cause substantial risk beyond the facility boundary. New residential development or other sensitive receptors developed near any of the sources identified in Table 4.2-8 could result in a significant health impact.

Project Construction TAC Exposure

Subsequent land use activities associated with implementation of the project could include emission of short-term construction sources of TACs. There are sensitive receptors throughout Larkspur, and additional sensitive receptors will be added by projected new development. These receptors could potentially be exposed to construction-generated TACs during construction activity.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose community risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A community risk assessment of future project construction activities would have to be conducted at a project level to address these impacts. Since specific construction plans and schedules for construction are not known, it is not possible to quantify the impacts and determine the significance. There are various measures that can be incorporated into construction plans that could minimize these potential impacts. Health risks to nearby off-site and future on-site sensitive receptors associated with temporary construction in Larkspur are considered potentially significant. Larkspur General Plan 2040 Policy SAF-9.3 requires the City to use the BAAQMD CEQA Guidelines to evaluate potential air quality impacts and Policy SAF-9.4 requires appropriate buffers between sensitive receptors and sources of air pollution, using project-specific studies if necessary, to demonstrate less-than-significant exposures if screening distances are not met.

While these policies and program address air pollution impacts, they do not provide clear direction about constructing new sensitive receptors near TAC sources, especially near Highway 101 and busy arterials in the city. Since much of the new development will be constructed near these roadway sources, additional mitigation is warranted to reduce future health impacts associated with exposure to mobile TACs. The policies and programs also do not specify protection of residents and other sensitive receptors from exposure to substantial construction-generated TACs, and additional mitigation is warranted for this potential impacts.

[14] BAAQMD, Website: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Table 4.2-8: Screening Distances from Existing Air Pollutant and TAC Sources

Source Description	Distance to Screening Threshold[1]			Source of Reference Level
	Cancer Risk	Hazard Index	Annual $PM_{2.5}$	
Roadway: U.S. Highway 101	400 ft west 1,000 ft east	--[2] --[2]	400 ft west 1,000 ft east	BAAQMD Raster Database
Roadway: Sir Francis Drake	500 ft	--[2]	500 ft	Estimate based on 30,000–40,000 ADT
Roadway: Magnolia Dr.	100 ft	--[2]	100 ft	Estimate based on 10,000-15,000 ADT
Roadway: Bon Air.	100 ft	--[2]	100 ft	Estimate based on 10,000-15,000 ADT
Roadway: Doherty Dr.	100 ft	--[2]	100 ft	Estimate based on 10,000-15,000 ADT
Stationary: #1713 Marin General Hospital – Generators and misc.	470 ft	--[2]	140 ft	BAAQMD IC Engine Distance Multiplier Tool (e.g., Diesel Generators)
Stationary: #15595 Golden Gate Ferry - Generators	220 ft	--[2]	--[2]	
Stationary: #16966 Northern California Presbyterian Homes & Services - Generators	--[2]	--[2]	1,000 ft	
Stationary: #101781 Chevron Station – Gas Dispensing Facility	240 ft	--[2]	0	BAAQMD GDF Distance Multiplier Tool
Stationary: #109547 Econo Gas – Gas Dispensing Facility	220 ft	--[2]	0	
Stationary: #112319 Drake Shell – Gas Dispensing Facility	180 ft	--[2]	0	
Stationary: #112502 Marin Gas & Auto Services – Gas Dispensing Facility	230 ft	--[2]	0	

[1] Using BAAQMD Screening tools and BAAQMD Permitted Facilities 2018 database.
[2] Extent of risk within facility boundaries.

Mitigation Measures

Mitigation Measure AIR-2*:* Add the following Action Programs under Policy SAF-9.4

> *Action Program SAF-9.4.b: Projects that may result in additional toxic air contaminants that are located within 1,000 feet of a sensitive receptor(s) or would place sensitive receptors within 1,000 feet of uses generating toxic air contaminants, such as roadways with volumes of 10,000 average annual daily trips or greater, shall implement Bay Area Air Quality Management District Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring health risk assessments (HRAs) for residential development and other sensitive receptors; screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the HRA, identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards.*

Measures identified in HRAs shall be included into the site development plan as a component of a proposed project and implemented prior to project occupancy or public use.

Action Program SAF-9.4.c: : As recommended by the California Air Resources Board, require projects that would result in construction activities within 1,000 feet of residential and other land uses that are sensitive to toxic air contaminants (e.g., hospitals, nursing homes, day care centers), as measured from the property line of the project, to prepare a construction health risk assessment in accordance with policies and procedures of the Office of Environmental Health Hazard Assessment and the BAAQMD CEQA Guidelines that identifies mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0).

Impact Significance After Mitigation

The added action programs will reduce exposure of existing and future residents to significant health hazards from construction-generated and operations-generated TACs. The mitigation would reduce the potentially significant health impact to a less-than-significant level.

Impact AIR-4: Development allowed by the project could create objectionable odors affecting a substantial number of people.

As stated in the BAAQMD *CEQA Guidelines,* land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food manufacturing plants, chemical plants, composting, refineries, landfills, and confined animal facilities. Projected development in Larkspur would include commercial, residential, and mixed-use development. These land uses typically do not produce objectionable odors. In addition, the proposed project would not add additional light industrial land uses that would have the potential to expose sensitive receptors, such as residences, to odors.

BAAQMD publishes screening buffer distances for odor sources and sensitive receptors in their CEQA Air Quality Guidelines. There are no identified major sources of odors in Larkspur. Uses in the plan area may include restaurants or auto repair shops that could have localized odors but not likely to result in frequent odor complaints. To avoid frequent objectionable odor complaints, Larkspur General Plan 2040 Policy SAF 9.4 requires appropriate buffers between sensitive receptors and sources of air pollution or odors. The impact is less than significant, and no additional mitigation is required.

Impact AIR-5 Implementation of the proposed project could cumulatively contribute to air quality impacts in the San Francisco Bay Area.

The cumulative area of analysis is the SFBAAB, which includes the Planning Area. As described in the Setting section 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.

Similar to GHG emissions impacts, air quality impacts are regional in nature because no single project generates enough emissions that would cause an air basin to be designated a nonattainment area. Therefore, the impacts previously discussed are evaluated in the cumulative context and no additional cumulative analysis is needed.

Air quality impacts identified in Impact AIR-2 constitute the proposed project's contribution to cumulative air quality impacts in the SFBAAB. Criteria air pollutant emissions generated by land uses within the proposed project would not exceed the BAAQMD thresholds (see Impact AIR-2). Mitigation Measure AIR-2 would reduce exposure of existing and future residents to significant health hazards from construction-generated and operations-generated TACs. Mitigation Measure AIR-1 would reduce dust impacts from construction to a less-than-significant level. The mitigation would reduce the potentially significant health impact to a less-than-significant level. Therefore, air pollutant emissions associated with the proposed project as well as providing a land use classification and pre-zoning to the State-owned parcel would not result in a cumulatively considerable contribution to air quality impacts and impacts would be less than significant at a programmatic level of analysis.

4.3 Biological Resources

1. Existing Conditions

The following description of the existing conditions in the Planning Area is based on information contained in the *City of Larkspur General Plan 2030 General Plan Update Administrative Existing Conditions Report*[15], which has been updated as warranted based on review of the California Natural Diversity Database (CNDDB) and the California Native Plant Species (CNPS) Inventory of Rare and Endangered Plants records within the San Rafael US Geological Survey (USGS) 7.5-minute quadrangle (this quad map includes the Larkspur Planning Area). Additional sources of information included *The Marin County Breeding Bird Atlas: A Distributional and Natural History of Coastal California Birds*, and the report preparers' personal knowledge of species occurrences in the Larkspur vicinity. GIS data on special-status species and sensitive natural communities was obtained from the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Wildlife (CDFW). GIS data on wetlands was obtained from the National Wetlands Inventory.

This analysis was prepared at a programmatic level. Accordingly, no detailed field surveys or mapping was performed, such as conducting systematic surveys for special-status species or performing formal jurisdictional wetland delineations.

The following section provides a description of vegetation types and associated wildlife, known distribution of special-status species, and sensitive habitats.

Habitat Types

The Planning Area is largely developed, with urban uses occupying most of the valley floors and former (now filled) marshlands that once bordered San Francisco Bay. The northeastern and southwestern portions of the Planning Area are hillsides and ridges. Most of the valley floors and lower hillsides have been developed with urban and suburban uses, supporting a cover of primarily ornamental landscaping. Remnant native oaks, bays, and redwoods occur in scattered locations along the fringe of the developed valley floor and the hillside residential areas. Undeveloped portions of the hillsides and ridges, the majority of which are located in the open space preserves located along the north ridge of Mt. Tamalpais support most of the remaining natural habitat in the Planning Area. The preserves include the Blithedale Summit, Baltimore Canyon, and King Mountain Open Space Preserves. These preserves occupy much of the western portion of the Planning Area. The preserves support woodlands, forests, grasslands, scrub and chaparral. Corte Madera Creek forms a broad natural corridor that bisects the Planning Area, supporting tidally influenced salt and brackish water marshlands, mudflats and open water habitat that extend into San Francisco Bay. Larkspur Creek passes through the

[15] Nichols-Berman, 2013

southern portion of the Planning Area, and King Mountain Creek and Tamalpais Creek traverse the northwestern portion of the Planning Area. All three of these creeks drain directly into the estuary/tidal portion of Corte Madera Creek. Bands of riparian vegetation and marsh flank the creeks and drainages, with Larkspur Creek flowing through the least developed portion of the Planning Area. Although native vegetation within the Planning Area has been substantially altered, numerous locations of open habitat remain, including the habitat present on the undeveloped Open Space Preserves listed previously, the remaining marshlands and open water habitat along the Corte Madera Creek corridor, the riparian habitats along other creeks and drainages, and the baylands and open waters of San Francisco Bay. These areas all support a relatively diverse assemblage of resident and migrant wildlife species. These habitat types are summarized below.

Table 4.3-1: Estimates of Vegetation Cover/Habitat Type in Planning Area

Vegetation Cover/Habitat Type	City Limits (acres)[a]	Planning Area (acres)[a]
Annual grassland	56	159
Coastal scrub	38	38
Mixed chaparral	13	13
Oak woodland	68	148
Coniferous forest	124	124
Montane forest	436	436
Montane riparian	12	12
Lacustrine	113	166
Freshwater/brackish marsh	4	4
Saline marsh	59	59
Eucalyptus	16	16
Urban	1,104	1,474
TOTAL	2,042	2,649

a: Rounded to the nearest acre. Source: CALVEG GIS data, USDA Forest Service, 2007.

Forest and Woodlands

Forest and woodlands occupy an estimated 708 acres of the Planning Area, forming the dominant cover to the southwest and north. This includes areas of oak woodland dominated by coast live oak and other oak species, coniferous forest dominated by conifers, and montane forest dominated by a mixture of hardwoods and conifers. Oak woodlands form the dominant native cover in the largely developed hillside area in the northwestern portion of the Planning Area, with forest cover extending over much of the southwestern portion of the Planning Area. Dominant tree species vary and include: coast live oak, California bay laurel, coast redwood, Douglas fir (*Pseudotsuga menziesii*), tan oak (*Lithocarpus densiflorus*), and black oak. Other tree and shrub species found in the forest and woodland habitats include: madrone, valley oak, California buckeye, toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), and hazelnut (*Corylus cornuta* ssp. *californica*), among others. Understory cover varies depending on the amount of available sunlight and other factors. Where dense canopy is present, understory species in areas of forest cover are generally sparse, and include sword fern (*Polystichum munitum*), redwood sorrel (*Oxalis oregano*), and creeping snowberry (*Symphoricarpos mollis*). In areas with higher light levels, the understory consists of non-native grassland species, miner's lettuce (*Claytonia perfoliata*), bedstraw (*Galium aparine*) and other herbaceous species. Highly invasive broom has spread through much of the understory of the forest and woodlands in the Planning Area, inhibiting foraging opportunities for wildlife and displacing native shrub and groundcover plant species. Much of the areas mapped as forest and woodland in the Planning Area have been developed with residential uses, providing a broken canopy of mature trees interspersed with structures and ornamental landscaping. This area is also defined as the wildland-urban interface (WUI), which is one of the main wildfire risk areas in Larkspur (see Chapter 4.16, Wildfire for an analysis of the fire risk in these wooded areas).

The mature forest and woodlands provide nesting and foraging opportunities for numerous species of birds, including raptors. They also provide essential food resources for eastern fox squirrels, native grey squirrels, acorn woodpeckers, scrub jay, and other birds. Wildlife commonly associated with well-developed forest and woodland habitats include: dusky-footed woodrat, deer mouse, western flycatcher, chestnut-backed chickadee, plain titmouse, Hutton vireo, orange-crowned kinglet, spotted towhee, fox sparrow, bushtit, ringneck snake, California newt, and California slender salamander. Wildlife use in the understory of the remaining forest and woodland varies depending on cover type and extent of development. These habitat types have a high priority for protection as sensitive natural community types. They should be recognized as an important habitat types due to their relatively high wildlife habitat and movement corridor value, continued threats faced due to further tree removal associated with development, vulnerability to wildfire, future climate change impacts such as drought, and Sudden Oak Death (SOD). Tanoaks and coast live oaks are dying in large numbers in Marin County, and black oaks, California buckeye, California bay, madrone, huckleberry, and rhododendron are hosts or potential carriers of the fungus-like plant pathogen that causes oak mortality. SOD is contributing to significant changes in vegetative cover over large parts of Marin County, altering habitat for woodland-dependent species and exacerbating hazardous fire conditions in the WUI.

Non-Native Grasslands

Non-native grasslands occupy parts of the remaining undeveloped hillside slopes in the northeastern portion of the Planning Area, the unincorporated area on the San Quentin Peninsula (including the State-owned surplus parcel adjacent to San Quentin Prison that the City may in the future propose to annex), and some of the scattered, vacant lands on the valley floors. The grasslands are generally composed of introduced grasses and broadleaf species. In locations where the ground surface has been disturbed, ruderal (weedy) species which quickly recolonize disturbed areas tend to dominate. As indicated in Table 4.3-1 an estimated 159 acres of the Planning Area supports grassland cover, according to the CALVEG mapping program. Intensive grazing and other disturbance factors have eliminated most of the native grasslands throughout California over the past 100 years, including the historic rangelands of the Larkspur vicinity. Common species in the grasslands include: wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), foxtail barley (*Hordeum leporinum*), field mustard (*Brassica campestris*), wild radish (*Rhaphanus sativus*), bindweed (*Convolvulus arvensis*), cheeseweed (*Malva parviflora*), bur clover (*Medicago polymorpha*), and yellow-star thistle (*Centaurea solstitialis*). The remaining native species are common perennials, such as California poppy (*Eschscholzia californica*), Douglas' lupine (*Lupinus nanus*), and soap plan (*Chlorogalum pomeridianum*).

Remnant native grasslands may still occur in some locations mapped as annual grassland, forming valley stands of needlegrass grassland. This natural community is characterized by several species of native grasses such as purple needlegrass (*Nassella pulchra*), California melic (*Melica californica*), blue wildrye (*Elymus glaucus*), and beardless wildrye (*Elymus triticoides*), together with common wildflowers such as California poppy, lupines, soap plant, and wild hyacinth (*Dichelostemma pulchellum*), and other native forbs. Most of the native grasslands throughout the state have been eliminated, which has led the CNDDB to now recognize native grasslands as a sensitive resource with a high inventory priority. As most of the remaining native grassland communities have been highly modified by past and on-going disturbance, these remaining native grassland communities generally form a mosaic of different cover classes, sometimes interspersed with areas dominated by non-native species.

Nonnative and native grasslands support a variety of mammals, birds, and reptiles, and provide foraging habitat for raptors. Many species use the grassland for only part of their habitat requirements, foraging in the grassland and seeking cover in tree and scrub cover. Grassland cover provides foraging, nesting, and denning opportunities for resident species such as western fence lizard, northern alligator lizard, gopher snake, western meadowlark, goldfinch, ring-necked pheasant, red-winged blackbird, California ground squirrel, California vole, Botta’s pocket gopher, black-tailed jackrabbit, and black-tailed deer. The rodent, bird, and reptile populations offer foraging opportunities for avian predators such as black-shouldered kite, northern harrier, American kestrel, red-tailed hawk, golden eagle, barn owl, and great horned owl, as well as mammalian predators such as striped skunk, grey fox, and coyote.

Riparian Woodland and Scrub

Riparian vegetation occurs along the upper reaches of Larkspur Creek, King Mountain Creek, and tributary drainages, with trees and shrubs often forming stands characteristic of riparian forest and willow scrub natural communities. This habitat type occupies an estimated 12 acres in the Planning Area. Dominant cover includes willows (*Salix* spp.), valley oak, coast live oak, California bay laurel, and California buckeye, together with shrub and vine species such as California blackberry (*Rubus ursinus*) and wild rose (*Rosa californica*). Stands of highly invasive non-native species such as Himalaya blackberry, English ivy and Bermuda grass, have become particularly problematic in some reaches of theses riparian corridors, outcompeting and replacing native shrub and groundcover species, and severely reducing wildlife habitat values.

Surface water along riparian corridors is available for aquatic-dependent organisms and as a source of drinking water for terrestrial mammals and birds. The creek channels serve as movement corridors for aquatic and terrestrial species, which use the protective cover found along the creeks. Wildlife dependent on the cover provided by the riparian woodland and scrub include black-tailed deer, black-tailed jackrabbit, brush rabbit, red and grey fox, spotted towhee, scrub jay, flycatchers, and warblers. Mammals and birds typically found in the remaining adjacent grasslands most likely use areas of dense riparian growth as protective cover and refuge from summer heat and drought.

Freshwater/Brackish Marsh

Freshwater and brackish marsh habitat is also associated with the creeks and drainage channels, ponds and other waterbodies, and the fringe of tidally influenced reaches of Corte Madera Creek. As salinity levels increase, the marshlands transition into coastal salt marsh at the mouth of Corte Madera Creek and fringe of San Francisco Bay. Open water lakes and the unvegetated Corte Madera Creek corridor are mapped as lacustrine in the CALVEG mapping program. Lacustrine features are typically defined as freshwater lakes and other open water bodies. Where salinity levels are relatively low, marshlands are typically dominated by emergent monocots such as narrow-leaf cattail (*Typha angustifolia*), but as salinity levels increase brackish and salt water hydrophytes tend to dominate, including bulrush (*Scirpus* spp.), pickleweed (*Salicornia pacifica*) and saltgrass (*Distichlis spicata*). Wetland indicator species characteristic of poorly developed freshwater marsh habitat include: curly dock (*Rumex crispus*), bristly ox-tongue (*Picris echioides*), and wild celery (*Apium graveolens*). Segments of Larkspur Creek and smaller creeks in the Planning Area that do not support a canopy of woody riparian vegetation generally support some type of freshwater or brackish marsh cover along the margins of the active channel. Freshwater marsh species also dominate the ground cover at the remaining freshwater seeps and springs in the Planning Area.

Freshwater and brackish aquatic habitats and the associated marsh vegetation are of high value to wildlife, providing a source of drinking water, protective cover, nesting substrate, and serving as movement corridors. Species found in fresh and brackish marsh habitats include Virginia rail, sora, Wilson's snipe, marsh wren, Samuel's song sparrow, and red-winged blackbird, among others. Linear channels supporting marsh vegetation within the Planning Area provide foraging

habitat for egrets and great blue herons, as well as mammalian predators such as northern raccoon, striped skunk, and coyote. Aquatic species found in freshwater ponds and waterbodies include: Pacific chorus frog, western toad, western pond turtle, western mosquito fish, green sunfish, blue gill, and largemouth bass.

Coastal Salt Marsh, Mudflats and Open Water

Tidal marsh is a highly productive community consisting of salt-tolerant, hydrophytic plants that form moderate to dense cover. Figure 4.3-1 shows the extent of coastal salt marsh along the shoreline of San Francisco Bay and the associated lacustrine open water habitat in the lower reaches of Corte Madera Creek. Plants are usually segregated vertically depending on their tolerance of inundation and saline soils. This habitat type is typically associated with and occurs adjacent to intertidal mudflats that are devoid of vegetation; during an ebb tide, the bottom is bare mud, cobble, or rock. Within the Planning Area, this habitat type occurs along the tidal sloughs and marshlands along the northern shoreline of the Corte Madera Creek and San Francisco Bay.

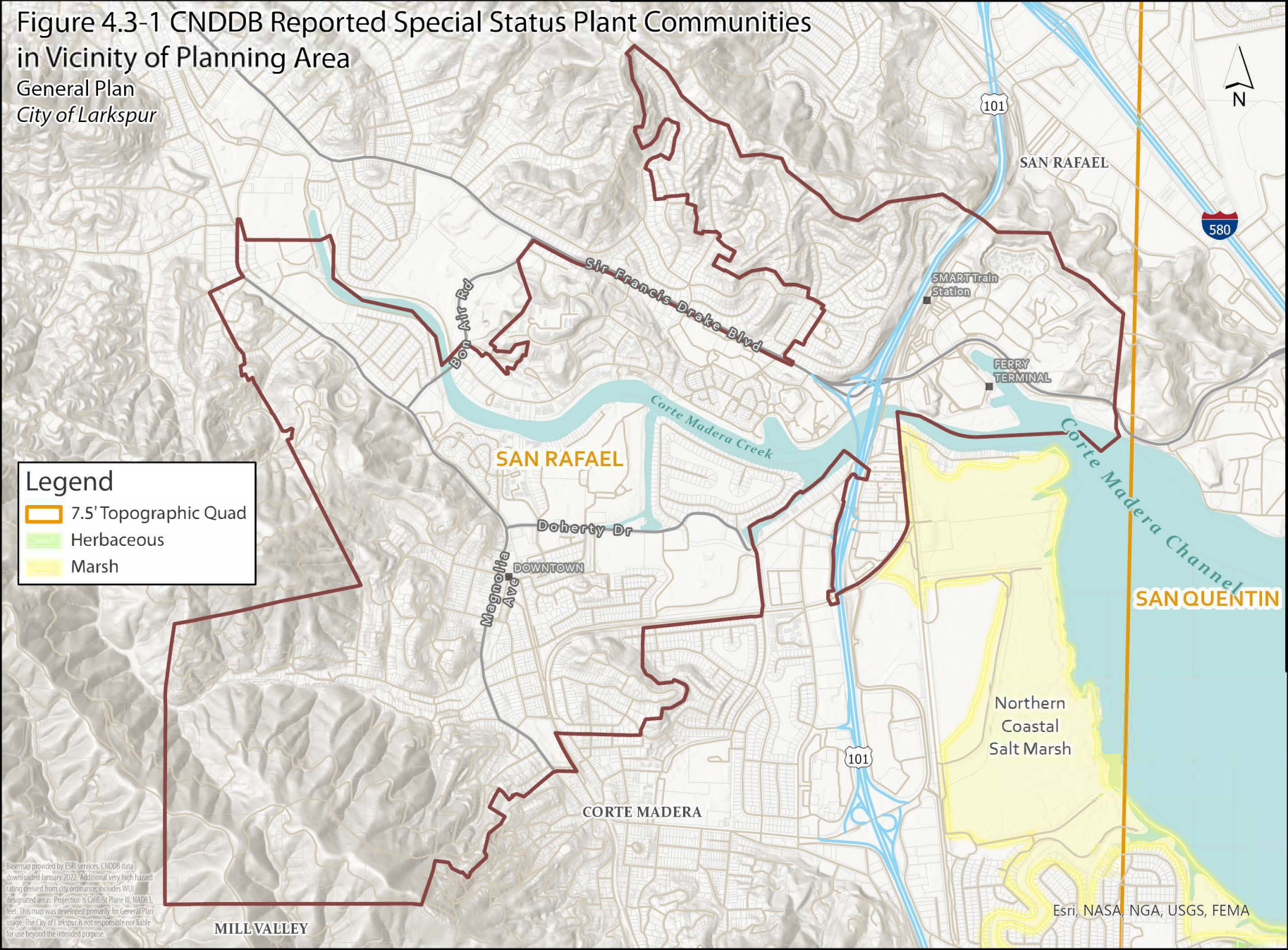
All tidal marsh habitats within the Planning Area are similar in vertical structure, starting at the low elevation mud flat to the upland vegetation on adjacent levees. The lowest elevation vegetation strata contain pickleweed co-dominated in places by saltgrass, interspersed with areas of open water (or mudflat at low tide). Pickleweed and saltgrass are still dominant components on the elevated benches of the tidal marsh where patches of alkali heath (*Frankenia salina*), gumplant (*Grindelia stricta* ssp. *angustifolia*), and cordgrass (*Spartina* spp.) occur. The upland vegetation on the surrounding banks and levees is dominated by non-native grasses and ruderal herbaceous species such as mustard (*Brassica* sp.), iceplant (*Carpobrotus* sp.), English plantain (*Plantago lanceolata*), sweet fennel, and perennial pepperweed (*Lepidium latifolium*).

Tidal marsh, mudflat and open water habitats support a variety of wildlife species specifically adapted to the salt-tolerant vegetation, microhabitats (e.g., channels and sloughs), and tidal regimes that characterize these areas. Along with open water, these habitat types support the greatest diversity of wildlife within the Planning Area, as well as the majority of special-status species known or suspected to occur in the region, such as California Ridgway's rail, California black rail, and salt marsh harvest mouse. Tidal marshes also provide foraging habitat for special-status raptors such as white-tailed kite and marsh hawk. The mudflats support a diverse assemblage of benthic macro-invertebrates, which in turn attract large numbers of migrating and wintering shorebirds such as willet, long-billed curlew, marbled godwit, dowitchers, and sandpipers. Vegetated portions of tidal marshes are not heavily used by shorebirds, although willets tend to forage next to pools created on the marsh plain during extremely high tides. Wading birds such as snowy egret, great egret, and great blue heron forage along the margins of tidal channels and marsh edges. Dabbling (i.e., surface-feeding) ducks, such as mallard, forage over inundated mudflats and tidal channels. When inundated by high tides, tidal channels and mudflats provide important foraging habitat for a variety of estuarine species, including bat ray, leopard shark, and various fish species.

Figure 4.3-1 CNDDB Reported Special Status Plant Communities in Vicinity of Planning Area

General Plan

City of Larkspur



Basemap provided by ESRI services. CNDDB data downloaded January 2022. Additional very high hazard rating derived from city ordinance; includes WUI designated areas. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Recognizing the sensitivity and habitat value of these marshlands, the Marin Audubon Society and the Golden Gate Bridge, Highway, and Transportation District have recently completed two restoration projects to restore tidal marsh habitat located immediately east and northwest of the Larkspur city limits.

Open water habitats within the Planning Area include the tidally influenced Corte Madera Creek and Corte Madera Channel that flow into San Francisco Bay. In addition to providing foraging and roosting habitat for wintering and migrating shorebirds and waterfowl, these areas provide habitat for American avocet, black-necked stilt, California gull, western gull, Caspian tern, and Forster's tern. Diving ducks such as canvas- back, greater scaup, lesser scaup, bufflehead, and ruddy duck winter in large numbers in the open waters connected to the San Francisco Bay. Other waterbird species expected to use open water habitats within the Planning Area include: American coot, Canada goose, pied-billed grebe, horned grebe, eared grebe, American white pelican, California brown pelican, great egret, snowy egret, and great blue heron, among others.

Open water habitat in the Planning Area supports a variety of both native and introduced fish species. Native fish species known to occur in Corte Madera Creek include: steelhead, Chinook salmon, California roach, Sacramento pike minnow, Sacramento sucker, three spine stickleback, long jaw mudsucker, stag horn sculpin, prickly sculpin, riffle sculpin, starry flounder and possibly Pacific lamprey. Introduced species include common carp, rainwater killifish, western mosquito fish, and possibly black crappie. Coho salmon, tule perch, and tidewater goby are considered extirpated in the Corte Madera watershed.

Urban Development/Ornamental Landscaping

Ornamental landscaping has been planted throughout developed areas and in the vicinity of residences around the fringe of the valley floors. As indicated in Table 4.3-1, an estimated 1,474 acres or roughly 56 percent of the Planning Area is mapped as urban development or barren, which includes impervious surfaces, structures, ornamental landscaping and areas of remnant native vegetation, and locations with no vegetative cover. Most plant species used in landscaping are non-native ornamentals, consisting of a wide variety of tree, shrub, groundcover, and turf species. Native trees are scattered throughout the established residential neighborhoods and urbanized downtown area, including specimen coast live oaks (*Quercus agrifolia*), valley oaks (*Q. lobata*), California bay laurel (*Umbellularia californica*), California buckeye (*Aesculus californica*), coast redwood (*Sequoia sempervirens*), madrone (*Arbutus menziesii*), and black oak (*Quercus kelloggii*). Larger ornamental and non-indigenous native species include: Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), incense cedar (*Calocedrus decurrens*), deodar cedar (*Cedrus deodara*), American elm (*Ulmus americana*), Mexican fan palm (*Washingtonia robusta*) and Tasmanian blue gum (*Eucalyptus globulus*), among many others. Blue gum occurs as scattered individuals and several stands in the southwestern portion of the Planning Area, collectively occupying an estimated 16.2 acres within the Planning Area.

Other Cover Types and Wildlife Habitat Features

A number of native and non-native vegetative cover types occur along the margins or just outside the Planning Area, such as mixed chaparral, coastal scrub, and stands of eucalyptus. Areas of chaparral and scrub are dominated by woody shrubs such as coyote brush (*Baccharis pilularis*), yerba santa (*Eriodictyon californicum*), toyon (*Heteromeles arbutifolia*), chamise (*Adonostoma fasciculatum*), poison oak, buckbrush (Ceanothus cuneatus), chaparral pea (*Pickeringia montana*), and California sagebrush (*Artemisia californica*). Stands of eucalyptus are dominated by blue gum, typically with a sparse understory of non-native grasses, weedy species, and poison oak.

Several other landforms and cover types provide habitat for wildlife, such as rock outcrops and groves of non-native blue gum eucalyptus. Rock outcrops occur in the remaining grassland, woodland, chaparral and scrub habitats at the fringes of the Planning Area and provide a unique habitat for wildlife. These landforms provide perches for raptors, and ledges may also serve as nests in more isolated locations. Crevices provide abundant hiding places for numerous lizards and snakes, and larger cavities may be used by mammals as shelter locations. Although eucalyptus is native to Australia, this naturalized species can provide important nesting habitat for raptors and other bird species, and cover for larger mammals. The presence of eucalyptus in areas of open grasslands where protective cover and perching habitat is scarce emphasizes the importance of the dense tree stands to birds and larger mammals. However, eucalyptus is moderately invasive and can eventually replace grassland, scrub, and other natural habitats.

Special-Status Species

This section outlines special-status species and sensitive habitat. 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 federal Endangered Species Act (ESA);
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);
- Plant species on Lists 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 California Department of Fish and Wildlife (CDFW);
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA guidelines; or
- Species considered to be a taxon of special concern by the relevant local agencies.

Special-Status Plants

Review of the CNDDB and CNPS occurrence records indicate a total of 38 special-status plant species that have been reported within the San Rafael quad, containing the Planning Area, that therefore have potential to occur within the Planning Area. These are special- status plant species that have no confirmed occurrences within the Planning Area, but which nonetheless have some potential to occur; these species are listed in Table 4.3-2. Out of the 38 special-status plant species with potential to occur, the following five species have been documented in the CNDDB as occurring in the Planning Area.

Marin manzanita (*Arctostaphylos montana* ssp. *montana*) (Rare Plant Rank 1B.3) was reported in 2001 from the King Mountain area, on Marin County Open Space lands. The occurrence was centered on the ridgetop region that is encircled by the King Mountain Loop Trail. Marin Manzanita is a perennial evergreen shrub, which can be found at elevations of 525 – 2,495 feet, in chaparral, and valley and foothill grassland[16]. It prefers rocky and serpentinite soils.

Point Reyes salty birds-beak (*Chloropyron maritimum* ssp*. palustre*) (Rare Plant Rank 1B.2) is a hemiparasitic annual plant that is reported from multiple occurrences within the Planning Area and in the coastal salt marsh immediately to the east of the Planning Area in 2011 and 2018. This species is found in coastal salt marsh habitat[17] and is presumed extant.

Marsh microseris (*Microseris paludosa*) (Rare Plant Rank 1B.2) is reported in the CNDDB from the southeastern portion of the Planning Area. Although the location is not reported with a high level of detail, this species is found in a broad range of habitat types including forest, woodland, scrub and grassland, and it should be assumed that this species remains in the vicinity.

White-rayed pentachaeta (*Pentachaeta bellidiflora*) (Rare Plant Rank 1B.1) is reported from several locations within the Planning Area but is presumed to be extirpated from the Planning Area as a result of development in the grassland and woodland habitats that once supported the species, as well as displacement by non-native grasses and other invasive species.[18]

Marin knotweed (*Polygonum marinense*) (Rare Plant Rank 3.1) is reported from the marshy shoreline of Corte Madera Creek, with records from 1987 and 1989. This species can be found in coastal salt marshes and brackish marshes and is still assumed to be present in locations along this corridor where suitable habitat is present.

Existing development limits the likelihood of continued occurrences of any populations of special-status plant species on the valley floor. Many special-status plant species are in the protected open spaces and undeveloped lands at the fringe of the Planning Area.

[16] https://rareplants.cnps.org/Plants/Details/102
[17] https://rareplants.cnps.org/Plants/Details/175
[18] CNDDB 2022; Nichols-Berman, 2013

Table 4.3-2: Special Status Plant Species Known to Occur or Potentially Occurring in the Vicinity of Larkspur

Species	Status[a]	Habitat/Blooming Period	Potential for Occurrence
Amorpha californica var. napensis Napa false indigo	1B.2	Openings in broadleafed upland forest, chaparral, cismontane woodland. April-July	Moderate. Suitable habitat occurs in forest, woodland and chaparral habitat in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Amsinckia lunaris Bent-flowered fiddleneck	1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. March-June	Low. Suitable grassland and woodland habitat is limited in Planning Area. No known occurrences reported by CNDDB in Planning Area.
Arctostaphylos montana ssp. *montana* Mt. Tamalpais manzanita	1B.3	Chaparral, valley and foothill grassland/serpentinite, rocky. February-April	Moderate. Suitable chaparral and grassland habitat are limited in Planning Area. Reported from north-western perimeter of Planning Area.
Arctostaphylos virgate Marin manzanita	1B	Broadleafed upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest on sandstone, or granitic substrates. January-March	Low. Suitable chaparral and forest habitat is limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Calamagrostis crassiglumis Thurber's reed grass	1B.2	Usually in freshwater marshy swales surrounded by grassland or coastal scrub. 5-50 meters	Low. Suitable freshwater marsh habitat is limited in the Planning Area. Only CNDDB occurrences reported in Marin are from Drake's Bay.
Calochortus tiburonensis Tiburon mariposa-lily	FT/ST	Open, rocky slopes in serpentine grassland. March-June	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.

Castilleja affinis ssp. neglecta Tiburon paintbrush	FE/ST	Rocky serpentine sites in grasslands. April-June	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Chloropyron maritimum ssp. palustre Point Reyes bird's-beak	1B.2	Marshes and swamps (coastal salt), usually in coastal salt marsh with *Salicornia*, *Distichlis*, *Jaumea* and *Spartina*; 0-10 meters. June-October	High. Suitable habitat in tidal marshlands is present within Planning Area. Reported by CNDDB along the south bank of Corte Madera Creek, just south of the Greenbrae boardwalk.
Chorizanthe cuspidata var. cuspidate San Francisco Bay spineflower	1B.2	Sandy soil on terraces and slopes in coastal bluff, coastal dunes, coastal scrub, and coastal prairie habitat. April- July (August rarely)	Low. Suitable grassland and scrub habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Cirsium hydrophilum var. vaseyi Mt. Tamalpais thistle	1B.2	See ss and streams in chaparral and woodland. May-August	Low. Suitable seep habitat in chaparral and woodlands is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Dirca occidentalis Western leatherwood	1B.2	On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 25-425 meters	Low. Limited suitable habitat occurs in forest and woodland habitat in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Eriogonum luteolum var. caninum Tiburon buckwheat	1B.2	Serpentine soils; sandy to gravelly sites. May-September	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Fissidens pauperculus Minute pocket moss	1B.2	Moss growing on damp soil in coniferous forests along the coast; in dry streambeds and stream banks.	Moderate. Suitable habitat is present in coniferous forest in Planning Area. Closest CNDDB occurrence extends to just southwest of the Planning Area.

Fritillaria lanceolata var. tristulis Marin checker lily	1B.1	Coastal bluff scrub, coastal scrub, coastal prairie. Occurrences reported from canyons and riparian areas as well as rock outcrops; often on serpentine. 15-150 meters	Low. Suitable habitat is generally absent in the planning area. No known occurrences reported by CNDDB within Planning Area.
Fritillaria liliacea Fragrant fritillary	1B.2	Coastal scrub, valley and foothill grassland, and coastal prairie; often on serpentine; various soils reported though usually clay. February-April	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Gilia millefoliata Dark-eyed gilia	1B.2	Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 45-1070 meters	Low. Only small pockets of chaparral or oak woodland are located within the Planning Area, and not in proximity to one another. No known occurrences reported by CNDDB within Planning Area.
Helianthella castanea Diablo helianthella	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. March-June	Low. Suitable habitat is present in the interface of chaparral, forest, woodland, and grassland habitat in the southwestern portion of Planning Area. Closest CNDDB occurrence is a 1938 record from an unknown location in Mill Valley.
Hemizonia congesta ssp. congesta Congested-headed hayfield tarplant	1B.2	Grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 20-560 meters	Moderate. Two locations reported in CalFlora adjacent to Citron Fire Road on King Mountain Open Space Preserve; however, "observation quality" is ranked as low, and no occurrences are reported in CNDDB.
Hesperolinon congestum Marin western flax	FT/ST	Serpentine barrens and serpentine grassland and chaparral. April-July	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.

Holocarpha macradenia Santa Cruz tarplant	FT/SE	Light, sandy soil or sandy clay, often with non-natives in coastal prairie and grasslands. June-October	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Horkelia tenuiloba Thin-lobed horkelia	1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland on sandy soils, mesic openings. May-July	Moderate. Suitable habitat is present in areas of forest, chaparral, and grassland habitat. No known occurrences reported by CNDDB within Planning Area.
Kopsiopsis hookeri Small groundcone	2B.3	Open woods, shrubby places, generally on *Gaultheria shallon*. April-August	Moderate. Suitable habitat is present in forest and woodland habitat where host species is present. Closest CNDDB occurrence is from a record in 1970 from an unknown location in Mill Valley.
Lessingia micradenia var. micradenia Tamalpais lessingia	1B.2	Usually on serpentine, in serpentine grassland or chaparral, often on roadsides. (June rarely) July-October	Low. Suitable grassland habitat is generally absent in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Microseris paludosa Marsh microseris	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. April-June	High. Suitable habitat is present in areas of forest, woodland, scrub and grassland. Reported by CNDDB from a general occurrence over the southern portion of the Planning Area.
Navarretia rosulata Marin County navarretia	1B.2	Closed-cone coniferous forest and chaparral on serpentinite. May-July	Low. Suitable forest and chaparral habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Pentachaeta bellidiflora White-rayed pentachaeta	FE/SE	Cismontane woodland, valley and foothill grassland on open, dry rocky slopes and grassy areas, often on serpentinite. March-May	High. Several occurrences have been reported by the CNDDB from the Planning Area.

Plagiobothrys glaber Hairless popcorn-flower	1A	Coastal salt marshes, alkaline meadows, and seeps. March-May	Low. Suitable marshland habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Pleuropogon hooverianus North Coast semaphore grass	1B.1	Wet grassy, usually shady areas, sometimes in freshwater marsh, associated with forest environments. April-June	Low. Suitable freshwater marsh habitat is limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Polygonum marinense Marin knotweed	3.1	Coastal salt marshes, brackish water marsh, and riparian wetlands. May-August	High. Suitable habitat is present in areas of coastal salt marsh and riparian wetlands. Occurrences have been reported by the CNDDB along Corte Madera Creek in the Planning Area.
Quercus parvula var. tamalpaisensis Tamalpais oak	1B.3	Lower montane coniferous forest. March-April	Moderate. Suitable habitat is present in areas of forest and woodland. Closest CNDDB record is from an unknown location in the Mill Valley vicinity approximately one mile from the Planning Area.
Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	1B.2	Freshwater marshes near the coast. April-September	Low. Suitable marshland habitat is limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Stebbinsoseris decipiens Santa Cruz microseris	1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland in open areas, sometimes on serpentinite. April-May	Moderate. Suitable habitat is present in areas of forest, chaparral, and grassland. Closest CNDDB record is from an occurrence approximately four miles from the Planning Area.
Streptanthus batrachopus Tamalpais jewel-flower	1B.3	Closed-cone coniferous forest, chaparral, Talus serpentine outcrops. April-June	Low. Suitable forest and chaparral habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.

Streptanthus glandulosus ssp. Niger Tiburon jewel-flower	FE/SE	Shallow, rocky serpentine slopes in grasslands. May- June	Low. Suitable grassland habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Streptanthus glandulosus ssp. pulchellus Mount Tamalpais bristly jewel-flower	1B.2	Serpentine slopes. May-July (August rarely)	Low. Suitable habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Symphyotrichum lentum Suisun Marsh aster	1B	Marshes and swamps (brackish and freshwater); most often seen along sloughs with *Phragmites*, *Scirpus*, blackberry, *Typha*, etc. May-November	Low. Suitable marshland habitat is limited in Planning Area. Closest CNDDB record is from an occurrence approximately four miles from the Planning Area.
Trifolium amoenum Showy Rancheria clover	FE/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. April-June	Low. Suitable grassland and scrub habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.
Triquetrella californica Coastal triquetrella	1B.1	Grows within 30 miles from the coast in coastal scrub, grasslands, and in open gravels on roadsides, hillsides, rocky slopes	Low. Suitable grassland and scrub habitat is generally limited in Planning Area. No known occurrences reported by CNDDB within Planning Area.

5173678.2 5173678.1 5161562.1 a Status: FE = federally endangered
SE = State endangered
FT = federally threatened
ST = State threatened
1A = Presumed extinct in California
1B = Rare, threatened or endangered in California and elsewhere
2 = Rare, threatened, or endangered in California, but more common elsewhere
3 = A review list Source: Compiled by Leonard Charles and Associates, 2022. Nearest records are based on CNDDB occurrences unless otherwise noted. Source: Larkspur General Plan Background Report, CNDDB, CNPS

There remains a possibility that additional populations of one or more species occurs on the remaining undeveloped lands in the east, southwest and northeast fringes of the Planning Area and on the remaining marshlands along the Corte Madera Creek corridor. Detailed surveys would be required to provide confirmation on the presence or absence from undeveloped portions of the Planning Area where thorough studies have not previously been conducted.

Special-Status Animals

Based on a review of the CNDDB and other sources, a total of 52 special-status animal species are reported from the San Rafael USGS quadrangle and are known to occur or are considered to potentially occur in the vicinity of Larkspur. This list includes 4 reptiles and amphibians, 26 birds, 8 fish, 8 invertebrates, and 6 mammals. Table 4.3-3 describes each species, along with its habitat requirements and probability of occurrence. Additionally, those species that either have a high probability of occurrence within the Planning Area and/or a CNDDB record of having once existed within the Planning Area, are described below.

Golden eagle (*Aquila chrysaetos*), a CDFW Fully Protected Species, is likely to occasionally forage in or pass through the Planning Area, but not likely to remain for long periods or breed due to the lack of suitable nesting and foraging habitat.

Western bumblebee (*Bombus occidentalis),* a USFS_S Sensitive Species, is documented from two CNDDB occurrences within the Planning Area. This bee was once common and widespread, but the species has declined precipitously. However, as it can be found in a variety of habitats, it is likely to remain present within the Planning Area.

California giant salamander (*Dicamptodon ensatus*), a CDFW Special Status Species, is known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae are found in cold, clear streams, occasionally in lakes and ponds. Adults are known from wet forests under rocks and logs near streams and lakes. It is documented from one CNDDB occurrence within the Planning Area; however, the observation is from 1954, and this occurrence is ranked as "poor" (i.e., "Population very small and/or non-viable. Habitat may be in good condition, but usually it is not and shows multiple disturbances and features of degradation. Population not expected to persist over 5 years"). While there is potential for this species to occur within the Planning Area, it is not considered likely.

White-tailed kite (*Elanus leucurus*), a CDFW Fully Protected Species, forages over grasslands, meadows, or marshes; it requires dense- topped trees or shrubs for nesting and perching. While it is likely that the white-tailed kite may pass through or forage within the Planning Area, it is not expected to breed there.

Tidewater goby (*Eucyclogobius newberryi*), a CDFW Species of Special Concern, has been historically reported from the upper segment of Corte Madera Creek within the Planning Area; however, it is now considered extirpated within Corte Madera Creek, and therefore is not expected.

California black rail (*Laterallus jamaicensis*), a State Threatened Species, has been detected along Corte Madera Creek in the brackish-water marshes of Creekside Park and the remaining tidal marshlands on the Kentfield Campus of Marin Community College, as well as the Corte Madera Marsh State Ecological Reserve just outside the southeastern edge of the Planning Area. It may occupy or frequent the tidal marsh habitat south of the Larkspur Ferry Terminal parking lot and other locations with tidal marsh habitat within the Planning Area. This species requires freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays and needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.

San Pablo Song Sparrow (*Melospiza melodia samuelis*), a CDFW Species of Special Concern, was reported by CNDDB as having been observed in the Corte Madera Marsh State Ecological Reserve immediately to the east of the planning area; it may also occur in suitable tidal marsh habitat along Corte Madera Creek.

Steelhead (*Oncorhynchus mykiss*; Central California Coast ESU), a federal Threatened population, have historically occurred in the larger drainages of east Marin County. Corte Madera Creek and major tributaries are designated as critical habitat for this species.

Chinook salmon (*Oncorhynchus tshawytscha* pop. 11; Central Valley spring-run ESU), a federal Threatened population, have historically occurred in larger drainages of east Marin County. Corte Madera Creek and its major tributaries are designated as critical habitat. Chinook salmon have been reported more recently to occasionally occur in Corte Madera Creek, but the observed fish may be of hatchery origin. Both native and hatchery fish may occur in the watershed.

California Ridgway's rail (*Rallus longirostris obsoletus*), a federal and State Endangered Species, has been detected in the tidal marsh habitat along Corte Madera Creek and coastal salt marsh of the Corte Madera Marsh State Ecological Reserve. This species may also occupy or frequent the tidal marsh habitat south of the Larkspur Ferry Terminal parking lot and other locations with tidal marsh habitat within the Planning Area. Ridgway's rail can be found in salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. It is associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.

Salt marsh harvest mouse (*Reithrodontomys raviventris*), a federal and State Endangered Species, has been reported from the brackish-water marshes of Creekside Park and the remaining tidal marshlands on the Kentfield Campus of Marin Community College, just south of the Larkspur Ferry Terminal parking lot, and the Corte Madera Marsh State Ecological Reserve just outside the southeastern edge of the Planning Area. The reported occurrence of this species along the north bank of the mouth of Corte Madera Creek are from specimens collected in the 1940s and 1960s when upland refugia was more abundant. This species is likely extirpated from the northern shoreline of Corte Madera Creek near the Ferry Terminal due to the lack of adjacent upland habitat. The salt marsh harvest mouse is presumed extant in the marsh near the Ferry Terminal and the Corte Madera Marsh Ecological Preserve coastal salt marsh immediately to the east of the Planning Area (south of the Greenbrae boardwalk community).

Northern spotted owl (*Strix occidentalis caurina*), a State and Federal Threatened Species, is known to live and breed within the Planning Area, with numerous occurrences reported by the CNDDB, largely from the southwestern portion of the Planning Area (west of Magnolia Avenue and south of Madrone Avenue). Spotted owls require old-growth forest habitat or mixed stands of old-growth and mature trees. They can occasionally be found in younger forests with patches of large trees.

Northern spotted owl (NSO) was listed as a federally threatened species in 1990 and listed by the State of California as threatened in 2016. This species inhabits forested regions from southern British Columbia through Washington, Oregon, and northwestern California. Marin County is the southern limit of their range. In the majority of their range, they are found in mature coniferous forest, but inhabit second growth and old growth Douglas fir, coast redwood, bishop pine, mixed conifer-hardwood, and evergreen hardwood forests in Marin County. Most spotted owls in Marin County nest in platform structures such as tree forks, large limbs, broken top trees with lateral branches, old raptor, corvid, squirrel, and woodrat nests, debris piles, poison oak tangles and dwarf mistletoe infestations. Dusky-footed woodrats are a major prey item for owls in Marin County as woodrats do well in a wide range of forest structures. More than 80 pairs have been found in Marin County at over 100 different locations.

The CDFW maintains a separate database from the CNDDB for NSO, referred to as the Spotted Owl Observations Database. This database differs slightly from the CNDDB in that it tracks owl activity centers and observations associated with activity centers. NSO have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range. [19] Activity centers are a location or point within the core use area that represent this central location. Nest sites are typically used to identify activity centers, or in cases where nests have not been identified, breeding season roost sites or areas of concentrated nighttime detections may be used to identify activity centers.

Great egret (*Ardea alba*), **great blue heron** (*Ardea herodias*), **black-crowned night heron** (*Nycticorax nycticorax*), and **double-crested cormorant** (*Phalacrocorax auritus*) have a high probability of occurring or are frequently observed within the Planning Area; however, only their nesting colonies are considered protected, and no nesting colonies for these species are known from the Planning Area.

Species that have a high probability of occasionally passing through or foraging within the Planning Area but are not considered likely to remain for prolonged periods or breed in the area include: Northern harrier (*Circus hudsonius*), white tailed kite, bald eagle, American white pelican (*Pelecanus erythrorhynchos*); and California brown pelican (*Pelecanus occidentalis*

[19] Rosenberg and McKelvey 1999

californicus). Additional details on each species' habitat requirements and probability of occurrence can be found in Table 4.3-3.

The remaining special status species that are considered to have a potential to occur within but are not documented from the Planning Area are listed in Table 4.3-3. Nearly half of the special-status species known or suspected from the Larkspur vicinity are bird species, many of which utilize marsh and open water habitats. An additional eight species expected to occur here are fish that utilize the Corte Madera Creek system and/or San Francisco Bay. Many of the species listed in Table 4.3-3 that are not State and/or federally-listed species are not closely monitored by the CNDDB, and therefore occurrence records are not included in the database. These include species identified as "Species of Special Concern" by the CDFW.

Table 4.3-3: Special-Status Animal Species Known to Occur or Potentially Occurring in the Vicinity of Larkspur

Species	Status[a]	Habitat	Potential for Occurrence
Amphibians and Reptiles			
Dicamptodon ensatus California giant salamander	CSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	Low. CNDDB reports this species observed in Larkspur in 1954. Status of this occurrence ranked as "poor" (ie, "Population very small and/or non-viable. Habitat may be in good condition, but usually it is not and shows multiple disturbances and features of degradation. Population not expected to persist over 5 years")
Emys marmorata Western pond turtle	CSC	Aquatic. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Moderate. May occur in Corte Madera Creek, and other freshwater/brackish features where suitable basking areas (sandy banks and rocks) are present.
Rana boylii Foothill yellow-legged frog	CSC	Breeds and forages in rocky or cobble-bottomed streams or rivers. Found in a variety of forest, woodland, scrub, riparian, and meadow habitats where suitable streams are present	Low. Cobble-bottomed freshwater streams are not present in the project area
Rana draytonii California red-legged frog	FT, CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low. Suitable habitat in Tubb Lake and other freshwater habitat, but the species was not found during surveys conducted at the lake in 1999 for the Monahan Pacific Project. The CNDDB does not contain any occurrence records within 5 miles of the Planning Area.

Birds			
Agelaius tricolor Tricolor blackbird	CSC	Nests in dense vegetation near open water; forages in grasslands and agricultural fields.	Moderate. May pass through or forage within, but not known or considered likely to breed in the Planning Area
Ammodramus savannarum Grasshopper sparrow	CSC	Grasslands with scattered shrubs.	Moderate. May forage and breed in remaining large tracts of open grasslands in Planning Area.
Aquila chrysaetos Golden eagle	CSC, CFP	Rolling foothills and mountain areas. Nests in cliff-walled canyons or large trees in open areas	High. May occasionally forage in the Planning Area, but not likely to remain for long periods or breed due to the lack of high-quality nesting and foraging habitat.
Ardea alba Great egret (nesting colony)	CSC	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. Marsh, estuary, swamp, riparian forest, wetland. Colonial nesting areas are of concern to CDFW.	Low. May pass through or forage within, but not known or considered likely to breed in the Planning Area
Ardea herodias Great blue heron (nesting colony)	CSC	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows. Marsh, estuary, swamp, riparian forest, wetland.	Low. May pass through or forage within, but not known or considered likely to breed in the Planning Area
Asio otus Long-eared owl	CSC	Conifer, oak, riparian, pinyon-juniper, and desert woodlands adjacent to grasslands, meadows, or shrublands	Moderate. May pass through or winter in the woodland habitat within the Planning Area. Not likely to nest in the Planning Area due to the limited extent of woodland habitat and relatively suburban setting.

Athene cunicularia Burrowing owl	CSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Moderate. May winter in the tidal marsh, ruderal/non-native grasslands, and rock rip-rap along Corte Madera Creek. Considered a rare breeder in Marin County.
Circus cyaneus Northern harrier	CSC	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain clearings. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	High. Suitable foraging habitat for northern harriers present in the remaining grasslands and the tidal marsh habitats in the Planning Area; nesting opportunities are limited because of human and dogs activity along the fringe of the marshland areas where most potential nesting habitat occurs.
Contopus cooperi Olive-sided flycatcher	CSC	Coniferous forests with open canopies	Moderate. May pass through or forage within suitable habitat areas, but not known or considered likely to breed in the Planning Area.
Egretta thula Snowy egret (nesting colony)	CNC	Relatively common species, found foraging in a variety of aquatic habitats including shorelines of lakes, ponds, and drainages. Colonial nesting areas are of concern to CDFW.	Low. Expected to pass through or forage within, but no nesting colonies are known from within the Planning Area.
Elanus leucurus White-tailed kite	CFP	Open grasslands, meadows, or marshes; require dense- topped trees or shrubs for nesting and perching	High. Suitable nesting and foraging habitat present in the Planning Area.
Falco peregrinus American peregrine falcon	CFP	A variety of open habitats including coastlines, mountains, marshes, bay shorelines, and urban areas. Nest on cliffs, bridges, and tall buildings	Moderate. May pass through or forage within, but not known or considered likely to breed in the Planning Area

Geothlypis trichas sinuosa San Francisco (salt marsh) common yellowthroat	CSC	Marsh and swamp of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting. Nests on or near ground.	Moderate. Suitable breeding and foraging habitat in the tidal marsh and freshwater/brackish marsh habitat along Corte Madera Creek in Planning Area
Haliaeetus leucocephalus Bald eagle	SE	Ocean shorelines, lake margins, and rivers for both nesting and wintering; nests in large trees with open branches	Known to occasionally forage along Corte Madera Creek during winter, but not likely to remain for long periods or breed in the Planning Area.
Lanius ludovicianus Loggerhead shrike	CSC	Open grasslands and woodlands with scattered shrubs, fence posts, utility lines, or other perches; nests in dense shrubs and lower branches of trees	Moderate. Suitable foraging and nesting habitat present within areas of ruderal/grasslands and marshland fringes the Planning Area.
Laterallus jamaicensis coturniculus California black rail	ST, CFP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	High. Reported by CNDDB from Corte Madera Marsh State Ecological Reserve and Creekside Park, and most likely forages along Corte Madera Creek.
San Pablo song sparrow *Melospiza melodia samuelis*	CSC	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	High. Reported by CNDDB in 2004 from Corte Madera Marsh State Ecological Reserve immediately to the east of the planning area; and may occur in suitable tidal marsh habitat along Corte Madera Creek.
Nycticorax nycticorax Black-crowned night heron (nesting colony)	CNC	Marsh and swamp; riparian forest. Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots. Colonial nesting areas are of concern to CDFW.	Low. No nesting colonies are known from the Planning Area. May pass through or forage within, but not known or considered likely to breed in the Planning Area.
Passerculus sandwichensis alaudinus	CSC	Tidal marshes and adjacent ruderal habitat, moist grasslands in the coastal fog belt, and infrequently, drier grasslands further inland; in South Bay, nests	Moderate. May forage and breed in tidal marsh habitat along Corte Madera Creek in Planning Area.

Bryant's savannah sparrow		primarily on levee tops overgrown with annual grasses and levee banks dominated by pickleweed.	
Pelecanus erythrorhynchos American white pelican	CSC	Forages over shallow inland waters and coastal marine habitats, nests on isolated islands or peninsulas.	High. May pass through or forage within, but not known or considered likely to breed in the Planning Area.
Pelecanus occidentalis californicus California brown pelican	FE, SE, CFP	Coastal shorelines and bays; rarely found on fresh water.	High. Known to regularly forage over Corte Madera Creek and the open water and shoreline of San Francisco Bay, but do not breed in the San Francisco Bay Area.
Phalacrocorax auritus Double-crested cormorant (nesting colony)		Relatively common species found foraging in a variety of aquatic habitats including open water and shorelines of San Pablo Bay. Colonial roosting areas are of concern to CDFW.	Low. No nesting colonies are known from the Planning Area. May pass through or forage within, but not known or considered likely to breed in the Planning Area.
Progne subis Purple martin	CSC	Woodlands; nests in tree snags and abandoned woodpecker cavities and human-made structures.	Moderate. May pass through or forage within, but not known or considered likely to breed in the Planning Area.
Rallus longirostris obsoletus California Ridgway's rail	FE, SE, CFP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	High. Reported by CNDDB from Corte Madera Marsh State Ecological Reserve and Creekside Park, and most likely forages along Corte Madera Creek.
Strix occidentalis caurina Northern spotted owl	FT, ST, SSC	Old-growth forests or mixed stands of old-growth and mature trees, occasionally in younger forests with patches of big trees.	High. Numerous spotted owl nests and observations are reported by the CNDDB from the southwestern portion of the Planning Area (west of Magnolia Avenue).

Fish			
Acipenser medirostris Green sturgeon	FT, CSC	Oceanic waters, bays, and estuaries; spawns in deep pools in large, turbulent freshwater river mainstems; known to forage in estuaries and bays from San Francisco Bay to British Columbia.	Moderate. Known from San Pablo Bay and may occur in lower reaches of major drainages. Not known or considered likely to breed in the Planning Area.
Eucyclogobius newberryi Tidewater goby	FE, CSC	Brackish shallow lagoons and lower stream reaches where water is fairly still but not stagnant	Low. CNDDB record is of an extirpated population recorded in 1961 near the mouth of Corte Madera Creek. Species is considered extirpated in the region.
Oncorhynchus kisutch pop. 4 Coho salmon—central California coast ESU	FE, SE	Aquatic. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water & sufficient dissolved oxygen.	Low. Species historically occurred in Corte Madera Creek but is considered extinct in the watershed. Species last recorded from San Francisco Bay tributary during early-to-mid 1980s. Corte Madera Creek is designated as critical habitat (San Pablo Bay hydrologic unit #18050002) and essential fish habitat for this species.
Oncorhynchus mykiss Steelhead—central California Coast ESU	FT	Coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.), including streams tributary to San Francisco and San Pablo Bays	High. Species historically occurred in larger drainages of east Marin County. Corte Madera Creek and major tributaries are designated as critical habitat.
Oncorhynchus tshawytscha pop. 11 Chinook salmon—central Valley spring-run ESU	FT	Coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.), including streams tributary to San Francisco and San Pablo Bays.	High. Species historically occurred in larger drainages of east Marin County. Corte Madera Creek and major tributaries are designated as critical habitat. Known to occasionally occur in Corte Madera Creek, but fish may be of hatchery origin. Both native and hatchery fish may occur in the watershed.
Oncorhynchus. tshawytscha pop. 7	FE, SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with	Low. Species is expected to be seasonally present in the open waters of San Francisco Bay. Not expected within

Chinook salmon—Sacramento River winter-run ESU		water temperatures between 6 and 14 C for spawning. The San Francisco Bay is identified as critical habitat for Sacramento River winter-run ESU by the National Maine Fisheries Service.	Corte Madera Creek, but presence in adjacent waters should be noted.
Spirinchus thaleichthys Longfin smelt	ST, CSC	Aquatic; estuary. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Moderate. Known from the mouth of Corte Madera Creek; inhabits the San Francisco Bay.
Thaleichthys pacificus Euchalon (southern DPSb)	FT	Open water estuaries and bays, both in saltwater and freshwater areas.	Moderate. Known from San Francisco Bay.
Invertebrates			
Adela oplerella Opler's longhorn moth	*	Grasslands where its larval food plant, *Platystemon californicus* (cream cups), are found.	Low. Suitable grassland habitat is limited in Planning Area and restricted to serpentine locations where host plant is present. Presumed extant on Ring Mountain Open Space Preserve, southeast of the Planning Area.
Bombus occidentalis Western bumblebee	CSC	Found in a variety of habitats. Once common and widespread. Species has declined precipitously, perhaps from disease.	High. CNDDB occurrence from Larkspur in 1962; likely to remain present in a variety of habitats.
Callophrys mossii marinensis Marin elfin butterfly	None	Found only in the redwood forest areas of Marin County. Larvae collected and reared on *Sedum spathulifolium*	Low. No known occurrences reported by CNDDB from Planning Area. However, suitable habitat is found in the Planning Area, primarily in the southwestern portion.
Danaus plexippus Monarch - overwintering population	FC	Relatively common species in decline throughout its range. Overwintering colonies found in eucalyptus groves and conifer forests along coastal California. Overwintering colonies are of concern to CDFW.	Low. No overwintering colonies reported from the Planning Area.

Pomatiopsis binneyi Robust walker	None	Amphibious snail living in humid habitat along the Coast Range, on marshy ground and periodically flooded soil. Typically associated with perennial seeps and rivulets.	Low. No known occurrences reported by CNDDB from Planning Area. Suitable habitat may be present.
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	None	A pollen-collecting bee known from grassland habitat and areas with suitable nectaring plants.	Low. Limited grassland habitat present within Planning Area. No known occurrences reported by CNDDB from Planning Area; only CNDDB report within vicinity is from the Bolinas-Fairfax road in 1977.
Tryonia imitator California brackishwater snail	*	Inhabits coastal lagoons, estuaries and salt marshes from Sonoma County to San Diego County, typically found in permanently submerged areas.	Low. Suitable habitat is present in brackish water marshlands in Planning Area. A single CNDDB record from the San Rafael quad extends along the coastline from Point San Pedro to the north side of Point San Quentin, north of the Planning Area; however, the observation is from 1897 and the population is considered extirpated.
Mammals			
Antrozous pallidus Pallid bat	CSC	Occurs throughout California at low elevations. Most abundant in grasslands, shrublands, and woodlands. Requires crevices and cavities of buildings, bridges, tunnels, rocks, cliffs, and trees to roost. Very sensitive to disturbance of roosting sites. Most common in open, dry habitats with rocky areas for roosting.	Low. Very sensitive to human disturbance of roosting sites. May forage over open grassland and marshland habitats, but no active roosts are known from the Planning Area. The CNDDB records include occurrences from 1891 and 1961 collected at unknown locations in the vicinity of San Rafael and Ross, respectively.
Corynorhinus townsendii Townsend's big-eared bat	CSC	Usually roosts in caves, mines, bridges, trees, and structures in or near woodlands and forests, often near water. Extremely sensitive to human disturbance. Found throughout California in a wide variety of habitats; most commonly associated with mesic sites. High fidelity to maternity roosts; can	Low. Extremely sensitive to human disturbance. Suitable habitat present but no known occurrences reported by CNDDB from Planning Area. Nearest CNDDB records are from Muir Woods.

		use the same site for at least 25 years (Wainwright and Reynolds 2013).	
Lasiurus blossevillii Western red bat	CSC	Roosts primarily in trees 2-40 ft above the ground, from sea level up through mixed conifer forests. Occurs in a wide variety of grasslands, shrublands, and woodlands, though they are generally found in dry, open areas at lower elevations. Prefers habitat edges and mosalcs that are protected from above and open below, with open areas for foraging.	Low. Suitable habitat is present in coniferous forest and woodland habitat in the Planning Area, but no active roosts are known from the Planning Area.
Lasiurus cinereus Hoary bat	None	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. This solitary bat is most commonly found in association with forested habitats near water (CDFW 2016a).	Low. Suitable habitat possible for foraging or roosting but no known occurrences reported by CNDDB from Planning Area.
Reithrodontomys raviventris Salt marsh harvest mouse	FE, SE, CFP	Tidal salt marshes of San Francisco Bay and its tributaries. Requires tall, dense pickleweed for cover.	High. Reported by CNDDB from within the Planning Area. Observed withing Corte Madera Marsh State Ecological Reserve and Creekside Park, and may disperse along suitable habitat along Corte Madera Creek and tidal marshes.
American badger *Taxidea taxus*	CSC	Prefers open areas and may also frequent brushlands with little groundcover (NatureServe). Needs sufficient food, friable soils and open, uncultivated ground.	Low. Marginal habitat present in the remaining grassland habitat, but the relative small size and relative isolation of this habitat most likely precludes presence of this species in the Planning Area.

[a] Status: FE = federally endangered CFP = California Fully Protected
SE = State endangered CSC = California Species of Special Concern
FT = federally threatened ST = State threatened

Source: Compiled by Leonard Charles and Associates, 2022. Nearest records are based on CNDDB occurrences unless otherwise noted.
Source: Larkspur General Plan Background Report, CNDDB

Sensitive Habitats

Sensitive Natural Communities

Plant communities that are either known, or believed to be, of high priority for inventory in the CNDDB are termed "special" and tracked by the California Department of Fish and Wildlife. These communities are also listed in the CDFW publication *List of California Terrestrial Natural Communities.* While these communities are sometimes addressed by lead or trustee agencies in CEQA documents, they generally are not afforded the same protection as CNPS List 1B and 2 plant species. Many special plant communities support special-status plants and animals and are addressed under CEQA as essential habitat for those species.

Northern Coastal Salt Marsh. A large occurrence of this sensitive natural community is reported in the CNDDB as occurring immediately to the east of the Planning Area along the fringe of San Francisco Bay and within the Corte Madera Marsh Ecological Reserve. Additional areas of northern coastal salt marsh occur in other locations within the Planning Area along the Corte Madera Creek corridor, with stands located along the shoreline south of the Ferry Terminal, the original alignment of Tamalpais Creek and mouth of King Mountain Creek near the confluence with Corte Madera Creek, and along the lower elevations of Piper Park.[20]

Wetlands and Jurisdictional Waters. Although definitions vary to some degree, in general, wetlands are considered areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. The U.S. Army Corps of Engineers (USACE) and the USFWS developed technical standards for delineating wetlands that generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

A formal jurisdictional delineation of wetlands and other waters of the U.S. and State was not conducted for the Planning Area as part of this EIR. However, based on information available from the NWI and the contents of existing reports for this area, numerous features can be assumed to fall under USACE and Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Sections 401 and 404 of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act. Creeks and lakes are also regulated by the CDFW pursuant to Section 1602 of the California Fish and Wildlife Code, with jurisdiction extending to the top of bank or the outer dripline of riparian vegetation along these features, whichever is greater.

Features within the Planning Area that would likely be considered wetlands or other waters of the U.S. by the USACE include: the marshlands and open water habitat along Corte Madera

[20] Nichols-Berman 2013.

Creek and the Corte Madera Channel; Tubb Lake and other scattered small waterbodies; Larkspur Creek, King Mountain Creek, and smaller drainages. Additional other jurisdictional waters and wetlands maybe present in other undeveloped portions of the Planning Area, but detailed site-specific assessments would be required to confirm presence or absence from undeveloped lands.

A number of widespread but still sensitive natural community types are also known from the Larkspur vicinity but have not been mapped in the CNDDB inventory. Based on the *Manual of California Vegetation* classification system and the latest list of terrestrial natural communities prepared by CDFW, these include Black Oak Forests and Woodlands, Coastal and Montane Redwood Forests, several alliances and associations of Douglas Fir Forests, California Bay Forests and Woodlands, California Buckeye Woodlands, several associations of Coyote Brush Scrub, and numerous alliances of native grasslands.[21] Detailed surveys would be required to provide confirmation of presence or absence from undeveloped portions of the Planning Area.

2 Regulatory Framework

Federal Regulations

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (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 engagein any such conduct." Title 50, Wildlife and Fisheries, Part 17, Endangered and Threatened Wildlife and Plants, Section 17.3, Definitions, of the Code of Federal Regulations, 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 actually 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 astake 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. The USFWS and National Oceanic and Atmospheric

[21] Nichols-Berman 2013.

Administration's National Marine Fisheries Service (NOAA Fisheries Service) have joint authority under the FESA for administering the incidental take program. NOAA Fisheries Service has jurisdiction over anadromous fish species and USFWS has jurisdiction over allother 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 the 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 the 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. [22] The lateral limits of jurisdiction for a non-tidal 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 waterbodies or watercourses that do not exhibit wetland characteristics

[22] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(a).

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.[23] The 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 the USACE before placing fill or grading in wetlands or other waters of the U.S. Prior to issuing the permit, the USACE is required to consult with the 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 SanFrancisco Bay 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. The San Francisco BayRWQCB has adopted a policy requiring mitigation for any loss of wetland, streambed, or other jurisdictional area.

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. In December 2017, the Department of the Interior (DOI) issued a memorandum reversing the incidental take interpretation of the MBTA. Under the latest determination of the DOI, the take of a migratory bird or its active nest (i.e., with eggs or young) that is incidental to a lawful activity does not violate the MBTA. However, this opinion from the DOI is only the latest interpretation. This legal opinion is contrary to the long-standing interpretation for over 40 years that held the MBTA strictly prohibits the intentional or incidental killing of birds or destruction of their nests when in active use.

State Regulations

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.[24] CESA is similar to the 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

[23] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(a).
[24] California Fish and Game Code Section 2050 *et seq.*

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 Statelist. Candidate species are protected by the provisions of CESA.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) 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, 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 beshown to meet the definition of rare or endangered under CEQA and be considered a "de facto" rare or endangered species.

California Fish and Game Code

The CDFW is responsible for enforcing the California Fish and Game Code (CFGC), which contains several protections from "take" for a variety of species. The CDFW also protects streams, water bodies, and riparian corridors through the Streambed Alteration Agreement process under Section 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 the CDFW, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. CDFW's jurisdictionextends 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 orpossessed 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) of the Fish and Game Code, 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 theCFGC or its implementing regulations provide otherwise, under California law it is unlawful to:

- 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 asfalcons, hawks and eagles) or the nests or eggs of such bird.
- Take or possess any of the thirteen 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 DOI 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 domestius*),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,[25] the RWQCB is authorized to regulate the dischargeof waste that could affect the quality of the State's waters. The RWQCB asserts jurisdiction over isolatedwaters and wetlands, as well as waters and wetlands that are regulated by the 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 requiredischarge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction best management practices.

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 eachplant species. [26:]

[25] California Water Code Sections 13000 through 14920.
[26] California Native Plant Society, 2020, CNPS Rare Plant Ranks, https://www.cnps.org/rare-plants/cnps-rare-plant-ranks, accessed on November 25, 2020.

- 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 particular 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.

Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act[27] of 2001 acknowledges the importance of private land stewardship to the conservation of the state's valued oak woodlands. This act established the California Oak Woodlands Conservation Program, which aims to conserve oak woodlands existing in the state's working landscapes by providing education and incentives to private landowners. The program provides technical and financial incentives to private landowners to protect and promote biologically functional oakwoodlands.

Regional Regulations

McAteer-Petris Act

In 1969, the McAteer-Petris Act designated the San Francisco Bay Conservation and

[27] California Fish and Game Code Section 1360 et seq.

Development Commission (BCDC) as the agency responsible for the protection of the San Francisco Bay. The two primary goals of the BCDC are (1) to prevent the unnecessary filling of San Francisco Bay, and (2) to increase public access to and along the Bay shoreline. BCDC fulfills its mission through the implementation of the *San Francisco Bay Plan* (Bay Plan), an enforceable plan that guides the future protection and use of San Francisco Bay and its shoreline. The Bay Plan includes a range of policies on public access, water quality, fill, and project design, and designates shoreline areas that should be reserved for water-related purposes like ports, industry, and public recreation, airports, and wildlife areas.

As a permitting authority along the San Francisco Bay shoreline, BCDC is responsible for granting or denying permits for any proposed fill, extraction of materials, or change in use of any water, land, or structure within 100 feet of the Bay shoreline. Projects in BCDC jurisdiction that involve Bay fill must be consistent with the Bay Plan policies on the safety of fills and shoreline protection.

San Francisco Bay Basin Water Quality Control Plan

The San Francisco Bay RWQCB adopted a Water Quality Control Plan for the San Francisco Bay Basin (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan, which includes wetlands in and near the EIR Study Area. It is the RWQCB's master water quality control planning document.

Local Regulations

Larkspur General Plan 1990-2010

The existing Larkspur General Plan contains a number of goals, policies, and programs to conserve biological resources and prevent damage to those resources from future development. These goals, policies, and programs are found primarily in Chapter 6, Environmental Resources.

Larkspur Municipal Code

The LMC contains various chapters pertinent to protection of biological resources. The most pertinent chapters are listed below.

- Chapter 12.16 (Trees and Vegetation) recommends planting native trees on private properties in the city. It also prohibits the removal of Heritage Trees except when the tree is identified as a hazard.
- Chapter 18.36 (RMP Residential Master Plan) states that a Residential Master Plan required for new development in the RMP zone will be developed to respect rock outcroppings, wetland areas, land forms, the dimensions of the lot, water quality, fish and wildlife habitats, wildlife movement corridors, streams, creeks and associated riparian vegetation, native trees and biodiversity.

- Chapter 9.11 (Runoff Pollution Protection) sets forth regulations for reducing eroded sediments and other pollutants in urban runoff. The purpose of this chapter is to manage and control stormwater and non-stormwater discharges to ensure the future health, safety, and general welfare of City of Larkspur citizens and to protect and enhance watercourses, fish and wildlife habitat in a manner pursuant to and consistent with the Clean Water Act, the Porter-Cologne Water Quality Control Act, and the Phase II Small Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit, (See Section 4.9, Hydrology and Water Quality for additional LMC references regarding water quality.)
- Chapter 9.12 (Watercourses) sets forth property owners' responsibilities for maintaining a stream on or crossing their property, including maintenance of streambank vegetation, as well as prohibiting unpermitted obstruction, alteration, construction, and discharge.

2. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant biological resources impacts if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
3. 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.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan.
7. Result in significant cumulative impact related to biological resources.

Impact Discussion

Impact BIO-1: Implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Future development in the Planning Area would potentially involve land clearing, demolition, paving, and construction of new structures. These activities could result in direct take of special-status and other species, and loss of natural habitat. These activities could also have direct adverse impacts to special-status species and indirect adverse impacts due to the transformation of habitats needed by these species.

As indicated in Tables 4.3-2 and 4.3-3, there are 38 special-status plant species and 52 special-status animal species that are reported within the San Rafael quadrangle and are considered as having the potential to occur within the Planning Area. Of these, 8 animal species and 5 plant species have been reported in the CNDDB as occurring within the Planning Area itself (although of these, the reported populations of tidewater goby and the white-rayed pentacheta are considered to now be extirpated). Many of the special-status animal species listed in Table 4.3-3 may occasionally pass through or forage within the Planning Area but are not known or likely to breed there.

Though the Planning Area is primarily developed, it does support notable areas of natural habitat used by wildlife and resident and migratory fish species. The largest areas of relatively undisturbed habitat are In the Blithedale Summit, Baltimore Canyon, and King Mountain Open Space Preserves, portions of which are located withing the city. Habitat protection is one of the principal objectives of the Marin County Open Space District. Therefore, the largest areas of natural habitat will continue to be protected from development. Corte Madera Creek and the creek corridor also provide relatively high-level habitat. There is also additional habitat that could support special-status species, including Larkspur Creek and King Mountain Creek riparian corridors, City parks (such as Piper and Niven Parks), the eastern portion of the San Quentin Peninsula, waterbodies (such as Tubb Lake), undeveloped parcels, and even private yards.

Several Northern spotted owl activity centers have been mapped in the area west of Magnolia Avenue and south of Madrone Avenue. These activity areas are interspersed with residential development and protected open space. Given the sensitivity of these owls to noise and human presence, new construction, remodeling, and repairs of existing residences in this vicinity could result in disturbance to owls and potential nest abandonment. Because of their habitat overlap with areas of potential development, these owls are highly vulnerable to potential impacts within the Planning Area.

The USFWS describes projects that will not impact NSO habitat directly but could potentially generate acoustic and/or visible disturbances, as “disturbance only”. For such projects, a matrix of existing versus project-generated noise is utilized to determine the size of the buffer zone

within which project activities could reasonably be assumed to impact NSO. Conditions during demolition and construction are considered “high”(81-90 dB), at which the estimated NSO harassment distance would be 100 feet. Therefore, there is the potential for significant impacts to these owls from future development, additions, remodeling, and repair of new and existing residences.

Due to the sensitivity of this species and its known presence in Larkspur, Policy ENV-1.6 and Action Program, ENV-1.6.a (see policy listing below) were specifically added to the draft General Plan 2040 to address impacts to this species as well as other potential special-status species occurring in the Planning Area.

Special-status species are offered varying levels of protection by federal, State, regional, and local regulations, depending on a variety of 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 Federal, State, regional, and local agencies provide for the greatest oversight because each potential future development requiring discretionary permits or approvals that could occur as a result of implementation of the proposed General Plan 2040 must be evaluated for potential impacts on special-status species and other sensitive biological resources.

The majority of development would occur in locations where necessary infrastructure (such as roads, water, and sewer) are already in place, and in a manner that minimizes impacts on existing infrastructure and services and, thereby, preserves natural resources.

The Natural Environment and Resources Chapter of the proposed General Plan 2040 contains goals, policies and action programs that require local planning and development decisions to consider impacts to biological resources, including special-status species. These protections are required on a project-by-project basis, as well as at the habitat level, and include the following:

Goal CHAR-3: Maintenance of Larkspur's special "sense of place”

Policy CHAR-3.1: Encourage broad-based community interest in and support of preservation activities.

Action Program CHAR-3.1.a: Support the efforts of the Heritage Preservation Board and other organizations to engage and educate the community about the City’s historic resources, including historic walking tours, publication of books or other written materials about the City’s heritage, and presentations at local schools, libraries, and other public meeting spaces.

Goal ENV-1: Protected native habitats, particularly those providing habitat for state and federally listed special status species

Policy ENV-1.1: Protect biological resources, including migratory birds, anadromous fish, and threatened and endangered species, that are necessary to maintain a diversity of plant and animal species. Avoid, when feasible, or mitigate adverse impacts of development on special status species.

Action Program ENV-1.1.a: Identify State and federally listed special-status species in the Larkspur Planning Area and coordinate with Marin County to maintain habitats, nurseries, and migration corridors, as applicable to each species.

Action Program ENV-1.1.b: Continue to implement the California Environmental Quality Act during project review, as applicable, to identify and analyze potential impacts on special-status species and special-status natural communities. Ensure that environmental review is coordinated with appropriate trustee agencies, e.g., U.S. Fish and Wildlife Service and the State Department of Fish and Game.

Action Program ENV-1.1.c: Use the City website and printed materials, as available, to provide information to the public regarding special status-species and natural communities in Larkspur.

Action Program ENV-1.1.d: Continue to support Marin County Open Space District and community efforts to acquire privately-owned land providing valuable habitat to native species, particularly special-status species, contingent on availability of funding.

Policy ENV-1.2: Protect and enhance native plant communities in Larkspur.

Action Program ENV-1.2.a: Encourage the inclusion of native or adapted plant species, the removal of non-native invasive plant species, and the retention of existing native vegetation in project landscaping plans.

Action Program ENV-1.2.b: In coordination with the County of Marin and other local and state agencies, provide guidelines and recommendations to project applicants, property owners, and interested community members for planting of native and drought-tolerant species.

Action Program ENV-1.2.c: Continue to protect trees on public lands by planting additional trees needed to maintain age profile and species diversity, ensuring the proper and timely pruning of trees, and removing non-native species, particularly if they are invasive.

Action Program ENV-1.2.d: On private properties, encourage and, where appropriate, require actions by private property owners to protect the health of native woodlands and trees

Action Program ENV-1.2.e: Update parking lot landscape standards to maximize tree size, cover and growth to reduce heat gain where possible.

Action Program ENV-1.2.f: Require that the site planning, construction and maintenance of new development preserve existing healthy native trees and vegetation on site to the maximum extent feasible or otherwise apply conditions of approval to off-set loss of native trees and vegetation not able to be saved.

Policy ENV-1.3: Support habitat restoration projects coordinated by the Marin Municipal Water District, the Ross Valley Sanitary District, the Friends of Corte Madera Creek Watershed, the Marin Audubon Society, and other public agencies and knowledgeable organizations.

Action Program ENV-1.3.a: Coordinate with Marin County and other local agencies and knowledgeable non-profit groups to prevent the spread of non-native invasive species in Larkspur.

Policy ENV-1.5: Endeavor to preserve and enhance wildlife habitat, including those in watercourses and riparian areas, and control human use of these areas as necessary to protect them.

Action Program ENV-1.5.a: Review and, to the degree feasible, condition development applications to preserve habitat valuable to wildlife.

Policy ENV-1.6: Ensure that even minor private and public projects (e.g., remodeling permits, road repairs, grading permits, tree removal permits) do not significantly affect special status species and habitat.

Action Program ENV-1.6.a: Develop a program that identifies where potential sensitive habitats in Larkspur are known or possible. Require avoidance, or where avoidance is not feasible, prepare a schedule of feasible mitigation measures to address impacts to these resources that can be applied as part of the City's permit or public works project approval process. The program would be adopted after completion of a programmatic CEQA review. Subsequent individual permit applications or public works projects would be reviewed to ensure that the project or project site do not include unusual environmental conditions that are not covered by the program. If unusual environmental conditions are present, then additional environmental review would be required by the City.

Implementing these goals, policies, and action programs would ensure that future projects would be required by the City to avoid or at least minimize impacts on any species identified as an endangered, threatened, candidate, sensitive, or special-status species and their habitat. As noted previously, other than the State-owned surplus parcel near San Quentin Prison, there are not large contiguous areas of habitat that could potentially be developed in the Planning Area. Any future development proposal of the State-owned parcel, if it is annexed to the City, would require City adoption of an RMP District and preparation of a Residential Master Plan (RMP) for future residential development. It is expected that up to 8 residential lots could be developed. The RMP would require a CEQA analysis and adoption of findings by the City that the Plan and future development under the RMP would be consistent with the City's General Plan, including the policies and programs listed in this chapter on Biological Resources. While no special status species or sensitive habitats have been reported for this property, the required RMP and CEQA review would include site surveys and resource assessments to ensure that species and habitats are protected per the General Plan policies and City Municipal Code requirements.

As noted in the Regulatory Framework section, there are many codified laws and regulations that protect sensitive species and their habitat. The policies and programs listed above support these regulations and ensure that the City requires identification of these species when assessing a project application, public work projects, and minor projects requiring a building permit, and, when warranted, requires avoidance or mitigation that satisfies regulatory agencies and the City. However, the proposed policies and programs do not provide specific direction about conducting surveys for sensitive species, including active bird nests, which are protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. Although Action Program ENV-1.1.b calls for the City to continue to implement the California Environmental Quality Act during project review, it does not specifically require surveying sites for the presence or absence of special-status species prior to development approval.

Additionally, the preservation of active bird nests is not called for, though these are protected under State and federal laws. Without project-specific surveys and assessments, there is a potential for injury or death of sensitive species, loss of habitat needed by these species, and loss of bird nests. This would be a potentially significant impact.

Mitigation Measures

Mitigation Measure BIO-1: To ensure sensitive species of any kind are not adversely impacted by implementation of the proposed project, the City shall adopt revisions to Policy ENV-1.1 in the form of the addition of the following action programs:

> Action Program ENV-1.1.d: Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of special status species or sensitive natural communities prior to development approval. Such surveys should be conducted by a qualified biologist and occur prior to development-related vegetation removal or other habitat modifications.
>
> Action Program ENV-1.1.d: Nests of native bird that are in active use should be avoided in compliance with state and federal regulations. For new development sites where, nesting birds may be present, vegetation clearing, and construction should be initiated outside the bird nesting season (February 1 through August 31) or preconstruction surveys should be conducted by a qualified biologist no more than 14 days in advance of any disturbance. If active nests are encountered, appropriate buffer zones should be established based on recommendations by the qualified biologist and remain in place until the biologist has confirmed that all young birds have successfully left the nest.

Impact Significance After Mitigation

The two recommended programs clarify that surveys and assessments of future project sites for special-status species and active nests will be conducted prior to vegetation removal and project approval by the City. These additional programs along with other proposed policies and programs and existing laws and regulations would reduce the impact from future development in the Planning Area to endangered, threatened, candidate, sensitive, and special-status species and their habitat to a less-than-significant level, and no additional mitigation is required at the programmatic level of analysis.

Impact BIO-2 Implementation of the proposed project could have a substantial adverse effect on any riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Riparian habitats and other sensitive natural communities may experience direct and indirect impacts from implementation of the proposed General Plan 2040. Potential direct impacts could occur as a result of habitat conversion, structure construction, creation of new impervious surfaces (such as roadways, parking, sidewalks), sediment runoff, and culverting of

natural drainages. Direct impacts may not be lasting, if they disturb a habitat that is subsequently restored after construction. Indirect impacts are the result of indirect or complex interactions caused by implementation of the General Plan 2040. An example would be a future project adversely affects water quality leaving a site, which then affects a sensitive community downstream of that site.

As described previously, the City of Larkspur is bisected by Corte Madera Creek, and it also contains Larkspur and King Mountain Creeks. Additionally, the CNDDB records indicate a large sensitive natural community occurrence of northern coastal salt marsh along the fringe of San Francisco Bay, just outside the Planning Area. This sensitive natural community type occurs in other locations within the Planning Area along the Corte Madera Creek corridor. As discussed above, other sensitive natural community types are known from or likely to occur in the Planning Area, but that have not been mapped in the CNDDB inventory, including northern Coastal Salt Marsh, Black Oak Forests and Woodlands, and Coastal and Montane Redwood Forests. However, detailed surveys would be required to provide confirmation about the presence or absence from undeveloped portions of the Planning Area where thorough studies have not been conducted.

As discussed in Section 3.3 of this Draft EIR, the City supports the potential for future development on a limited number of vacant parcels and in the form of infill/redevelopment on sites either already developed and/or underutilized and in close proximity to existing development. Although these areas, including the State-owned surplus land parcel, generally are not expected to contain large amounts of sensitive habitat, there remains a potential for presence of some sensitive natural communities in some locations. Additionally, potential future development that occurs adjacent to open space areas or along drainages and shoreline areas (e.g., adjacent to the Corte Madera Marsh) could have a significant impact on sensitive natural communities if present on a particular site. Further detailed project-level investigation is typically necessary to determine whether any sensitive natural communities are actually present on undeveloped sites with natural habitat.

As discussed in Impact BIO-1, the Natural Environment and Resources Chapter of the proposed General Plan contains goals, policies, and action programs that require local planning and development decisions to consider impacts to biological resources, including riparian habitats and other sensitive natural community types, on a project-by-project basis. The following General Plan goals, policies, and programs serve as the City's policy framework to minimize impacts on riparian and other sensitive natural communities in the Planning Area.

Goal ENV-2: Protected water and riparian resources

> Policy ENV-2.1: Develop a Creek, Shoreline, and Wetland Master Plan and management guidelines for maintaining and enhancing all identified creeks within the city limits; identify flood control measures; determine preferred stream bank and shoreline protection techniques; establish a more precise and functional "creek setback" and related development standards based on parcel size and existing site conditions; and identify public access and park development opportunities. Preserve and protect wetland resources in compliance with applicable regional, state, and federal regulations and to provide a buffer to sea level rise.

Action Program ENV-2.1.a: Until such time as the Master Plan is adopted, proposed project applications will be reviewed by City staff to determine the possible presence of wetlands, streams, riparian habitat, and/or shoreline habitat in the area proposed for development. If any of these sensitive resources could be impacted by a project proposal, then the City will require a site assessment by a qualified professional to determine potential project impacts and ways to avoid impacts or, if avoidance is not feasible, to identify potential mitigation measures to reduce any ecological impacts. Riparian corridor restoration should be considered when mitigation is warranted.

Policy ENV-2.2: Avoid, if feasible, or mitigate impacts on shoreline, wetland, and riparian areas from diking, dredging, or filling.

Action Program ENV-2.2.a: Coordinate with the Golden Gate Bridge Highway and Transportation District and other public agencies owning or managing property within the Larkspur Planning Area to ensure that intensification or changes in land use at their properties avoids impacts on adjacent shoreline, wetland, or riparian areas. If avoidance is not feasible, ensure that such intensification or changes have minimal impacts on adjacent shoreline, wetland, or riparian areas, and that unavoidable impacts are appropriately mitigated in accordance with adopted mitigation guidelines

Action Program ENV-2.2.b: Preserve and/or enhance buffer or transition zones between shoreline/wetland areas and inland areas.

Action Program ENV-2.2.c: Future projects constructed to address flooding from sea level rise will be designed and constructed to protect and expand wetlands to the degree feasible.

Policy ENV-2.3: Continue to designate the wetlands along Corte Madera Creek and at Piper Park, Redwood High School, and the Larkspur Ferry Terminal, and the shoreline between East Sir Francis Drake Boulevard and the Bay waters as Shoreline/Wetland Conservation areas.

Policy ENV-2.4: Prioritize the protection of water resources during consideration of development projects contiguous to, and/or within, shoreline, wetland, and riparian areas or any required setbacks for those areas.

Policy ENV-2.5: Minimize the effects of pollution in stormwater runoff in Larkspur and its effective watersheds. Retain and restore where feasible the natural hydrological characteristics of watersheds in Larkspur. Reduce construction impacts on shoreline, wetland, and riparian areas.

Action Program ENV-2.5.a: Limit construction activity within shoreline, wetland, and riparian areas, and any established setbacks for these areas.

Action Program ENV-2.5.b: When construction in or within required setbacks to shoreline, wetland, and riparian areas is unavoidable, require construction debris to be disposed of responsibly, in accordance with guidelines established by the National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, as amended. or any other permits promulgated in the future on a State or Federal level that regulate such activities. Require disturbed soils and creek banks to be stabilized.

Action Program ENV-2.5.c: Coordinate with the Marin County Flood Control and Water Conservation District, the Marin Municipal Water District, the Ross Valley Sanitary District, and

other local agencies and organizations during their activities in or adjacent to shoreline, wetland, and riparian areas.

Action Program ENV-2.5.d: Use the City website and printed materials, when available, to provide information to the public and applicants regarding strategies to reduce soil erosion and sedimentation in shoreline, wetland, and riparian areas. Refer to materials produced by the Marin Resource Conservation District, the Marin County Community Development Agency, and other local agencies and organizations.

Policy ENV-2.6: Support efforts by the Marin Municipal Water District, Marin County Flood Control and Water Conservation District, and other interested agencies and organizations to enhance water quality and reduce peak stormwater runoff in the Ross Valley watershed.

Policy ENV-2.7: Encourage use of permeable materials in projects adjacent to water resources.

Action Program ENV-2.7.a: Continue to implement guidelines for the use of permeable materials in project landscaping and paving.

Policy ENV-2.8: Encourage on-site water infiltration on project sites and the use of low impact development techniques to reduce run-off of sediment and toxic materials, downstream erosion, and flooding.

Action Program ENV-2.8.a: Require drainage plans for projects that are designed, at a minimum, to produce no net increase in the rate and volume of peak runoff from the site compared to pre-project conditions. Encourage drainage plans that decrease the rate and volume of peak runoff compared to pre-project conditions.

Action Program ENV-2.8.b: Continue to implement slope and hillside development regulations, including preservation of natural state conditions in steep hillside areas.

Action Program ENV-2.8.c: Continue to require the use of low impact development techniques and other best management practices per Marin County Stormwater Pollution Prevention Program guidelines during development review, construction process, and site operation.

Policy ENV-2.9: Reduce surface water run-off from municipal facilities.

Action Program ENV-2.9.a: Include and implement Water and programs in the City's Climate Action Plan to reduce run-off from municipal facilities.

Policy ENV-2.10: Encourage landscaping strategies that avoid or minimize reliance on non-organic chemical pesticides and herbicides.

Action Program ENV-2.10.a: Use the City's website and printed material, when available, to provide information on integrated pest management, organic, physical, and biological pest and weed control strategies for applicants and the public.

Action Program ENV-2.10.b: Adopt a program to require the use of integrated pest management and organic practices to control pests and weeds for municipal landscaping and maintenance of public lands and facilities. Restrict the use of non-organic insecticides, herbicides, or any toxic

chemical substance in or near areas of sensitive receptors and sensitive habitats, except when an emergency has been declared, the habitat itself is threatened, or a substantial risk to public health and safety exists.

Policy SAF-4.1: Support completion of flood control improvements in the Ross Valley Watershed that are relevant to the City of Larkspur.

Action Program SAF-4.1.a: Continue to work with the Marin County Flood Control District, the Army Corps of Engineers, the Towns of Fairfax, Ross, and San Anselmo, community organizations, and other agencies and municipalities to develop and implement an improvement plan that protects against flooding and restores the integrity of the Ross Valley watershed (Flood Zone 9 of the Marin County Flood Control and Water Conservation District). Work with the other stakeholders to ensure that fiscal and operational resources are allocated to benefit all communities in the watershed.

Action Program SAF-4.2.e: Seek grant funding and non-profit, community assistance to support shoreline stabilization, marsh restoration, and other sea level rise adaptation measures that benefit open space, parks, water quality, and natural habitat.

Although potential future development is anticipated to generally occur in already urbanized areas of the Planning Area, there is a possibility that development could be proposed in locations that may contain riparian habitat or other sensitive natural communities. As listed above, Policy ENV-2.1 calls for a Creek, Shoreline, and Wetland Master Plan to be developed, and Action Program ENV-2.1.a stipulates that until that master plan is adopted by the City, proposed project applications will be reviewed by City staff to determine the possible presence of wetlands, streams, riparian habitat, and/or shoreline habitat in the area proposed for development. If any of these sensitive resources could be impacted by a project proposal, then the City will require a site assessment by a qualified professional to determine potential project impacts and ways to avoid impacts or, if avoidance is not feasible, to identify potential mitigation measures to reduce any ecological impacts. The proposed program further stipulates that riparian corridor restoration should be considered when mitigation is warranted. This program and policy, combined with existing federal, State, and county regulations, as well as the City of Larkspur Municipal Code Chapter 9.12, Watercourses, offers substantial protection to known sensitive resources, including prohibitions on unpermitted obstruction, alteration, construction, and discharge.

Additionally, proposed Action Program ENV-1.1.d, which was described above as a mitigation measure for Impact BIO-1, requires that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of sensitive natural communities as well as for special status species prior to development approval.

It is not expected that the State-owned surplus property contains sensitive natural habitat nor wetlands since it is mainly a steep hillside containing primarily non-native grasslands, Eucalyptus, some oaks, and scattered chaparral stands. As noted in the previous impact discussion, any future development proposal, if the property is annexed to the City, would require development of and City approval of a Residential Master Plan District and Plan. The City would require a full CEQA analysis of such an RMP that would include biological surveys

and assessments, and the City would need to find that the RMP is consistent with the City's General Plan and zoning requirements. Making a finding that the RMP and the future residential development is consistent with the General Plan means the RMP would be consistent with the policies and programs listed above so that annexation and development under an approved RMP would be consistent with the conclusions listed above that future pre-zoning of this property would result in a less than significant impact on sensitive habitat or resources at this programmatic level.

The existing policies, action programs, and municipal code and other regulatory agency requirements provide extensive protection for riparian areas and other sensitive natural habitat. Additional protection will be afforded by the proposed Action Program ENV-1.1.d recommended as Mitigation Measure BIO-1 under Impact BIO-1. Policy ENV-2.1 to develop a Creek, Shoreline, and Wetland Master Plan and management guidelines will be a major new tool for the City to protect streams and wetlands. Therefore, potential impacts to riparian habitat and other sensitive natural communities will be reduced to a less-than-significant level, and no additional mitigation is required at the programmatic level of analysis.

Impact BIO-3 Implementation of the proposed project could 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.

Development and land use activities associated with implementation of the proposed General Plan 2040 could result in direct loss of, or modification to, existing wetlands and other waters, as well as indirect impacts due to water quality degradation. Affected wetlands could include both the wetland-related natural community, as well as areas of open water, modified streams and channels, unvegetated waters, and isolated seasonal wetlands or freshwater seeps. Indirect impacts to wetlands and jurisdictional other waters include an increase in the potential for sedimentation due to construction grading and ground disturbance, an increase in the potential for erosion due to increased runoff volumes generated by impervious surfaces, and an increase in the potential for water quality degradation due to increased levels in non-point pollutants.

Water quality degradation may occur even when wetlands and unvegetated channels are avoided by proposed development if setbacks are inadequate to provide critical vegetation filtration functions. However, potential future development would be required to comply with all provisions of the LMC Chapter 9.11 (Runoff Pollution Prevention) including an approved Erosion and Sediment Control Plan (ESCP) and Stormwater Control Plan (SCP). Future projects, including establishing an RMP District on the remaining portions of the State-owned property near San Quentin Prison, will also be required to be designed to comply with LID (Low Impact Development) recommendations set forth in the *Marin County Stormwater Pollution Prevention Program Minimum Erosion/Sediment Control Measures for Small Construction Projects*. Future project applicants will also need to file a Certified Stormwater Treatment and Facilities Maintenance Program for all site drainage, and retention facilities. The Natural Environment and Resources chapter of the proposed General Plan 2040 contains numerous goals, policies,

and action program designed to protect wetlands within the Planning Area. Many of these policies and programs were listed in the discussion of Impact BIO-2, including policies under Goal ENV-2 (I.e., Policies ENV 2.1 through ENV- 2.10) and Policies ENV-4.1 and 4.2, and the reader is directed to the previous description of those policies and programs.

The existing policies, action programs, and municipal code and other regulatory agency requirements provide extensive protection for wetlands. Additional protection will be afforded by the proposed Action Program ENV-1.1.d recommended as Mitigation Measure BIO-1 under Impact BIO-1. Policy ENV-2.1 to develop a Creek, Shoreline, and Wetland Master Plan and management guidelines will be a major tool for the City to protect wetlands. Therefore, potential impacts to wetlands will be reduced to a less-than-significant level, and no additional mitigation is required at the programmatic level of analysis.

Impact BIO-4 Implementation of the proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Wildlife corridors link together areas of suitable habitat that are otherwise separated by inhospitable terrain, transitions in vegetation, or human disturbance; the presence of these factors can contribute to fragmentation of open space by urbanization creating isolated "islands" of wildlife habitat. Such islands can separate wildlife from a suitable diversity of food, water, mates, and other vital resources. Lack of movement corridors can also expose wildlife to hazards such as motor vehicles as they attempt to move across roadways from one "island" to another.

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movement related to home range activities (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). A number of terms such as "wildlife corridor", "travel route", "habitat linkage", and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. Climate change related impacts, including drought, wildfire, water temperature changes (for aquatic species), and flood, all have the potential to exacerbate the need for suitable wildlife corridors.

The bulk of the wildlife habitat including nursery sites within the Planning Area is located in undeveloped open space, marsh, or riparian areas, whereas the majority of future development projected within the Planning Area would occur in areas with existing development and infrastructure. Numerous goals, policies and action programs in the proposed General Plan are designed to help preserve natural habitat including nursery sites within the City, which will have the effect of protecting wildlife corridors and fish mobility. As most projected new development would occur in existing built-up urban areas and along existing major arterials, future development would not be expected to result in major new impediments to wildfire movement.

In addition, the is following Natural Environment and Resources goals, policies, and action programs of proposed General Plan 2040 address this concern.

Policy ENV-1.1: Protect biological resources, including migratory birds, anadromous fish, and threatened and endangered species, that are necessary to maintain a diversity of plant and animal species. Avoid, when feasible, or mitigate adverse impacts of development on special status species.

Action Program ENV-1.1.a: Identify State and federally listed special-status species in the Larkspur Planning Area and coordinate with Marin County to maintain habitats, nurseries, and migration corridors, as applicable to each species.

Policy ENV-1.5: Endeavor to preserve and enhance wildlife habitat, including those in watercourses and riparian areas, and control human use of these areas as necessary to protect them.

Action Program ENV-1.5.a: Review and, to the degree feasible, condition development applications to preserve habitat valuable to wildlife.

Policy ENV-2.1: Develop a Creek, Shoreline, and Wetland Master Plan and management guidelines for maintaining and enhancing all identified creeks within the city limits; identify flood control measures; determine preferred stream bank and shoreline protection techniques; establish a more precise and functional "creek setback" and related development standards based on parcel size and existing site conditions; and identify public access and park development opportunities. Preserve and protect wetland resources in compliance with applicable regional, state, and federal regulations and to provide a buffer to sea level rise.

Action Program ENV-2.1.a: Until such time as the Master Plan is adopted, proposed project applications will be reviewed by City staff to determine the possible presence of wetlands, streams, riparian habitat, and/or shoreline habitat in the area proposed for development. If any of these sensitive resources could be impacted by a project proposal, then the City will require a site assessment by a qualified professional to determine potential project impacts and ways to avoid impacts or, if avoidance is not feasible, to identify potential mitigation measures to reduce any ecological impacts. Riparian corridor restoration should be considered when mitigation is warranted.

Aquatic habitat within the Planning Area is also afforded numerous general protections by the additional goals, policies and action program listed under Impacts BIO-2 and BIO-3. Policy ENV-1.1 specifically calls for the protection of biological resources. his policy also includes the benefit of protecting the free movement of other species of resident and migratory fish species. The protections afforded to wetlands, creeks, and other waters additionally protect potential aquatic nursery sites. The impact to native resident and migratory fish species would be less than significant.

While the largest contiguous areas of terrestrial habitat within the Planning Area are already protected from development because they are under the jurisdiction of the Marin County Open Space District and the City Parks, wildlife undoubtedly travels through other areas that could be affected by potential future development. While major impacts to wildlife movement are not

expected, any potential impact to that movement can be mitigated by the additional policy language recommended below in Mitigation Measure BIO-2.

The State-owned parcel near the east end of the San Quentin peninsula contains approximately 40 acres that would remain undeveloped after the 8-acre portion of the west end of the parcel is developed for housing as currently proposed by the State. This area has old access roads and a few buildings on it. However, it is mainly undeveloped with open grassland and some trees. It connects to the north and west to other undeveloped land along the ridgeline. This undeveloped ridgeline is an "island" of wildlife habitat as it is bordered by Highway 101 on the west, Highway 580 and streets in the City of San Rafael to the east and north, and Sir Francis Drake Boulevard and the bay on the south. Wildlife travel along and adjacent to this ridge would consist mainly of wildlife moving along the ridge to access the remaining narrow band of undeveloped land immediately to the north and south of the ridgeline. It is expected that the ridgeline on the property would be designated as open space in the RMP required for development of that parcel, which would be consistent with City approvals of other properties bordering the ridgeline on the San Quentin peninsula. Accordingly, annexation and development of that parcel would not be expected to block significant wildlife corridors. This expectation would need to be confirmed when the CEQA study required for the RMP is prepared.

The movement of many bird species can be blocked or impended by tall buildings especially ones with windows on upper floors. This can lead to death from birds flying into the windows. However, the proposed General Plan 2040 limits buildings to three stories at existing commercial locations and along Sir Francis Drake Boulevard and the North Magnolia Avenue corridor. Otherwise, buildings are limited to two stories.

Proposed Policy ENV-2.1 and Program ENV-2.1.a will result in setbacks along streams allowing these streams to provide wildlife movement corridor for animals and birds. Given the projected location of new development and the protections provided in the General Plan 2040, future buildout under the general plan would not have a substantial impact on wildlife movement or nursery sites. Nevertheless, there is the potential for site-specific significant impacts on wildlife movement.

Mitigation Measures

Mitigation Measure BIO-2

To preserve sabe wildlife movement, revise Policy ENV-1.5 as follows:

> Policy ENV-1.5: Endeavor to preserve and enhance wildlife <u>habitat and important wildlife movement corridors,</u> including those in watercourses and riparian areas, and control human use of these areas as necessary to protect them.

Add the following Action Programs to Policy ENV-1.5

Action Program ENV-1.5.b: Preserve and protect areas that provide natural connections thereby permitting wildlife movement between larger natural areas.

Action Program ENV-1.5c: Support mapping of wildlife corridors within the City. Use this data to determine where conservation easements may be appropriate in the event properties within these corridors are subdivided, or when other opportunities arise for securing such easements. Consider climate change impacts when evaluating corridor importance.

Impact Significance After Mitigation

The additional policy language and action programs will further protect wildlife movement in the Planning Area. This mitigation measure would reduce the impact to a less-than-significant level, and no additional mitigation is required at this programmatic level of analysis.

Impact BIO-5 Implementation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The proposed General Plan is consistent with the City of Larkspur Municipal Code Chapter 12.16: Trees, Including Heritage Tree., This chapter purpose states that "The City of Larkspur values its environment. The mature trees of the community are a part of the City's heritage and add to the quality of life valued by our residents. Native trees such as redwood, oak and madrone are especially important to the community." As a result, the City protects the environment by restricting and regulating the removal and/or excessive pruning of mature or "heritage" trees."

This chapter stipulates that removal or other actions that severely endanger heritage trees are prohibited. When removal is considered necessary, the City's "Application for Heritage Tree(s) Removal" form must be approved. When construction occurs within the drip line of a heritage tree, and when a building permit is required, action must be taken to protect the tree as required by the Planning Commission, in conformance with the current City tree protection plan.

The proposed General Plan 2040 includes certain Policies and Action Items targeted directly at heritage and other tree preservation, including:

Policy ENV-1.4: Recognize the value of heritage trees to the environment and the quality of life in Larkspur.

Action Program ENV-1.4.a: Continue to require applicants to obtain a permit for the removal of heritage trees and require the planting of replacement trees where they can be accommodated. Where replacement plantings are not practical or feasible, require property owners to contribute funds to support tree planting in the local streets, parks, and open spaces to off-set the loss of heritage trees.

Policy ENV-1.2: Protect and enhance native plant communities in Larkspur.

Action Program ENV-1.2.c: Continue to protect trees on public lands by planting additional trees needed to maintain age profile and species diversity, ensuring the proper and timely pruning of trees, and removing non-native species, particularly if they are invasive.

Action Program ENV-1.2.d: On private properties, encourage and, where appropriate, require actions by private property owners to protect the health of native woodlands and trees.

Action Program ENV-1.2.f: Require that the site planning, construction and maintenance of new development preserve existing healthy native trees and vegetation on site to the maximum extent feasible or otherwise apply conditions of approval to off-set loss of native trees and vegetation not able to be saved.

Additional policies and action programs that offer support for preservation and enhancement of trees within the City include the following:

Policy LU-13.6: Allow low-intensity development on hillsides and near Corte Madera Creek only if the design preserves natural features, such as significant stands of trees, forested hillsides, riparian vegetation, marshes, wildlife habitats, ridgelines, and buffer zones.

Policy LU-13.8: Require new development and redevelopment to preserve some natural areas to support vegetation and reduce stormwater runoff.

Action Program LU-13.8.a: Continue to implement slope and hillside development regulations requiring preservation of natural state.

Action Program LU-13.8.b: Continue to implement lot coverage and open space setback requirements for each zoning district.

Action Program CHAR-2.1.b: Encourage the inclusion of native or adapted plant species, the removal of non-native invasive plant species, the retention of existing vegetation, and the replacement of trees proposed for removal in project landscaping plans.

Policy CHAR-2.3: Preserve the remaining natural environment – trees, marshes, creeks, hillsides – as integral components of Larkspur's community character and identity.

Policy CIR-4.8: Require that parking lots be designed to minimize heat island effects, have significant tree canopies with ample landscape areas designed to pre-treat stormwater runoff where feasible, and ensure safe pedestrian access.

Policy CIR-8.3: Maintain and improve existing landscaped medians and add street trees, where practicable and safe.

Development in the Plan Area would adhere to these policies and regulations and would not conflict with existing tree protection policies.

The proposed project would also be consistent with LMC Chapter 9.12 (Watercourses) in that the plan requires maintenance of drainage channels in the city and protection of streambank vegetation.

In addition, implementation of the proposed project is required to comply with all applicable federal, State, and regional policies and regulations related to the protection of important biological resources. Specifically, implementation of the proposed project would be required to comply with the policies and regulations described previously and listed below:

- Federal Endangered Species Act
- Federal Migratory Bird Treaty Act
- California Endangered Species Act
- California Fish and Game Code
- California Environmental Quality Act – Treatment of Special Status Plan and Animal Species

In complying with these regulations, the project would be consistent with the listed acts. Future development following annexation of the State-owned property on San Quentin peninsula would also be required to be consistent with policies and regulations discussed above.

In summary, the proposed project would be consistent with local policies and ordinances intended to protect biological resources. Therefore, the proposed project would comply with applicable local regulations, and impacts would be less than significant.

Impact BIO-6 Implementation of the proposed project could conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan

The City of Larkspur does not currently have a habitat conservation plan, natural community conservation plan, or any other similar approved plan. Therefore, implementation of the proposed General Plan 2040 would not conflict with any such document. There would be no impact.

Impact BIO-7 Implementation of the proposed project could result in a cumulatively considerable impact to biological resources.

Cumulative development in the communities surrounding the City of Larkspur, in combination with the proposed project, could contribute to the following: loss of foraging and breeding habitat for special status species; the decline of special status species; fragmentation of habitat and isolation of populations; and decreased fish and wildlife movement opportunities. Implementation of the proposed project would increase density and intensity of existing land uses. However, goals, policies, and programs contained within the proposed plan plus recommended mitigation measures listed previously in this chapter would conserve existing natural resources and limit impacts on special status species within the Planning Area. Furthermore, impacts on biological resources associated with the proposed project would be less than significant with mitigation incorporated. Therefore, while the proposed project would make an incremental contribution to cumulative impacts associated with biological resources,

the contribution from the project would not be cumulatively considerable. Cumulative impacts would therefore be less than significant.

4.4 Cultural Resources and Tribal Cultural Resources

1. Environmental Setting

The following discussion of cultural resources summarizes data collected to prepare the Cultural Resources Chapter of the City of Larkspur General Plan Update Existing Conditions Report.[28] Information regarding known cultural resources and cultural resource studies previously conducted within the Planning Area was derived from an archival record and literature search conducted at the Northwest Information Center (NWIC) of the California Historic Resources Information System (CHRIS); a review of archived relevant studies and documents on file with Pacific Legacy, Berkeley)); and contact with the Native American Heritage Commission (NAHC) and local Native American tribes and individuals with a potential interest in, or knowledge of resources in the Planning Area. The cultural resources report was prepared in 2013. No additional cultural resource analyses or reports have been conducted in Larkspur since that date. Accordingly, the information in the report remains accurate.

Ethnographic and Historic Overview

While a number of coastal sites in California have yielded clues to the region's earliest inhabitants dating to more than 10,000 years ago, only a few isolated finds in Marin County can be attributed to Paleo-Indian occupation. This paucity of evidence, however, may be the result of sedimentation and sea-level changes that have inundated many early coastal sites, rather than a lack of early settlement in the peninsula. By the period of 8,000-5,000 Before Present (B.P.) such changes in sea level were already taking effect, dramatically altering the local ecology. The oldest known archaeological site on San Francisco Bay itself dates to this period (roughly 5500 B.P.) and was found on De Silva Island near Tiburon. The succeeding period, deemed the Middle Archaic Period in the local culture history schemes (5,000-2,500 B.P.), is characterized by an increase in the number of sites, which may in turn relate to larger, more sedentary groups occupying the area. By about 2,500 years ago, Proto-Miwokan people were already inhabiting the coastal areas of the Marin Peninsula, perhaps after expanding from the shores of the San Francisco Bay to neighboring regions due to increased competition for resources and changing climatic conditions.

Although the period of roughly 1,000 years ago saw shifting climatic conditions and large-scale population movements, it appears that the Miwok hold on the Marin Peninsula and surrounding areas was more or less unchanged. At around the same time, the bow and arrow replaced the atlatl, the rectangular *Olivella* shell bead appears throughout the area, and a sharp increase in mortars and pestles suggests the development of an acorn economy. Many of the major village sites in Point Reyes and along the Marin bay shore, including Angel Island, were first occupied during this time. By about 500 years ago, the territories and lifeways of the

[28] *General Plan Update Existing Conditions Report*, Nichols-Berman, October 2013; on file for review at the offices of the City Planning Department.

Native Californian groups encountered by European settlers were more or less in place. In the general San Francisco Bay area, native culture was characterized by elaborate ceremonial practices involving specialized regalia and structures, as well as by a sophisticated toolkit that included the hopper mortar and pestle, corner-notched projectile points, chert bead drills, and several different types of shell beads. Native peoples also engaged in far-flung exchange networks in which clamshell disk beads manufactured near the Marin and Sonoma coasts were traded widely and served as major status markers.

Ethnography

The Planning Area is located within the territorial boundaries of the Coast Miwok. Prior to the arrival of Europeans to the San Francisco Bay Area, Coast Miwok territory included the entire Marin Peninsula and stretched as far north as Duncan's Point and as far east as Sonoma. Linguistically, Miwok is one of the California Penutian languages and comprises several groups including Coast Miwok. Pre-contact population estimates for the Coast Miwok suggest that population density was low, with perhaps as few as 2,000 people living in the entire area.

The settlement patterns of the Coast Miwok, like other native groups in the region, were largely dictated by the seasonal availability of important food resources. During the warmer summer months, villages were occupied along rivers, estuaries, and the coast. Winter villages were often located further inland and contained semi-permanent structures and food storage facilities. Settlements consisted of conical dwellings that were constructed of wood or bark and covered with grass. Large villages contained semi-subterranean sweathouses and other ceremonial structures.

The Coast Miwok subsistence economy revolved around fishing, hunting, and gathering, and local Indian people exploited a wide array of terrestrial and marine resources. Shellfish played an important role in Coast Miwok diet, and various fishes—including nearshore, anadromous, and freshwater species—were caught. Birds and terrestrial mammals such as deer were additionally eaten. Many plants were collected by Coast Miwok people from the diverse habitats of the Marin Peninsula. Acorns, for example, were a food staple in late pre-contact times, and certain Coast Miwok individuals or families owned particular highly productive oak trees or groves.

The Coast Miwok created a diverse array of material culture. Since pottery was not used by most Native Californians, basketry was of particular importance and served a number of purposes including, cooking, serving, parching, carrying, and storage. Although baskets were primarily utilitarian in nature, some were multicolored and sported feather and shell ornaments. Lupine roots were used to make cordage for nets, and wooden objects included foot drums and paddles for use with the tule balsa, an important watercraft. Weaponry consisted of the bow and arrow, as well as the sling and a bola for hunting waterfowl. Arrow points were typically made from obsidian, although chert was used to make different types of flaked stone tools. Other stones were used as mortars and pestles. Shell was another important material, and abalone in particular was commonly used for ornamentation.

Ethnohistoric Background

The first contact between Coast Miwok and Europeans occurred over 400 years ago. This event presumably took place in 1579 when Sir Francis Drake made landfall somewhere in Coast Miwok territory, although the exact location of his landing is unknown. Drake remained in the area for six weeks and reportedly experienced a number of amicable interactions with the local people. Sixteen years later, Sebastian Cermeño landed in what is today known as Drakes Bay.

Nearly two centuries passed before Europeans again visited the lands of the Coast Miwok. In 1775, the Ayala expedition stopped at the Marin Peninsula in order to explore the area in advance of the founding of Mission Dolores and the Presidio of San Francisco in 1776. Coast Miwok people were drawn to the mission beginning in the 1780s, and most of Marin's native inhabitants were engulfed in the Spanish mission system by the early 1800s. Mission San Rafael was founded in 1817 and was home to many Coast Miwok families, although accounts from the Russian mercantile outpost at Colony Ross indicate that native people including Coast Miwok sought refuge there from the epidemic disease and directed enculturation of the mission system.

The Spanish missions were secularized in the mid-1830s, and the native people who had lived there were forced to fend for themselves in a dramatically changed world. Many Coast Miwok worked at nearby ranchos, such as General Mariano Vallejo's Rancho Petaluma. Rancho Olompali, located in Marin, was actually owned by a California Indian and was the only land grant officially conferred to a native of the state, despite the promises of the secularization decrees. Olompali remained an important Coast Miwok village for many years. Once California entered the United States, native peoples living in Marin were further marginalized as American towns and agricultural interests expanded. Census records from Marin for the late 19th and early 20th centuries list less than fifty people as Native American, although it is likely that many indigenous people claimed other ethnicities to avoid the rampant discrimination directed toward Native Californians.

By the turn of the 20th century, the plight of the California Indians had attracted popular attention and the federal government issued a number of laws known as the California Homeless Indian Acts. As part of this legislation, in 1920 the government purchased land in the town of Graton to serve as a home for local Coast Miwok and Southern Pomo peoples. This small 15.45-acre parcel became Graton Rancheria. The area was an important gathering place for local native peoples, but federal recognition of the Rancheria ended in 1958 during an era characterized by the "termination" of the tribal status of indigenous groups throughout the country. In the case of many California Indian groups, such terminations were later found to be illegal. The status of the Federated Indians of Graton Rancheria as a federally recognized tribe was restored in 2000.

Historical Overview

The earliest documented contact between the native inhabitants of the San Francisco Bay region and the Spanish occurred in 1769 when Gaspar de Portolá led an expedition through the

area. This was followed in later years by the Pedro Fages expeditions of 1770 and 1772, the Fernando Javier de Rivera expedition of 1774, and Juan Bautista de Anza's 1776 expedition. The Spanish government soon began to take an active interest in colonizing Alta California with the establishment of a series of missions, pueblos, and presidios. Once established, the missions began proselytizing to the Native Californians, beginning a process of culture change that would bring most Native peoples in the area into the mission system by 1810. At the expense of traditional skills, the neophytes were taught the horticultural and pastoral skills of the Hispanic tradition, continuing the process of social disruption begun by relocation to the missions and population decrease due to epidemic and endemic disease.

With the declaration of Mexican independence in 1821, Spanish control of Alta California ceased. However, political change did not begin in earnest until mission secularization in 1834, when the Native peoples were freed from missionary control and the mission lands were granted to private individuals. Even before official secularization, many Mexican landowners served as overseers of the mission lands. This placed the landowners in an advantageous position when the lands were divested and effectively excluded almost all the Native population from acquiring land. The rancho economy was based on raising livestock, primarily cattle, for the trade of hides and tallow for imported household goods. This rancho economy dominated the years of Mexican rule of California, creating a social structure of wealthy Californios, who employed the disenfranchised Native population as vaqueros or workers on their ranchos.

When the United States acquired Alta California from Mexico following the Treaty of Guadalupe Hidalgo in AD 1848, news of gold strikes in the Sierra Nevada sparked a huge migration of Americans into California. The latter half of the nineteenth century saw a continued American immigration into the region, which led to changes in the culture and economy of the area. As the economy shifted from gold mining to farming, dispersed farmsteads slowly replaced the immense Mexican ranchos.

Local Historic Background

Marin County was home to several of the land grants issued to private individuals in the Mexican period, and much of Marin was used to raise cattle for the hide and tallow trade. The Planning Area is located within the former Ranchos of Punta de Quentin and Corte de Madre del Presidio. The first Mexican Land Grant in Marin County, Corte de Madre del Presidio was granted to John Reed in 1834. Punta de Quentin was granted to John Cooper in 1840.Punta de Quentin included most of modern Kentfield, Ross, the San Quentin Peninsula and part of San Anselmo. After a series of owners, a portion of the Punta de Quentin land was sold to Patrick King and William Murray in 1869. This created an opportunity for Larkspur land title on the south side of Corte Madera Creek. However, the 1890 purchases of the 680-acre "Green Brae Ranch" by Patrick William Riordan, the Archbishop of the San Francisco Roman Catholic Archdiocese, limited development of lands located north of Corte Madera Creek for 50 years. Significant portions of the Planning Area located to the north and south of Corte Madera Creek began to be developed during the 1940s and into the 1980s. The Bon Air Center and

Green Brae Ranch developments resulted in the construction of single-family homes, multiple family homes, and commercial and professional office spaces.

During the late nineteenth century Corte Madera Creek provided a transportation corridor for barges carrying cordwood, hay and bricks from brickyards located at several spots along the creek. From the late 1880s to the 1920s, the popular Bon Air Hotel resort was located in the small valley just north of Corte Madera Creek, adjacent to the City of Larkspur. By the turn of the twentieth century Corte Madera Creek had transformed into a recreational area. A large lake located below Bon Air Bridge contained boating resorts and swimming areas. The area was hailed for its saltwater baths and as a summer destination. However, by 1913 runoff from surrounding hills which had been clear-cut had significantly filled the creek channel and Corte Madera Creek had become increasingly polluted with sewage).

San Quentin State Prison was completed in 1854, housing both male and female inmates. The prison was constructed utilizing rock quarried on site. Convict labor was utilized in the surrounding area for construction of buildings and roads as well as in timber and agricultural harvest. The prison was self-supporting during its early period with community gardens, hogs, and a bakery. In 1880 the prison opened a jute mill which supplying farmers with grain sacks until the mill burned down in 1951. Female inmates were removed from San Quentin in 1933 after a series of scandals. The original Warden's House was removed in 1955.

Identified Cultural Resources

The Planning Area contains both prehistoric and historical cultural resources. These resources include archaeological deposits and built-environment resources dating to the late nineteenth and early twentieth century. A total of 22 cultural resources including a historic district were identified within the City of Larkspur General Plan area. Included in these resources are a district (the Downtown Historic District) with 41 buildings listed on the *Larkspur Historic Resource Inventory*; four NRHP-listed resources; five CRHP-listed resources; and one California Historical Landmark.

Archaeological Sites

Twelve archaeological resources and one isolated prehistoric find have been identified in the Planning Area. Archaeological sites identified include prehistoric midden deposits, some of which contain human remains; a prehistoric lithic scatter and quarry; and a historic brick yard. The isolated find is a single piece of obsidian. Archaeological sites are listed and described in cultural resources report contained in the General Plan Update Existing Conditions Report.

Historical Built Environment

Much of Larkspur's charm and character is derived from its rich architectural and cultural heritage. Its historic structures are irreplaceable assets that contribute to the special and unique character of the City and are a source of identity and pride for its residents. In recognition of the importance of these resources to its community image, Larkspur has made a

major commitment to historic preservation, in both the public and private sector. Historic resources have been thoroughly reviewed and identified and a review process instituted to ensure the protection of these resources and their surroundings.

In the 1970s, the Larkspur Heritage Committee took the first steps toward an historic preservation program by surveying the City to identify historic buildings, places, and organizations. Their survey resulted in the publication of the first Larkspur Past and Present book in 1979, a comprehensive document that listed the City's historic resources and integrated historical perspectives of Larkspur's neighborhoods with accompanying walking tours. Updated versions of Larkspur Past and Present were published by the excerpts from interviews with past and present Larkspur residents, historic photos, and other historic information. Since 1979, the City Council has:

- Established an Historic Preservation Board (replacing the Heritage Committee);
- Added a Combining Heritage Preservation Zoning District to the Larkspur Zoning Ordinance which allows for application of an "H" overlay;
- Established the Historic Downtown District on the National Register of Historic Places;
- Approved a Downtown Specific Plan;
- Approved and updated an Historic Resources Inventory listing the City's designated historic resources; and
- Adopted historic development standards and design review findings intended to protect the City's historic resources.

The City's Heritage Preservation Board is charged with identifying and encouraging the conservation of Larkspur's historic resources, raising community awareness of Larkspur's history and historic resources, and serving as the City's primary resource in matters of history and the rehabilitation of historic resources. Primarily, the Board reviews development applications for structures listed on the Historic Resources Inventory for compliance with the City's heritage preservation standards and may recommend conditions of approval to the appropriate City reviewing official or body. Additionally, the Board recommends the inclusion of historic resources to the inventory and the application of "H" (Historic Overlay) zoning to the City Council and prepares and submits applications for properties determined to be eligible for listing as a State Landmark or on the National Register of Historic Places.

Historic Resources Inventory

The most recent Historic Resources Inventory was adopted by the City Council in 2008 and was a product of the efforts of Heritage Preservation Board members, volunteers, City staff, and a consulting historic architect. The inventory includes structures, sites, areas, and natural phenomena based upon a scoring system consistent with the methodology used for the California Register of Historic Resources and the Secretary of the Interior's guidelines for the National Register of Historic Places. It remains the role of the Historic Preservation Board to continue to review and update the Inventory on a regular basis.

Notable Structures of Historic Interest

Some of the more notable historical resources in Larkspur include the following.

- The Downtown Historic District is a grouping of historic buildings and sites, including City Hall. It constitutes "a capsule history of the town, as all periods of the City's history are represented. The District is listed on the National Register of Historic Places, CRHP, and City of Larkspur Historic Resources Inventory.
- The Alexander Avenue Bridge is a concrete structure arching over the former Northwestern Pacific Railroad tracks between Alexander and Acacia Avenues. It was built in 1927 and was scheduled seismically retrofitted in 2012. The Bridge is one of the last through-arch bridges remaining in California and is listed on the National Register of Historic Places, CRHP, and City of Larkspur Historic Resources Inventory.
- The Dolliver House, constructed in the new township of Larkspur in 1888, remains substantially unchanged in 2011 and is listed on the National Register of Historic Places, CRHP, and City of Larkspur Historic Resources Inventory.
- The Remillard Brick Kiln, listed on the National Register of Historic Places and a State Historic Landmark, was a booming operation from 1891 to 1915. The kiln was restored in 1991 for adaptive reuse as a restaurant during the development of an office complex adjacent on the kiln site. It is listed on NRHP, CRHP, City of Larkspur Historic Resources Inventory; State Historic Landmark #917.

2. Regulatory Setting

Federal

National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. §§ 470 Et Seq.)

NHPA is a federal law created to avoid unnecessary harm to historic properties. The NHPA includes regulations that apply specifically to federal land-holding agencies, but also includes regulations (Section 106) that pertain to all projects funded, permitted, or approved by any federal agency that have the potential to affect cultural resources. Provisions of NHPA establish a National Register of Historic Places (maintained by the National Park Service), the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), and federal grants-in-aid programs.

National Register of Historic Places

- The NRHP was established by the National Historic Preservation Act NHPA of 1966 as "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" (CFR 36 CFR 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites,

buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- associated with events that made a significant contribution to the broad patterns of our history; or
- associated with the lives of significant persons in our past; or
- embodies 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
- has yielded or may be likely to yield, information important in history or prehistory.

Secretary of the Interior's Standards

The Secretary of the Interior is responsible for establishing professional standards and providing guidance related to the preservation and protection of all cultural resources listed in or eligible for listing in the NRHP.

State

California Environmental Quality Act

Public Resources Code (PRC) Section 21083.2 (CEQA Statute) and California Code of Regulations (CCR) Section 15126.4 (CEQA Guidelines) specify lead agency responsibilities to determine whether a project may have a significant effect on archaeological resources.

CEQA Section 21083.2 sets out detailed requirements for projects for which it can be demonstrated will damage a unique archaeological resource. For such projects, 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. CEQA Section 21083.2 also details required mitigation if unique archaeological resources are not preserved in place.

CEQA Guidelines Section 15064.5 also specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These procedures include the following provisions: (1) protect such remains from disturbance, vandalism and inadvertent destruction; (2) establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and (3) establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

CEQA Guidelines Section 15064.5 states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant impact on the environment. CEQA Guidelines Section 15064.5(a) states that, for purposes of CEQA, the term "historical resources" shall include the following:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements PRC Section 5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which 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 may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register (PRC Section 5024.1, Title 14 CCR, Section 4852) including the following:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    - Has yielded, or may be likely to yield, information important in prehistory or history.

For historic resources. CEQA Guidelines Section 15064.5(b)(3) indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall be considered as mitigated to a less-than-significant level on the historic resource.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify, evaluate, and protect California’s historical resources, and indicates which properties are to be protected from substantial adverse change (Pub. Resources Code, Section 5024.1(a)). The CRHR is administered through the State Office of Historic Preservation (SHPO) that is part of the California State Parks system.

A cultural resource is evaluated under four CRHR criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria set forth in the State CEQA Guidelines at Section 15064.5(a)(3):

1. It is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;
2. It is associated with the lives of persons important in our past;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. It has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to SHPO publications,

California Native American Historical, Cultural and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. This Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies the persons most likely to be descended from the Native American remains.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act 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 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.

Assembly Bill 52

Assembly Bill 52 (AB 52), known as the Native American Historic Resource Protection Act, requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with a proposed project's geographic area, if they have requested to be notified, in order to

include California Tribes in determining if a project may result in significant impacts to TCRs. TCRs may be undocumented or known only to the Tribe. AB 52 defines a TCR as a site, feature, place, or a 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 that is either included or eligible for inclusion in the California Register or included in a local register of historical resources, or that the lead agency chooses at its discretion to treat as a TCR. When a lead agency chooses to treat a resource as a TCR, that determination shall be supported with substantial evidence, applying the criteria in the historical register and considering the significance of the resource to a California Tribe. A project that may cause substantial adverse change in the significance of a TCR is one that may have a significant effect on the environment.

Consultation with California tribes may include, but is not limited to, discussion of the type of environmental review necessary, the significance of TCRs, the significance of the proposed project impacts on the TCRs, and alternatives and mitigation measures recommended by the tribe. Mitigation measures agreed upon must be included in the environmental document. Consultation is considered concluded when the parties agree to measures to avoid or reduce a significant impact on a TCR, or 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.

Local Regulations

Larkspur General Plan 1990-2010

The existing General Plan contains goals, policies, and programs addressing protection of cultural resources in the Community Character Chapter. The plan policies are aimed at reviewing project applications to ensure that cultural and historical resources are not damaged by proposed development.

Larkspur Municipal Code

The Larkspur Municipal Code (LMC) includes provisions for protection and preservation of cultural resources in Chapter 15.42 (Archaeological Resources) and Chapter 18.19 (Heritage Preservation). Chapter 15.42 provides “procedures for studying and/or preserving valuable archaeological resources in the City.” This chapter requires that an “archaeological investigation permit” be issued prior to the issuance of a building or grading permit in those instances where such entitlements would affect archaeological resources. Chapter 15.42 also requires that “complete and accurate” records of archaeological findings be submitted to appropriate repositories. Chapter 18.19 includes provisions “for the review, evaluation, enhancement, protection and preservation of natural phenomena, structures, sites and areas that possess unique character, special architectural appearance, historical value or which generate special aesthetic or cultural interest.” This chapter allows for designation of heritage preservation combining zoning districts (H) and review by the City Heritage Preservation Board of projects that: (1) require discretionary land use permits; (2) require building permits; (3) require grading

or demolition permits for properties listed on City's Historic Resources Inventory; or (4) are located within an "H" district. The City of Larkspur Historic Resources Inventory identifies historical structures that warrant preservation and are subject to the provisions of Chapter 18.19 and 15.42. [29] The City's Heritage Preservation Board is responsible to recommend to the City Council any properties/structures that should be included on the Historic Resources Inventory. The Heritage Preservation Board also reviews Planning and Building Department permits application for any activities that would alter a historic structure included on the Historic Resource Inventory, or other structures that are deemed worthy of preservation because of historic value.

The City of Larkspur also requires implementation of a treatment plan (prepared in coordination with the Federated Indians of Graton Rancheria) that formalizes procedures for protection and treatment of Native American remains and cultural and religious artifacts.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant cultural resources and tribal resources impacts if it would:[30]

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
3. Disturb any human remains, including those interred outside of dedicated cemeteries.
4. Cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: i) Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k), or ii) 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 the PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance to a California Native American tribe.
5. Result in a cumulative impact related to cultural or tribal cultural resources.

[29] City of Larkspur City Council, Resolution No. 33/08, 2008.

[30] The analysis of project impacts on cultural resources and tribal cultural resources have been combined in this chapter due to the overlapping nature of many of these resources.

Native American Consultation

Pursuant to SB 18 and AB 52, the City contacted the Federated Indians of Graton Rancheria (FIGR) in October 2018 about the general plan update process. FIGR requested a Consultation. On April 23, 2019, City staff attended the Consultation with representatives of the Federated Indians of Graton Rancheria at FIGR's offices in Rohnert Park, California.

At the start of the CEQA review of the proposed General Plan update, a request was sent to the NAHC for a search of the Sacred Lands File and a Tribal Consultation List. The consultation list included the Federated Indians of Graton Rancheria and the Guidiville Indian Rancheria. As a Consultation had previously been held in April 2019 with representatives of FIGR, a follow-up letter explaining that the City was preparing an EIR on the General Plan 2040 and welcomed any additional input from FIGR. No response was received from FIGR. On June 27, 2021, the City sent a letter to a representative of the Guidiville Indian Rancheria. The City did not receive a response from the Guidiville Indian Rancheria.

Impact CULT-1: Implementation of the proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

Under CEQA, both prehistoric and historic archaeological sites may qualify as a historical resource based on historical associations. The following impact discussion focuses on impacts to historical architectural resources. Impacts to archaeological resources are described in Impact CULT-2, and human remains are addressed in Impact Discussion CULT-3.

As stated in the Setting section, there are numerous individual properties, structures, and a district within the EIR Planning Area that meet the CEQA definition of an historical resource. New development allowed under the proposed General Plan 2040 could either directly or indirectly adversely affect an historic resource. Therefore, the proposed General Plan 2040 would have the potential to impact historic resources.

Future development under the proposed General Plan 2040 would be required to comply with existing Federal, state, and local laws and regulations that protect historical resources. On a project-by-project basis, CEQA requires the evaluation and disclosure of significant effects on properties on historical resources listed in the National Register, California Register, or local register, and on properties determined to be significant by the lead agency or eligible for listing on the California Register.

LMC Chapter 18.64, Design Review, requires design review for new development proposals. Among other design criteria, the City reviews proposed projects to maintain the new project's relationship with the existing neighborhood. LMC Chapter 18.19, Heritage Preservation, includes specific provisions "for the review, evaluation, enhancement, protection and preservation of natural phenomena, structures, sites and areas that possess unique character, special architectural appearance, historical value or which generate special aesthetic or cultural interest." This requires review by the City Heritage Preservation Board of projects within the

Downtown Historic District or projects that require discretionary land use permits, building permits, grading or demolition permits for properties listed on City's Historic Resources Inventory. The Historic Preservation Board reviews these projects for potentially adverse impacts to the historical resources and makes a recommendation to the City decision-making body whether to accept the project application, modify it, or deny it. For demolition permit applications, the Heritage Preservation Board may stay the application approval or issue a determination whether an environmental analysis pursuant to the California Environmental Quality Act is required, and to perform any required analysis and/or request an investigation of alternatives to the proposed demolition, such as, but not limited to, seeking a new owner who is willing to preserve the historic resource, or seeking an alternate site for the resource, or seeking an adaptive reuse of the structure.

The proposed Community Character Chapter contains goals, policies, and programs that require local planning and development decisions to protect the City's historic resources and the Downtown Historic District. These goals, policies, and programs are listed below:

Goal CHAR-3: Maintenance of Larkspur's special "sense of place"

Policy CHAR-3.1: Encourage broad-based community interest in and support of preservation activities.

Action Program CHAR-3.1.a: Support the efforts of the Heritage Preservation Board and other organizations to engage and educate the community about the City's historic resources, including historic walking tours, publication of books or other written materials about the City's heritage, and presentations at local schools, libraries, and other public meeting spaces.

Policy CHAR-3.2: Identify significant historic and natural resources representing all of the ethnic, economic, and cultural groups that have lived and worked in Larkspur.

Action Program CHAR-3.2.a: Maintain and regularly update the Historic Resources Inventory, which documents historic structures, sites, areas, and natural phenomena. The Heritage Preservation Board shall continue to evaluate potential historic resources for inclusion in the inventory.

Action Program CHAR-3.2.b: Maintain updated maps showing the location of historic districts and other historic resources.

Policy CHAR-3.3: Safeguard and maintain significant historic and natural resources, as defined and listed in the Historic Resources Inventory, the California Historic Resource Information System, and in conservation land use categories on the Land Use Map.

Action Program CHAR-3.3.a: Apply the City's Heritage Preservation development standards and design review findings, when appropriate, and ensure compliance with applicable State laws during project review and construction.

Action Program CHAR-3.3.b: Apply the "H" Combining Heritage Preservation Zoning District to significant historic building sites or places identified on the Historic Resources Inventory. Insofar as possible, seek the cooperation of property owners for historic designation and zoning.

Action Program Char-3.3.c: Where possible, identify an applicable historic "period of significance" for defining the historic character of specific neighborhoods or districts.

Action Program CHAR-3.3.d: Maintain and expand the City's archival system to preserve the community's historic documents and artifacts.

Policy CHAR-3.4: Accommodate anticipated development and population growth while maintaining Larkspur's historic and natural resources.

Action Program CHAR-3.4.a: Continue to conduct outreach and educate owners of historic properties on available state or federal programs that help fund the protection, preservation, rehabilitation, and enhancement of historic and natural resources.

Action Program CHAR-3.4.b: Direct capital improvement programs toward protecting, preserving, rehabilitating, and enhancing and natural resources located within publicly-owned lands.

Action Program CHAR-3.4.c: Provide a variety of local incentives for restoring and maintaining historic and natural resources.

Action Program CHAR-3.4.d: Coordinate with other public agencies and/or tribes so that the City's objectives and standards for preserving historic and natural resources are met.

Action Program CHAR-3.4.e: Use the principles and practices of land use planning to promote the preservation of historic and natural resources.

Action Program CHAR-3.4.f: Periodically review and update zoning regulations when deficiencies relating to historic preservation are identified and consider amendments to foster historic preservation.

Action Program CHAR-3.4.g: For rehabilitation or restoration projects on private lands, the City may require applicants to hire a qualified professional with expertise in historic building renovation and may provide increased project inspection and review, as appropriate.

New development that may occur under the General Plan 2040 will be in the TRAs and HRAs in the city. Almost all the historic resources in the city are located in residential neighborhoods outside these expected growth areas. Accordingly, most new development would not be expected to affect historic resources. The HRA along Magnolia Avenue does include areas adjacent to the HRA that include some historic resources as well as the Downtown Historic District. It is expected that the strict design review guidelines for that historic district will limit new development that could affect the resources or historic integrity of that district. The growth projections for 2040 includes development of up to 300 ADUs in residential neighborhoods. Per LMC Chapter 18.23, new ADU proposals for listed historic structures are subject to the review requirements of the LMC Chapter 18.18, Heritage Preservation. Given the limited size of most ADUs and the design review requirements for additions to historic structures, it is not expected that new ADUs would substantially impact historic resources.

The City of Larkspur's intention to preserve its historic resources as the backbone of the city's definition and integrity are reflected in its General Plan 2040 goals, policies, and programs and the specific regulations set forth in its Heritage Preservation chapter of the LMC. It is again noted that demolition of known historical resources may require a CEQA analysis if the resource is particularly notable. These policies and regulations will continue, at a programmatic level, to provide protection for historical resources in Larkspur. Future project proposals will be subject to design review requirements and historic preservation requirements to ensure that the project's specific impacts are less than significant or require additional project-level mitigation. Therefore, at the programmatic level the impact is less than significant, and no additional mitigation is required.

Impact CULT-2: Implementation of the proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

As discussed in the Setting section there are a number of identified and catalogued cultural resources in the Planning Area. In addition, archaeological objects and resources that meet the definition of historical resource under CEQA Section 21084.1 or CEQA Guidelines Section 15064.5 could be present within the study area and could be damaged or destroyed by ground-disturbing construction activities (e.g., site preparation, grading, excavation, and trenching) associated with development that would be allowed under the General Plan.

The proposed General Plan 2040 Community Character Chapter contains goals, policies, and programs that require planning and development decisions to consider impacts to cultural resources, including archaeological resources. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts on archaeological resources:

Goal CHAR-4: Awareness of and sensitivity toward Larkspur's archaeological and tribal cultural resources

Policy CHAR-4.1: Consult and cooperate with the California Native American Heritage Commission, the Federated Indians of Graton Rancheria (FIGR), and the Northwest Information Center to identify, protect, and preserve Native American archaeological sites and tribal cultural resources.

Action Program CHAR-4.1.a: As required by the State Public Resources Code, notify FIGR (or another appropriate Tribe(s), if recommended by the NAHC, when a project application is complete, or when a draft General Plan update or amendment is proposed, or designated open space is proposed to determine if the Tribe(s) chooses to engage in the formal consultation process defined by State law. If consultation is requested, complete the consultation process as defined by State law.

Action Program CHAR-4.1.b: Comply with the State Public Resources Code requirements regarding notifications, assessments and disposition of resources, mitigation (including permanent conservation easements), confidentiality requirements, and other requirements enacted for review and protection of cultural and tribal cultural resources.

Action Program CHAR-4.1.c: Support the holding of conservation easements by the Tribe(s) for land voluntarily set aside in Larkspur by landowners for the protection of Native American cultural resources.

Action Program CHAR-4.1.d: Treat with respect and dignity any human remains discovered at a project site and ensure full compliance with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

Action Program CHAR-4.1.e: At the initial application stage for new projects that would involve disturbance of soils, inform project applicants of the legal mandates incumbent on the applicant and his/her contractors not to damage or remove archaeological resources and tribal cultural resources. Explain the City's duty and intent to notify FIGR about the project once the City deems the application complete. Encourage applicants to contact FIGR prior to completing the application to avoid the need to subsequently revise the project design if the Tribe requests, and the City concurs, that such changes are needed to avoid damage or disturbance of tribal cultural resources. Alternatively, the project applicant can request that the City initiate this early consultation with FIGR.

Policy CHAR-4.2: Ensure that the loss of archaeological and tribal cultural resources is avoided, when feasible, or mitigated appropriately.

Action Program CHAR-4.2.a: Seek funds from federal, state and local sources to acquire archaeological sites for park or other public purposes, and to preserve any artifacts or tribal cultural resources.

Action Program CHAR-4.2.b: When a project is found to be in proximity to a known Native American or historic archaeological site, City staff will work in conjunction with a professional archaeologist, or FIGR (or the appropriate Tribe(s)) and the Northwest Information Center to determine the particular qualities to be preserved and the methods of preservation.

Action Program CHAR-4.2.c: Comply with the requirements of the California Environmental Quality Act to ensure a complete analysis of potential impacts to Native American and historic archaeological sites and that feasible mitigation options are identified.

Action Program CHAR-4.2.d: Develop guidelines and standards to address situations where a historic or archaeological resource is discovered during any phase of construction and grading activities of ongoing maintenance or ministerial projects that may not be subject to CEQA, Provide a "quick-response" assessment of the site's significance by the City's historic or archeological consultant and identify appropriate preservation strategies, or tribal consultation if appropriate, before allowing project construction to re-commence.

The Larkspur Municipal Code (LMC) includes provisions for protection and preservation of cultural resources in Chapter 15.42 (Archaeological Resources) and Chapter 18.19 (Heritage Preservation). Chapter 15.42 provides "procedures for studying and/or preserving valuable archaeological resources in the City." This chapter requires that an "archaeological investigation permit" be issued prior to the issuance of a building or grading permit in those instances where such entitlements would affect archaeological resources. The proposed project would allow future development that would be focused in existing urban areas.

Compliance with existing federal, State, and local laws and regulations, and the proposed General Plan 2040 goals, policies, and programs listed above would protect recorded and unrecorded archaeological deposits in the study area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing impacts to archaeological deposits. However, some future projects could result in excavation at depths below the ground surface where no such excavation has previously occurred. Such excavation activities could disturb unidentified subsurface materials that have the potential to contain prehistoric archaeological resources, including unrecorded Native American prehistoric archaeological sites. In such a case, without proper consultation with Native American Tribes (specifically FIGR), impacts to archaeological resources would be significant.

Mitigation Measures

Mitigation Measure CULT-1: To ensure sites where archaeological resources are unearthed during the construction phase of development projects are mitigated to an acceptable level, the City shall add Action Program CHAR-4.2.e to develop an Archaeological Resources Ordinance.

Action Program CHAR-4.2.e: Add the following construction best management practices to the Larkspur Municipal l Code Chapter 14.42.040 (C) to follow if a potentially significant archaeological resource or tribal cultural resource is encountered during ground disturbing activities. Best management practices could include:

- All construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study.
- All developers, contractors, and subcontractors in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement.
- Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archaeologist.
- If the resource is a tribal resource, the consulting archaeologist shall consult with the appropriate tribe to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find, proposed project design, costs, and other considerations.
- If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented.
- If the resource is a nontribal resource determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant.
- The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources.
- The report shall be submitted to the City of Larkspur, Northwest Information Center, and State Historic Preservation Office, if required.

Impact Significance After Mitigation

Adding Action Program CHAR-4.2.e to the General Plan 2040 will further ensure that currently unknown cultural resources and tribal resources, including any discovered when preparing the

RMP on the State-owned property near San Quentin Prison, are preserved, protected, and/or evaluated, assessed, and curated. The recommended mitigation would reduce the impact to a less-than-significant level, and no additional mitigation is required at the programmatic level of analysis.

Impact CULT-3: Implementation of the proposed project would not disturb any human remains, including those interred outside of dedicated cemeteries.

Human remains associated with precontact archaeological deposits could exist in the Planning Area and could be encountered at the time potential future development occurs. The associated ground-disturbing activities, such as site grading and trenching for utilities, have the potential to disturb human remains interred outside of formal cemeteries. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The Marin 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. 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 of the MLD, andmediation 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.

The Community Character Chapter includes Program CHAR-4.1.d that specifies that human remains be treated with respect and dignity any human remains discovered at a project site and ensure full compliance with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

At a program level of analysis, continued compliance with existing laws and regulations regarding discovered human remains would reduce the impact of new development in Larkspur and its SOI to such remains to a less-than-significant level.

Impact CULT-4 Implementation of the proposed project would not cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: i) Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k), or ii) 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 the PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance to a California Native American tribe.

As discussed under impact discussions CULT-2 and CULT-3, impacts from potential future development in the Planning Area could impact unknown archaeological resources, including Native American artifacts and human remains.

Compliance with existing federal, State, and local laws and regulations, and the General Plan 2040 goals, policies, and programs listed under CULT-2 would protect unrecorded TCRs in the EIR Study Area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation. Furthermore, implementation of Mitigation Measure CULT-1 would reduce any impacts to a TCR discovered in the Larkspur Planning Area as a result of future development under the proposed project.

At a programmatic level of analysis, implementation of Mitigation Measure CULT-1 would reduce the potential impact to TCRs to a less-than-significant level.

Impact CULT-5 Implementation of the proposed project would cause impacts that are not cumulatively considerable when viewed in connection with the effects of past, present, and reasonably foreseeable projects.

The impacts of potential future development on culturalresources and TCRs tend to be site specific. Cumulative impacts would occur when a series of actions lead to the loss of a substantial number of sites, buildings, or resources. For example, while the loss of a single historic building may not be significant to the character of a neighborhood, continued loss of such resources could constitute a significant cumulative effect.

Future development allowed under the General Plan 2040 would be primarily located in the PDAs surrounding the Smart Station and Ferry Terminal and in HRAs along Highway 101, Sir Francis Drake Boulevard (west of Highway 101), and Magnolia Avenue. There are no historic buildings in these areas except for the southern portion of Magnolia Avenue from the Escalle Winery property (771 Magnolia Avenue) to 47 Magnolia Avenue (including the Downtown Historic District). As described in Impact CULT-1, the City has adopted strict regulations to preserve its historic resources. Chapter 18.19, Heritage Preservation, requires any discretionary land use permit, building permit, grading or demolition permit for properties listed on the official historic resources inventory, determined to be eligible for inclusion on the historic resources inventory, or located within the H District shall be subject to the requirements of this chapter to preserve the property and character of the Historic District. Chapter 18.64, Design Review, also includes requirements that new development be harmonious with the surrounding neighborhood. Most structures listed in the historic resources inventory, except those in the

Downtown Historic District, are located in older residential neighborhoods. As noted previously, development in these neighborhoods would be expected to be new ADUs built on existing residential properties. The size of such units (850 square feet for one-bedroom and studio units; larger for 2-and 3-bedroom units), the development standards they must meet would not be expected to substantially change the Downtown Historic District or other residential areas containing historic structures. It is not expected that these ADUs would be so concentrated in any given neighborhood to result in a cumulative adverse impact on the historic character of the neighborhood. Therefore, there would not be a significant cumulative impact on historic resources in the city.

As previously discussed, impacts to archaeological resources, human remains, or TCR's identified within the areas of potential development in the EIR study area and implementation of Mitigation Measure CULT-1 would reduce these impacts to a less-than-significant level. Additionally, the existing federal, State, and local regulations and General Plan goals, policies and programs described throughout this chapter serve to protect cultural resources in Larkspur. Continued compliance with these regulations substantially decrease potential impacts to historical resources, archaeological resources, human remains, and TCRs to the maximum extent practicable.

4.5 Energy

1. Environmental Setting

This section of the EIR is intended to provide an overall perspective on energy consumption to address the requirement in CEQA, PRC section 21100(b)(3) that an EIR include mitigation measures that are proposed to reduce the wasteful, inefficient, and unnecessary consumption of energy.

Energy resources include electricity, natural gas, and other fuels. The production of electricity and other usable energy often requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into usable energy. Energy production and use can each result in the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants.

Energy usage related to the proposed General Plan 2040 includes direct consumption for heating and cooling, electric facilities, and lighting. Indirect energy consumption is associated with the generation of electricity at power plants. Transportation-related energy consumption includes the use of fuels and electricity to power cars, trucks, and public transportation. Energy is also consumed by equipment and vehicles used during project construction. This analysis considers whether the proposed General Plan 2040 would result in inefficient, wasteful, and unnecessary consumption of energy. Energy consumption as an environmental impact is also evaluated and discussed in other sections of the Draft EIR, including Section 4.2, Air Quality; Section 4.7, Greenhouse Gas Emissions; Section 4.14, Transportation; and Section 4.15, Utilities and Service Systems.

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. Electricity consumption within Marin County for 2018 is displayed in Table 4.5-1.

Table 4.5-1: Electricity Consumption within Marin County (2020)

SECTOR	GWH	PERCENT
NON-RESIDENTIAL	630	51.2%
RESIDENTIAL	700	48.8%
TOTAL	1,330	100.0%

Source: California Energy Commission, Electricity Consumption by County, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, Accessed January 5, 2021.

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. Natural gas is provided to the City of Larkspur through PG&E. PG&E provides natural gas services within 48 counties in California with a total service area of approximately 70,000 square miles in northern and central California. Natural gas consumption within Marin County for 2020 was approximate 67 million therms.[31]

Marin Climate & Energy Partnership (MCEP)

Created in 2007, the mission of the Marin Climate & Energy Partnership (MCEP) is to reduce GHG emissions levels to the targets of Marin County and local municipalities, consistent with the standards set by AB32 (2006). All eleven Marin Cities and towns, Marin County, Transportation Authority of Marin, Marin Municipal Water District, and Marin Clean Energy are members. MCEP identifies mutual measures to reduce community-wide GHG emissions and develops policies and programs to support priority measures. The city received support from MCEP staff on the Climate Action Plan 2040.

Marin Clean Energy

Marin Clean Energy (MCE) is the default electricity provider for all communities in Marin County, including Larkspur, and several other communities in the San Francisco Bay Area. As a Community Choice Aggregation program and not-for-profit public agency, MCE is independently run by representatives from participating communities. MCE provides electricity generated from renewable sources such as solar, wind, bioenergy, geothermal, and hydropower, which is delivered to customers through Pacific Gas and Electric Company (PG&E) transmission lines. Individuals residing in participating areas are automatically enrolled in MCE, and individuals residing or working within the MCE service area are automatically enrolled in MCE.

MCE offers four program options; the Light Green program, which provides 60 percent renewable power service; the Deep Green program, which provides 100 percent renewable power service from solar and wind sources in California; the Local Sol program, which provides 100 percent locally produced solar power from the Novato Cooley Quarry solar farm; and the Opt-Out program, which means individuals are receiving their electricity through PG&E with no substitution by MCE. All electric energy provided by MCE is conveyed to customers through

[31] California Energy Commission. Gas Consumption by County. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx. Accessed January 5, 2021.

PG&E's existing infrastructure. PG&E continues to maintain the grid, repair lines, and conduct customer billing within the MCE service area. The Planning Area is currently serviced with electricity from MCE and PG&E. Customers are automatically enrolled in the MCE light green program which uses 60 percent renewable energy. Customers can either opt-up to a 100 percent renewable electricity service or can opt-out of the light green program to receive all their electricity from PG&E.

Pacific Gas and Electric Company

PG&E provides natural gas services to the Planning Area and provides electricity services to customers who have opted out of participating in MCE. PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. PG&E owns and maintains above- and below-ground networks of electric and gas transmission and distribution facilities throughout the Planning Area.

PG&E's natural gas (methane) pipe delivery system includes 42,141 miles of distribution pipelines, and 6,438 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, the US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.3 million gas customers in northern and central California. The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. A new program, the Pipeline 2020 program, aims to modernize critical pipeline infrastructure,expand the use of automatic or remotely-operated shut-off valves, catalyze development of next- generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.

2. Regulatory Framework

In the past two decades, a long list of new laws, regulations, acts, and standards have been adopted by the federal, State, and local governments to reduce energy use and make needed energy use more efficient. The following briefly summarizes some of the more pertinent regulations and laws.

State Regulations

California Public Utilities Commission

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. The Long Term Energy Efficiency Strategic 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;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, ventilation, and air conditioning, commonly referred to as "HVAC," will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

California Building Code: Building Energy Efficiency Standards

The State provides a minimum standard for energy conservation through Part 6 of Title 24 of the California Code of Regulations, commonly referred to as the "California Energy Code." The California Energy Code was originally adopted in June 1977 and is updated on a three-year cycle. Title 24 requires the design of building shells and building components to conserve energy. The 2019 California Energy Code standards, adopted by the City, move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic (PV) systems for single-family homes and multifamily buildings of three stories and less. Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient compared to the 2016 standards, and single-family homes are 7 percent more energy efficient. When accounting for the electricity generated by the solar PV system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards. The City regularly adopts updates under the Larkspur Municipal Code (LMC).

California Building Code: CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code, also known as CALGreen, in Part 11 of Title 24. CALGreen establishes standards that apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State, unless otherwise indicated in the California Building Standards Code.

Renewables Portfolio Standard

Established in 2002 under Senate Bill (SB) 1078 and accelerated by several laws, most recently SB 100 in 2018, California's Renewables Portfolio Standard obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from eligible renewable energy sources by 2020, 60 percent from eligible renewable energy sources by 2030, and 100 percent from eligible renewable energy or other carbon-free sources by 2045. SB 100 establishes a 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.

Senate Bill 350

SB 350, signed into law on October 7, 2015, includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required California Air Resources Board (CARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks.

The second phase of the implementation for the Pavley Bill was incorporated into amendments to the Low-Emission Vehicle Program referred to as "LEV III" or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel- powered cars and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

State Greenhouse Gas Regulations

Many of the regulations for GHG reductions focus on decreasing energy use through increasing energy efficiency, fuel efficiency, and land use patterns that discourage single-occupancy vehicles. The following regulations create a nexus between energy and GHG emissions or transportation, and are described in more detail in Chapter 4.7, Greenhouse Gas Emissions, and Chapter 4.16, Transportation, of this Draft Environmental Impact Report (EIR):

- Executive Order S-03-05. Signed June 1, 2005, Executive Order (EO) S-03-05 GHG reduction targets for the State: 2000 levels by 2010; 1990 levels by 2020; and 80 percent below 1990 levels by 2050.
- The Global Warming Solutions Act. This act, also referred to as AB 32, was passed by the California legislature on August 31, 2006, to place the State on a course to reduce its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05.
- CARB Scoping Plan. The 2017 CARB Scoping Plan is the most recent version of this plan and it is updated every five years. Major elements of the 2017 Scoping Plan framework include implementing Mobile Source Strategy, the Low Carbon Fuel Standard, and implementation of SB 350 (described above).
- Sustainable Communities and Climate Protection Act. In 2008, SB 375, the Sustainable Communitiesand Climate Protection Act, was adopted with the intent 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, commonly referred to as "VMT" and vehicle trips.
- Executive Order B-30-15. Signed April 29, 2015, EO B-30-15 sets a goal of reducing GHG emissions inthe State to 40 percent below 1990 levels by year 2030. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, to ensure climate change is accounted for in State planning and investment decisions.
- Senate Bill 32. Signed in September 2016, SB 32 (California Health and Safety Code Section 38566) made the EO B-30-15 goal for year 2030 into a statewide mandated legislative target.
- Senate Bill 1383. Signed on September 19, 2016, SB 1383 supplements the GHG reduction strategies in the CARB Scoping Plan to consider short-lived climate pollutants. SB 1383 establishes targets for reducing organic waste in landfills.

Regional Regulations

Plan Bay Area: Strategy for a Sustainable Region

As described in Chapter 4.0, Environmental Analysis, of this Draft EIR, Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) are regional planning agencies tasked with coordinating land use and transportation planning in the Bay Area, including development of the Bay Area's Regional Transportation Plan/Sustainable Communities Strategy, known as Plan Bay Area.

Local Regulations

Larkspur Municipal Code

The following chapters address energy use.

- Chapter 15.08 California Building Code (2019 Edition). This chapter adopts the California Building Code including energy conservation standards.
- Chapter 15.14 California Energy Code (2019 Edition). This chapter adopts the California Energy Code in its entirety.
- Chapter 15.17 California Green Building Standards Code (2019 Edition). This chapter adopts the Green Building Standards Code excluding Division A5.2 (Energy Efficiency_.
- Larkspur Climate Action Plan 2030

The Larkspur Climate Action Plan (CAP), adopted in 2021, contains policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. The CAP establishes targets similar to the State's GHG emission goals, to reduce emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. Strategies that are relevant to the analysis of potential energy impacts and conservation actions within the Planning Area are provided in more detail in Chapter 4.7, Greenhouse Gas Emissions.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to energy if it would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.
3. Result in significant cumulative impacts related to energy demand, energy conservation, and energy infrastructure.

Impact E-1: Implementation of the proposed project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Constructing and occupying new development will consume energy. The federal and State governments continue to revise regulations and standards to require reduced energy use in buildings, vehicles, tools, household goods, and other sectors. The Larkspur General Plan 2040 has a principal focus of reducing energy consumption in order to reduce GHG emissions. The Sustainability Chapter of the General Plan 2040 lists and discusses the numerous policies and programs. These include such policies and programs as the following.

1. Land Use Policies 3.1, 3.4, and 3.5 allow higher density residential development in commercial centers.
2. Several Land Use policies allow upper floor residential development in shopping centers, Downtown, and the North Magnolia Commercial Corridor.

3. Land Use Policy 12.5 promotes energy efficient and green building practices for new, rehabilitated, or remodeled development, including recommended Green Building, Energy Efficiency and Renewable Energy programs in the City's CAP and the Green Building standards in the City Municipal Code.
4. Several Land Use policies and programs encourage implementation of pedestrian and bicycle facilities in commercial areas, linkages between commercial areas and surrounding neighborhoods, and also encourage a mix of commercial uses to serve the local community to reduce vehicle trips for services and goods.
5. Housing Policies 12.1 and 12.2 call for energy efficiency and resource conservation in new and existing residences.
6. Several Housing policies encourage energy conservation though energy efficient design and equipment.
7. Health & Safety Policy 10.1 recommends regularly updating the CAP and monitoring of the progress towards meeting established GHG goals and development codes to implement the recommended Green Building, Energy Efficiency and Renewable Energy programs and promote state-of-the-art energy efficiency in new homes and remodels.
8. Circulation Policy 1.1 calls for developing a coordinated system of transportation options to serve all users. This includes developing Complete Streets that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets for safe and convenient travel.
9. Circulation Policy 3.3 recommends developing high intensity land uses in near proximity to transit routes and transportation facilities.
10. Circulation Policy 4.2 calls for developing a policy for new development to achieve a minimum percentage reduction in Vehicle Miles Traveled (VMT) per capita or per service population.
11. Several Circulation policies under Goal 6 encourage use of various alternative modes of travel to and between retail areas.
12. Circulation Policy 7.2 aims to develop and maintain paths and bicycle lanes and routes linking Larkspur to neighboring communities.
13. The City's Bicycle & Pedestrian Master Plan, which was prepared to be consistent with the General Plan, contains policies to encourage and enhance pedestrian and bicycling access.
14. The CAP contains numerous recommendations to increase the use of renewable energy, including use of electric vehicles; energy efferent upgrades for buildings, lights, and pumps; solar energy systems; GHG-free energy generation; building and appliance electrification; innovative technologies; and energy efficiency protocols.
15. The CAP includes recommendations to increase the use of alternative modes of transit and ridesharing, reduce VMT for new City operations and programs, accelerate installation of infrastructure to support electric vehicles, and encourage sustainable transportation modes.
16. Several Housing Chapter policies allow higher density development, encourage infill and mixed commercial and residential uses on commercially zoned properties.

It is expected that Larkspur residents in 2040 will use less, and likely substantially less, energy per capita than current residents use. The following discussion provides a more detailed look at energy use and reduction.

Potential future development in the Planning Area would require the use of construction equipment for grading, hauling, and building activities. The majority of construction equipment during demolition and grading would be gas or diesel powered while other equipment used during building construction would be electricity powered. Construction would also include travel by workers as well as haul trucks for the export of materials from site clearing and the export and import of soil for grading. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode

New development would be subject to energy conservation requirements in the California Energy Code (Title 24, Part 6, of the CCR, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and CALGreen (Title 24, Part 11 of the CCR).

The LMC contains rules and regulations to reduce energy usage during demolition and construction. LMC Chapter 15.26 requires recycling unused materials generated during construction away from landfills. All project applicants are required to complete and submit a demolition and recycling report that requires certification of a 90 percent diversion rate.

Furthermore, the construction contractors are required to minimize nonessential idling of construction equipment during construction, in accordance with California Code of Regulations, Title 13, Section 2449(d)(2) of Article 4.8, Chapter 9. Such required practices would limit wasteful and unnecessary energy consumption. Construction vehicles must comply with the CAFE standards, which include targets for gallons of fuel consumed per mile. Therefore, short-term construction activities that occur as a result of implementation of the proposed General Plan 2040 would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operation of new development projects accommodated under the General Plan 2040 would create additional demands for electricity and natural gas, and diesel or gasoline for some types of motorized vehicles used for transportation when compared to existing conditions. Operational use of electricity and natural gas would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; lighting; and charging electric vehicles. Operational use of gasoline and diesel would include motorized equipment such as emergency generators, vehicles, and available public transit such as buses and trains.

Transportation

Energy usage associated with transportation was computed using the California Air Resources Board's EMFAC2021 emission factor model and projected traffic activity. The model reports fuel usage and electric consumption for the different vehicle technology types: gasoline, diesel, electric, hybrid and natural gas. Fuel use consumption (i.e., gasoline, diesel and natural gas) rates were converted to kilo watt hours. The traffic analysis shows vehicles miles travelled

(VMT) for existing and 2040 General Plan conditions. Energy associated with transportation in Larkspur is primarily from on-road vehicle travel. While adding 1,340 new dwelling units, buildout of the General Plan 2040 would increase VMT by 7,355 miles per day over existing conditions. Energy usage rates were applied to the VMT forecasts to compute daily transportation energy usage that is reported in Table 4.5-2.

Transportation energy usage is anticipated to decrease by 25 percent under the General Plan 2040 conditions as passenger vehicles become mere energy-efficient and the rate of vehicle activity per capita decreases. Energy usage also decreases as the rate of motor vehicle travel decreases. Under the General Plan 2040, VMT per capita is forecasted to decrease by nearly 16 percent. Meeting the Larkspur CAP Measure *LCT-C1: Zero Emission Vehicles*, would increase electric vehicle use in Larkspur to 33 percent, which would decrease energy usage further as electric vehicles are more energy-efficient than traditional gasoline or diesel vehicles.

In conjunction with the regulatory acts (i.e., Renewables Portfolio Standard, SB 350, and SB 100) and the general trend toward increasing the supply and production of energy from renewable sources, it is anticipated that a greater share of electricity used to power electric vehicles would be from renewable sources in future years. In addition to regulatory compliance that would contribute to more fuel-efficient vehicles and less demand for fuels, the proposed General Plan 2040 includes goals, policies, and programs previously listed that would contribute to efficient energy and fuel use. Because transportation is a leading source of energy use in Larkspur, many goals and policies in the proposed General Plan 2040 appear in the Circulation Chapter. These proposed goals, policies, and programs focus on minimizing VMT through land use and transportation planning efforts that work in conjunction. Goal CIR1 supports local streets that are safe, attractive, and provide easy access to homes and businesses, thus encouraging biking and walking. Policies aim to reduce VMT, and therefore reduce energy use from the transportation sector, by encouraging carpooling, working from home, flextime, micromobility (e-bikes, e-scooters), and similar strategies. Policies also support a continued shift to cleaner fuel vehicles and more electric charging stations. Goal CIR-6, Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles travelled, and transportation-related sources of air pollution and energy consumption, supports a more robust public transit system and bicycle and pedestrian facilities, to make it easier to travel without a car. And it supports pedestrian and bicycle improvements, making it safer and easier to walk or cycle around the city. Policies and programs under Goal CIR-6 also support parking to accommodate a more sustainable transportation system, including parking for transit users and charging stations for electric vehicles. Collectively, this goal and policies would minimize overall VMT, and thus fuel usage associated with potential future development in Larkspur.

Furthermore, most of the potential new population opportunities would occur within the TRAs or HRAs, and on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing residential and residential-serving development, thus contributing to reduced energy use from the transportation sector. Placing residential and nonresidential uses near each other to create

self- sustaining communities and neighborhoods and offering mixed-used developments, could result in shorter distances traveled between where people work and live and to amenities. The shorter distances reduce VMT by reducing the average vehicle trip distance traveled. It also encourages people to forego vehicle travel altogether and either bike, walk, or take public transportation, which would also contributeto minimizing VMT.

Electricity Consumption

While the electricity and natural gas demand for the potential future development in the Planning Area would increase compared to existing conditions, potential future development would be required to comply with the current and future updates to the Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11), which would contribute to reducing the energy demands. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1609), which would ensure the use of efficient and non-wasteful electricity and natural gas consumption. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings. It is anticipated that each update to the Building Energy Efficiency Standards and CALGreen will result in greater building energy efficiency and move closer toward buildings achieving zero net energy.

The 2020 version of the CalEEMod model was used to compute electricity consumption from residential uses in Larkspur. Electricity consumption under the General Plan 2040 would primarily change due to the addition of new residential dwelling units. Assuming most new residential development would be multi-family housing and using current electricity consumption rates (based on 2019 Title 24 Building Standards), additional housing would consume about 620 kw per day. This is compared to about 3,800 kw per day consumed by existing housing in Larkspur. Future electricity needs are anticipated to be mostly provided by renewable sources. For example, CAP Measure RE-C2: GHG-Free Electricity encourages electricity users in Larkspur to switch to 100-percent renewable electricity plans while working to ensure that Marin Clean Energy reaches its goal to become 100-percent renewable electricity by 2022.

Table 4.5-2: Larkspur VMT and Energy Usage in Kilowatt Hours (kw)

Scenario	Population	Daily Trips	Daily VMT	VMT per Capita	Dwelling Units	Energy Usage (kw/day)	Use w/33% Electric Vehicle Goal (kw/day)
Existing	12,400	41,761	193,775	15.6	6,306	303,108	NA
2040 No Project	13,604	41,761	185,010	13.6	6,306	214,453	NA
General Plan Buildout 2040	15,154	48,243	201,130	13.3	7,646	233,138	227,277
Net Change	2,764	6,482	2,073	(2.5)	1,340	(69,970)	(75,831)

Notes: Daily Trip and VMT data from Parisi Transportation Consultants, December 2021

Natural Gas Consumption

The 2020 version of the CalEEMod model was used to compute natural gas consumption from residential uses in Larkspur. Natural gas consumption is from water and space heating, clothes dryers and cooking. Some homes have natural gas-fired hearths. Residential natural gas usage in Larkspur is currently estimated at about 693 million British Thermal Units (mmBTU) per day. Under the General Plan 2040 with adopted CAP Renewable Energy Measure RE-C3 to prohibit new residential natural gas hookups, there would be virtually no increase in natural gas usage.

Summary

Overall, compliance with federal, State, and local regulations (e.g., Building Energy Efficiency Standards, CALGreen, Renewables Portfolio Standard, and CAFE standards) would increase building energy efficiency and vehicle fuel efficiency and reduce building energy demand and transportation-related fuel usage.

Additionally, the proposed General Plan 2040 includes goals, policies, and programs related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that will contribute to minimizing building and transportation-related energy demands overall and demands on nonrenewable sources of energy. Implementation of proposed policies under the proposed General Plan 2040 in conjunction with and complementary to regulatory requirements, will ensure that energy demand associated with growth under the proposed General Plan 2040 would not be inefficient, wasteful, or unnecessary. As shown on Table 4.5-2, there would be a decrease in the VMT per capita and an overall decrease in energy use by 2040. Energy uses resulting from development of up to 8 residential lots on the State-owned parcel are part of the projected General Plan buildout energy usage shown in Table 4.5-2. Providing a land use classification

and pre-zoning for this parcel would not result in any new or substantially greater air quality impacts than described in this Air Quality section of this EIR.

Therefore, energy impacts associated with implementation and operation of land uses, including up to 8 possible residences on the State-owned parcel near San Quentin, accommodated under the General Plan 2040 would be less than significant.

Impact E-2: Implementation of the proposed project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

The Planning Area is currently serviced with electricity from MCE and PG&E. Customers are automatically enrolled in the MCE light green program, which uses 60 percent renewable energy and can opt-up to a 100 percent renewable electricity service. Even if customers in the Planning Area were to opt-out of the light green program and receive all their electricity from PG&E, 33 percent of PG&E's electricity is generated from renewable energy. Thus, additional energy that would be consumed due to implementation of the proposed General Plan 2040 is anticipated to be consistent with the California 2025 renewable energy goal of 50 percent renewable generation by 2025.

The land uses accommodated under the proposed General Plan 2040 would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. The net increase in energy demand associated with implementation of the proposed General Plan 2040 would be within the service capabilities of MCE and PG&E and would not impede their ability to implement California's renewable energy goals. Therefore, implementation of the proposed General Plan 2040 would not conflict with or obstruct implementation of California's Renewables Portfolio Standard program, and no impact would occur.

Plan Bay Area 2050

Implementation of the proposed General Plan 2040 would be consistent with *Plan Bay Area 2050*, as most of the projected buildout would occur in the city's two PDAs and three HRAs. Potential future development would occur as new ADUs or in the form of infill/redevelopment on sites either already developed and/or underutilized and in areas with close proximity to public transportation. This type of development promotes the densification of land uses, which would reduce vehicle fuel use and per-capita energy consumption. The project meets ABAGs targets for the city's share of new housing development and the *Plan Bay Area 2050* development goals. Therefore, the project would be consistent with the goals of *Plan Bay Area 2050.*

Larkspur Climate Action Plan 2030

The City's Climate Action Plan 2030 aims to reduce GHG emissions and includes a variety of regulatory, incentive-based, and voluntary strategies to reduce emissions from existing and future development in the city. It contains recommendations and actions focused on the reduction of GHG emissions and the conservation of energy in government and community

sectors. Actions provided in the CAP to meet the City's reduction targets involve initiatives focused on low-carbon transportation, energy efficiency, renewable energy, waste reduction, water conservation, sequestration and adaptation, and community engagement, all which serve to reduce energy use and ensure the efficient use of energy.

The proposed General Plan 2040 includes goals, policies, and programs previously listed under Impact E-1 that increase energy efficiency and use of renewable sources of energy throughout the city. These goals, policies, and programs would contribute to the reduction in energy demand throughout the city. Accordingly. implementation of the proposed General Plan 2040 would not interfere with the goals and measures of the City's CAP, and impacts would be less than significant.

Impact E-3: Implementation of the proposed project could result in a cumulatively considerable impact to energy conservation and renewable energy.

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 residential and commercial development projects within the Planning Area would be within the service area of MCE and PG&E. All these projects would result in a long-term increase in operational energy demand for electricity and natural gas use. In addition, construction activities would require the use of energy. However, all projects would implement the requirements of the Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6), the California Green Building Code (California Code of Regulations, Title 24, Part 11), and the Larkspur CAP. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations. Future projects would also implement renewable energy measures in the Larkspur CAP, once adopted, and the proposed goals, policies, and programs of the Larkspur General Plan 2040.

Future development would generate additional vehicle trips, as discussed in detail in Section 4.14, Transportation, thereby increasing annual fuel consumption. However, vehicles would be subject to the USEPA CAFE standards for vehicular fuel efficiency, and average fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program.

These measures would contribute toward minimizing inefficient, wasteful, or unnecessary energy consumption, and ensure compliance with State, regional, or local plans for renewable energy. Therefore, the proposed project would not result in a cumulatively considerable contribution to energy impacts, and cumulative impacts would therefore be less than significant.

4.6 Geology, Soils, and Seismicity

Much of the information presented below on the geologic and soils setting was taken from the Administrative Draft Existing Conditions Report for the City's General Plan Update (Nicols-Berman Environmental Planning, October 2013). This report is available for review at the office of the Larkspur Planning Division.

1. Setting

Topography

The Planning Area is located in the southeastern portion of Marin County within the Coast Range geomorphic province of California. The Coast northwest-southeast trending ridges and valleys, which are typical of this portion of Marin County. The San Francisco Bay is the eastern boundary, and the northeast-facing slopes of Mount Tamalpais is the western boundary of the Planning Area. The northwest-trending Southern Heights Ridge and San Quentin Peninsula form the northern boundary, while northwest-trending Corte Madera Ridge is the southern boundary. The highest elevation within the Planning Area (1,031 feet) is adjacent to the southernmost boundary on Corte Madera Ridge.

Nestled adjacent to hillside ridges lies the low-lying portions of the Planning Area, which are within the relatively level, southeast-trending Corte Madera Creek drainage that flows into San Francisco Bay. The majority of this area was originally a wide valley of tidal marsh that has been covered with development over time and is essentially bounded by Sir Francis Drake Boulevard on the north and Magnolia Avenue on the south. Within the flatland area, several erosion-resistant small hills or knolls rise above the flat-lying urbanized marshland, including, the larger Bon Air Hill to the north and Palm Hill to the south.

Geology

Franciscan Complex

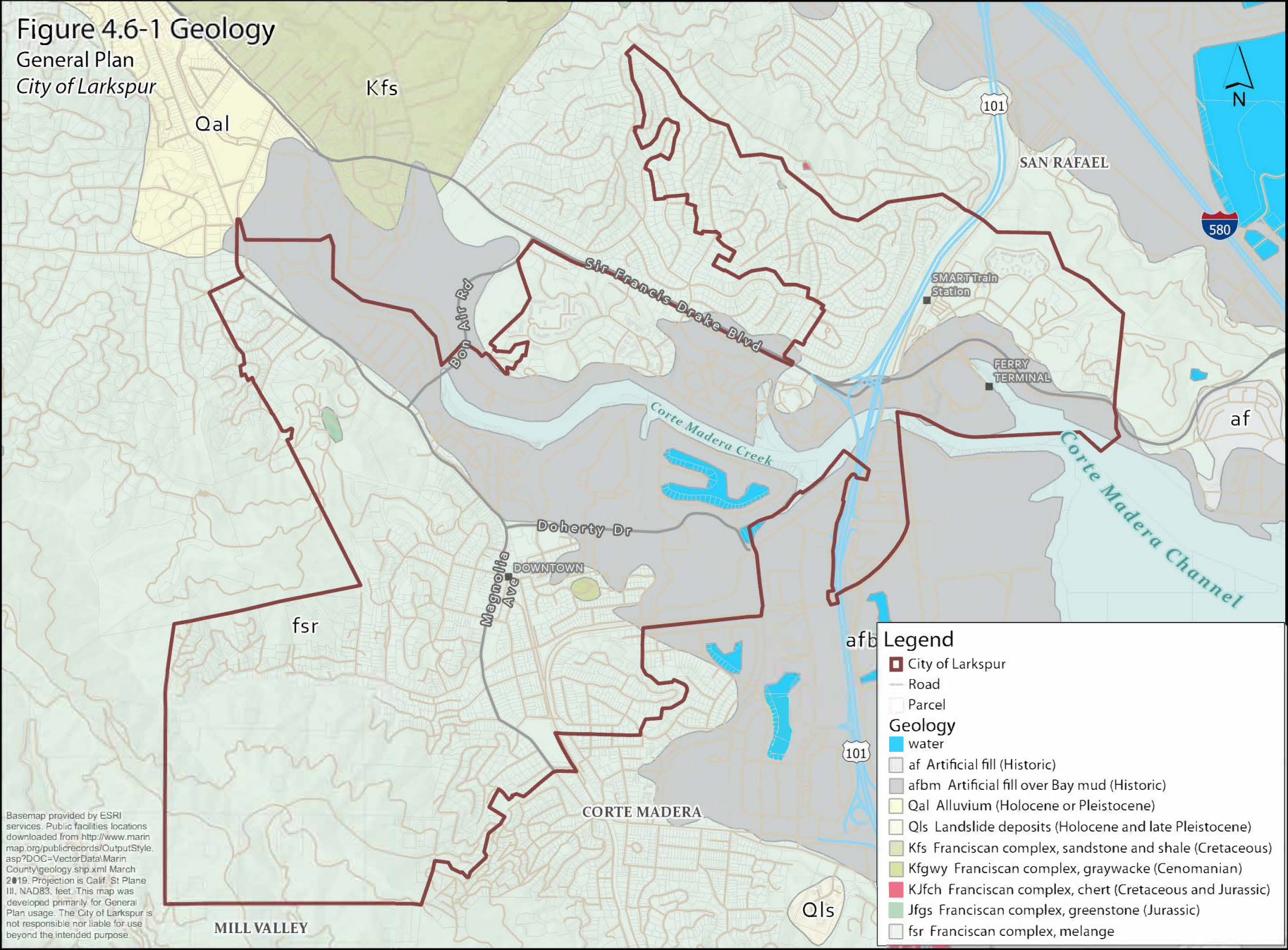
Geology in the Planning Area is dominated by the metamorphic bedrock of the Franciscan Complex terrane, as shown in Figure 4.6-1. The Franciscan Complex is Cretaceous- and Jurassic-age bedrock, which has been broken and sheared by tectonic forces. The result is a disrupted mass of hard rock types embedded in a fine-grained matrix, which has been sheared and crushed. This assemblage or "mélange" unit is found throughout Marin County.

The Franciscan Complex underlying the Planning Area can be separated out into two main rock types: The Cretaceous-age sandstone and shale and the Franciscan mélange. A significant portion of the hillside areas in the western half of the Planning Area is mapped as being underlain by sandstone and shale. The sandstone and shale bedrock are generally defined as massive or thickly bedded, medium to coarse-grained sandstone, massive to well bedded mudstone or siltstone, and thinly interbedded sandstone and shale.

Figure 4.6-1 Geology

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=VectorData\Marin County\geology.shp.xml March 2019. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Franciscan mélange is mapped as underlying portions of the northern and southern bounding ridges, but it is the predominate bedrock in the hillside areas of Southern Heights Ridge, San Quentin Peninsula and Bon Air Hill. This material is described as a matrix of sheared or pulverized rock material containing scattered small to large shear-resistant blocks of various rock types, especially sandstone, greenstone, chert and serpentine. Mélange matrix is largely ground-up sandstone and shale, but crushed debris derived from other rocks, especially greenstone, give it different properties when present.

In the mélange, the comparatively low strength of the fine-grained matrix generally exerts a noticeable effect on slope stability and is a major influence on landslides. Varying slope stabilities in the area result from differential inherent strengths of the various components of the assemblage. Therefore, this mélange presents inherent problems both in slope stability and through the shrink-swell process of expansive soils. A significant number of the landslides within the Planning Area are mapped as debris flow landslides within the mélange.

Surficial Deposits

Within the low-lying valley areas, the bedrock is overlain by younger surficial deposits. The youngest deposits are loose and soft sediments deposited within the last 10,000 years. These deposits are typically those that are the most susceptible to strong seismic ground shaking, liquefaction and differential settlement. In many locations, deposition of surficial sediments is an ongoing process. The surficial deposits within the Planning Area include landslides deposits, bay mud, alluvium and colluvium. Anthropogenic made surficial deposits include artificial fill and artificial fill over bay mud.

A significant portion of the flat lying portions of the Planning Area, between Sir Francis Drake Boulevard to the north and Magnolia Avenue to the south, is underlain by artificial fill over bay mud deposits. The properties associated with young bay muds have been well known for some time. They are mostly at or below mean sea level; these are thick deposits of unconsolidated, low-density, semi-fluid, highly compressible, highly impermeable silty clay. Bay mud is plastic and swells when wet but shrinks and becomes hard when dry. In places where dikes have excluded tide water for many decades, the surface consists of a partly dried, somewhat firm crust as much as a few feet thick, but such crusts are underlain by the soft, saturated mud described above.

Alluvium and colluvium are found at the margins of the hillside areas. Alluvium consists of unconsolidated deposits of clay, silt, sand and gravel that has been transported and deposited by streams. Colluvium is derived from unconsolidated and unsorted soil and weathered rock fragments that have accumulated on or at the base of slopes from slope erosion processes, including landsliding.

Soils

The Soil Survey of Marin County identifies several soil types within the Planning Area [32] Soils naturally develop due to the interaction of several environmental factors that include climate, plants and animals, topographic relief, parent material and time. Table GS-1 lists the soil types found within the Planning Area and includes their slope angle, shrink-swell potential, and corrosivity to uncoated steel and concrete. The soil descriptions and physical properties are general in nature, and actual soils conditions are site specific.

Within developed areas, natural residual soils have likely been disturbed and used to create artificial fill; thereby, incorporating some of the natural soil characteristics. The artificial fill derived from past grading activities is a mixture of soil and/or rock materials and their physical properties can be quite variable, even within a single property. As an example, some areas include artificial fill that has expansive clays making them susceptible to shrink-swell potential and some artificial fills are loosely compacted, which would make them susceptible to differential settlement.

Mineral Resources

There are no sites in the Planning Area designated as a mineral resource site under the State Mining and Reclamation Act of 1975 (SMARA). Based on the requirements of SMARA, this suggests that there are no mineral deposits present in the Planning Area that are suitable as marketable commodities. There are no natural gas, oil or geothermal resources identified as being located in or adjacent to the Planning Area.

Faulting and Seismic Conditions

The Planning Area, like much of the San Francisco Bay Area, is vulnerable to seismic activity due to the presence of active faults in the region. The most prominent active fault near Planning Area is the San Andreas Fault approximately 10 miles to the west. Other active faults in the region include the Hayward Fault approximately 9 miles to the east, the San Gregorio Fault 16 miles to the southwest, and Rodgers Creek Fault 15 miles to the northeast, as shown on Figure 4.6-2. There are no known active faults in the EIR Study Area, so surface fault rupture is not considered a significant hazard.

The severity of ground shaking depends on several variables, such as earthquake magnitude and origin; local geology, including the properties of unconsolidated sediments; groundwater conditions; and topographic setting. In general, ground shaking hazards are most pronounced in areas that are underlain by loosely consolidated soil/sediment.

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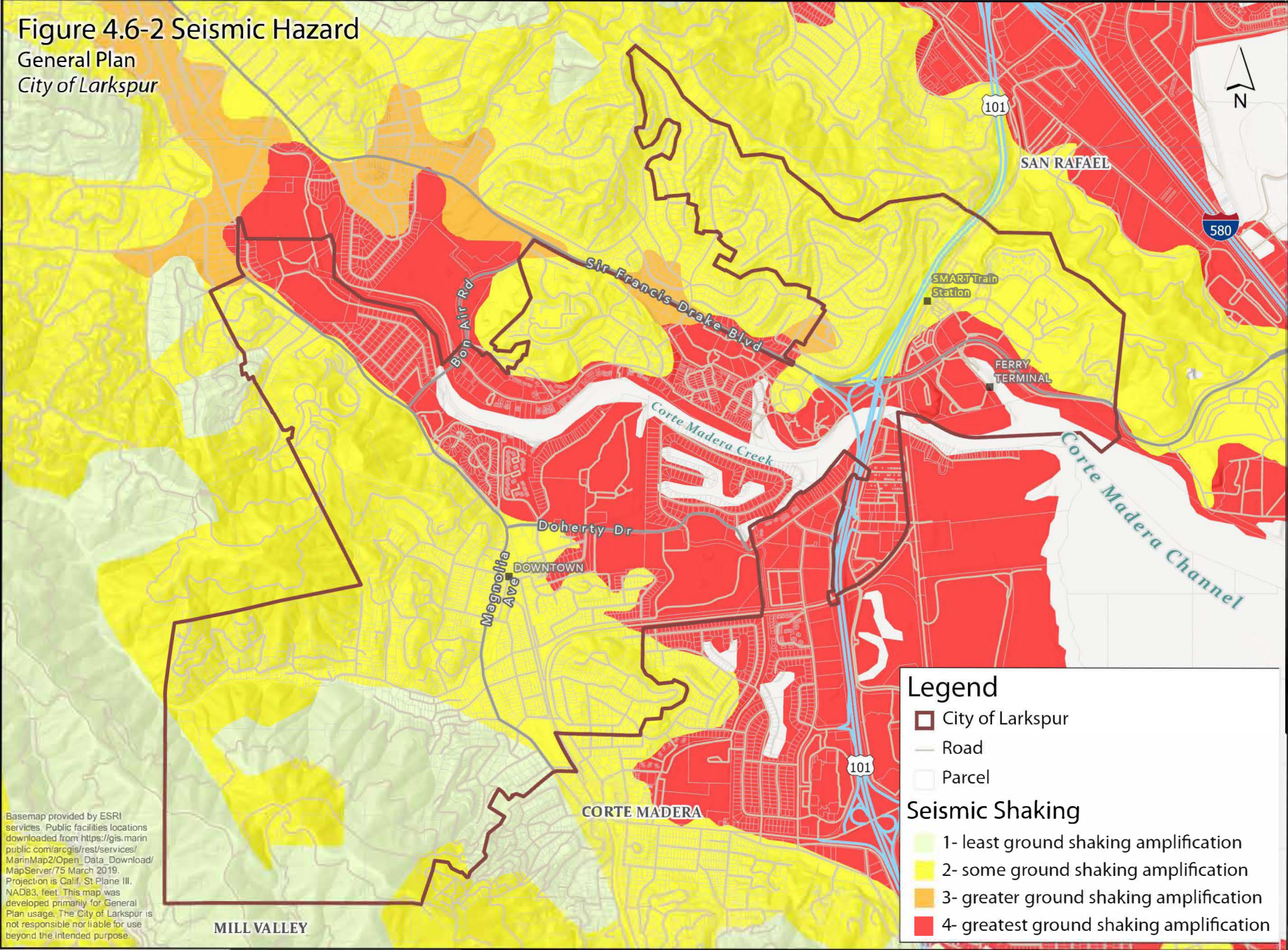
[32] *Web Soil Survey, National Cooperative Soil Survey*, United States Department of Agriculture, Natural Resources Conservation Service, available at websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed July 2021.

Figure 4.6-2 Seismic Hazard

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from https://gis.marinpublic.com/arcgis/rest/services/MarinMap2/Open_Data_Download/MapServer/75 March 2019. Projection is Calif. St Plane III. NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

The probability of a magnitude 6.7 or larger earthquake occurring in the San Francisco Region in the next 30 years is 72 percent according to the Working Group on California Earthquake Probabilities (2014). It is estimated that earthquakes between magnitudes 6.0 and 6.7 have a 98 percent probability of occurrence in the next 30 years.

Earthquakes of this magnitude can create ground accelerations severe enough to cause major damage to structures and foundations not designed to resist earthquakes. Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion.[19] In the event of a M 7.8 earthquake on the San Andreas Fault, the seismic forecasts on the Association of Bay Area Governments' interactive GIS website (developed by a cooperative working group that included the USGS and the CGS) suggest that most parts of the Planning Area are expected to experience "strong" shaking.

Slope Stability and Landslides

Many landslides have been mapped in the hillside areas of the Planning Area. A landslide refers to the downslope movement of materials such as rock, soil or fills under the direct influence of gravity. This downward movement can occur along a surface (glide plane, landslide plane, or discrete slip surface) or without a distinct failure surface. The presence of landslides is due to several influences and factors related to slope stability including slope angle, weathering, climate, water content, vegetation, overloading, erosion, earthquakes, and human-induced factors. The interrelationship of these influences creates a dynamic equilibrium, in which slopes are subjected to constant changes over time.

The potential threat of a significant number of failures occurring at the same time is greatest during strong seismic shaking or during intense rainfall events. Landsliding during causative events such as these can create significant levels of damage and significantly impact structures, utilities, services, roads and other infrastructure. Studies of landslides, especially debris flows, triggered by significant rain events over the last three decades have shown that millions of dollars in damage can occur in the Planning Area during these events.[33]

Where landslides are present on undeveloped land, movement can occur naturally during prolonged rainstorms when soils are saturated. Ground shaking during an earthquake can also trigger landslides, especially under saturated conditions. When development occurs on or near landslides, both people and property are exposed to these hazards. Without proper repair. construction activities and routine use and maintenance, grading and drainage changes caused by development can reactivate long dormant or more recent landslides, which otherwise would remain stable under static conditions. This can occur because earthmoving changes the ground surface and subsurface and can alter the shape and stability of a slide mass and change drainage and groundwater conditions.

[33] *City of Larkspur, California, All-Hazards Mitigation Plan*, City of Larkspur, Version 2.0, 2008.

Table GS-1: Soil Types in the Larkspur Planning Area

Soil ID #	*Soil Name*	*Shrink-Swell Potential*	*Corrosivity to Uncoated Steel*	*Corrosivity to Concrete*
105	Blucher-Cole complex, 2 to 5 percent slopes	Low to High	High	Moderate
143	Los Osos-Urban land-Bonnydoon complex, 15 to 30 percent slopes	Low to High	High	Moderate
145	Maymen-Maymen variant gravelly loams, 30 to 75 percent slopes	Low to High	Moderate to High	Moderate to High
157	Pits, quarries	NA	NA	NA
162	Saurin-Bonnydoon complex, 15 to 30 percent slopes	Low to Moderate	Moderate	Low
165	Saurin-Urban land-Bonnydoon complex, 30 to 50 percent slopes	Low to Moderate	Moderate	Low
166	Saurin-Bonnydoon complex, 30 to 50 percent slopes	Low to Moderate	Moderate	Low
179	Tocaloma-McMullin complex, 30 to 50 percent slopes	Low	Moderate	Moderate
180	Tocaloma-McMullin complex, 50 to 75 percent slopes	Low	Moderate	Moderate
181	Tocaloma-McMullin-Urban land complex, 15 to 30 percent slopes	Low	Moderate	Moderate
182	Tocaloma-McMullin-Urban land complex, 30 to 50 percent slopes	Low	Moderate	Moderate
183	Tocaloma-Saurin association, steep	Low to Moderate	Moderate	Low to Moderate
202	Urban land-Xerorthents complex, 0 to 9 percent slopes	NA	NA	NA
203	Xerorthents, fill	NA	NA	NA
204	Xerorthents-Urban land complex, 0 to 9 percent slopes	NA	NA	NA

Source: *Soil Survey of Marin County California*, J.H. Kashiwagi, United States Department of Agriculture, Soil Conservation Service, March 1985

A common landslide type encountered in the Planning Area is a debris flow, which is a significant erosional sculptor of Larkspur hillsides over time.[34] [35] Debris flows are fast-moving downslope flows of mud that may include rocks, vegetation, and other debris. These flows typically begin during intense rainfall as shallow landslides on steep slopes. The rapid movement and sudden arrival of debris flows following a triggering rainfall pose a significant threat to life and property. Potentially hazardous conditions exist near the base of steep hillsides, near the mouths of steep hillside drainages; and, in and near the mouths of canyons that drain steep terrain. Mapping of debris flows following intense rainfall events has shown that up to 80 percent of debris flows occur on slopes steeper than 52 percent slope. [36]

Other types of landslides also occur in the Planning Area; however, they are not as numerous as the debris flow landslides discussed above. Non-debris flow landslide areas are shown on Figure 4.6-3. This map is a summary of landslide problem areas and is a map to be used for regional considerations. This map is useful in that the best available predictor of where movement of non-debris flow type landslides might occur is the distribution of past movements. In general, landslides such as slumps, translational slides and earthflows are typically slower moving than debris flows and are generally less likely to threaten life directly. Nevertheless, they can be just as destructive to property. [37]

An example of the extensive landslides that can occur in the Planning Area during a period of short and intense rainfall is well documented for the January 3 and 4, 1982 storm that dropped over 16 inches of rain. Landslide mapping of eastern Marin County was performed after the 1982 storm and over 40 landslides were mapped within Larkspur. The majority of these landslides were the faster moving soil and debris avalanches and flows that are typical in the hillside areas and many of these caused destruction and damage to structures and one reported injury. Many homes were either destroyed, significantly damaged or were inundated with mud and debris.

Subsidence and Differential Settlement

Subsidence and settlement prone geologic deposits can cause significant differential movement of structures, utilities and streets. Subsidence is the vertical displacement of the ground surface, which can be localized or over a broad region. Subsidence can be affected by different

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[34] *Map Showing Principal Debris-Flow Source Areas in the San Francisco Bay Region, California*, S.D. Ellen, R.K. Mark, G.F. Wieczorek, C.M. Wentworth, D.W. Ramsey, T.E. May, U.S. Geological Survey, Open-File Report 97-745E, 1997.

[35] *Hillslope Processes and Urban Planning, Larkspur, CA*, P.J. Seidelman and J.D. Borum, Seidelman Associates, Lafayette, California, 1983.

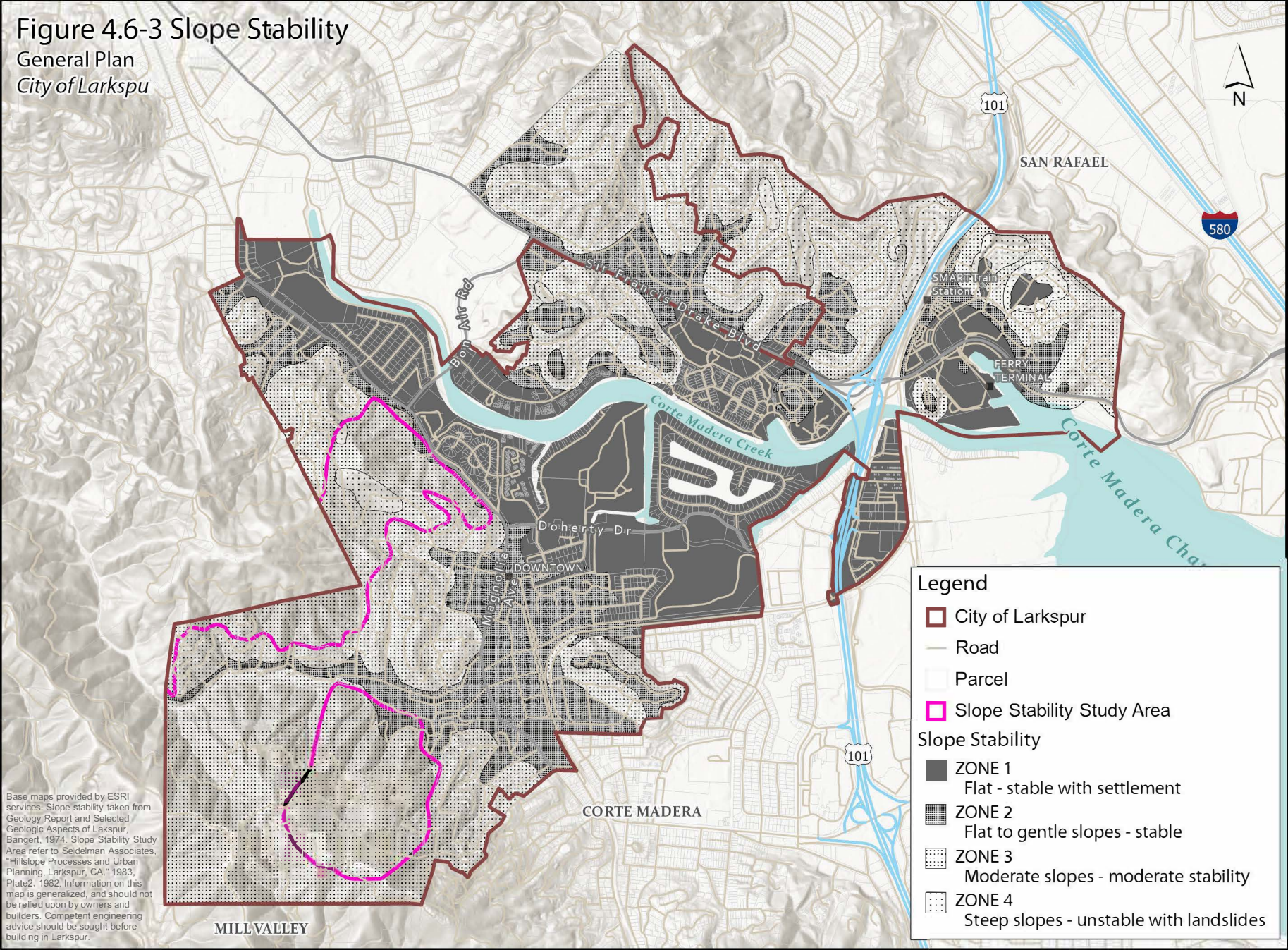
[36] *Distribution of Debris Flows In Marin County*, S.D. Ellen, S.H. Cannon, S.L. Reneau, in Landslides, Floods, and Marine Effects of the Storm of January 3-5, 1982, in the San Francisco Bay Region, California, U.S. Geological Survey, Professional Paper 1434, 1988.

[37] *Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region*, C.M. Wentworth, S.E. Graham, R.J. Pike, G.S. Beukelman, D.W. Ramsey, A.D. Barron, U.S. Geological Survey, Open-File Report 97-745C, 1997.

Figure 4.6-3 Slope Stability

General Plan

City of Larkspu



Base maps provided by ESRI services. Slope stability taken from Geology Report and Selected Geologic Aspects of Lakspur, Bangert, 1974. Slope Stability Study Area refer to Seidelman Associates, "Hillslope Processes and Urban Planning, Larkspur, CA." 1983, Plate2. 1982. Information on this map is generalized, and should not be relied upon by owners and builders. Competent engineering advice should be sought before building in Larkspur.

processes at work and can be naturally induced or human induced. Regional scale human-induced subsidence generally results from withdrawal of fluids (water, oil or gas) from underground reservoirs. More localized human-induced subsidence can be caused by placement of fills and structures on collapsible soils and saturation of collapsible soils by the introduction of water into the subsurface.

The most significant subsidence and settlement hazard in the Planning Area is subsidence of the bay muds. The placement of fills and structures on bay muds has resulted in human-induced subsidence. This can occur relatively quickly during construction or over a long-time span following completion of engineered works. In addition, seismic shaking can cause naturally induced subsidence of bay muds. Developments on fill placed upon the marshlands and mud flats of San Francisco Bay are susceptible to several severe types of stability problems. Such developments in Marin County have been the cause of great distress to individual citizens and great public expense for many years, primarily because of continuing subsidence of fills that result in intermittent flooding of residential neighborhoods and because of differential settlement of fills in places that disrupts structures, utilities, and roadways.

The following discusses the engineering requirements of fill material and its placement on soft bay mud for residential development and the hazards associated with this practice. The construction methods for residential fills are similar to those for industrial or commercial fill developments. However, since the avoidance of differential settlement in residential areas is of utmost importance, with regard to streets, utilities, and also building foundations, stricter control of fill quality and method of placement is necessary for prediction of future behavior of developments. It is impractical to support residential structures on piles while streets and adjacent areas are allowed to subside. Foundation support for residential buildings should therefore be taken upon the settling fill. Residential developments on fill placed upon bay mud are the most exacting of all possible uses. Any miscalculation, faulty placement, or undetected condition may result in rapid deterioration of residential subdivisions beyond practical repair.

Expansive Soils

The soil types mapped in the Planning Area have low to high expansion potential. Soils with moderate to high shrink-swell potential generally are cohesive, have high clay content, and shrink when dried. Expansive soils are naturally prone to large volume changes through the absorption of pore water. The physical manifestation of such moisture change most often is expansion or swelling during the winter and subsequent shrinkage due to drying or desiccation in the summer. This cyclic volume change can exert large forces on structures, causing damage to concrete slabs and foundation elements and cosmetic damage to interior and exterior wall surfaces, fences, retaining walls, and can rupture utility lines.

Seismic Ground Shaking

Ground shaking is the primary cause of damage during an earthquake. The intensity of shaking felt by a structure during an earthquake is dependent on the type of underlying earth materials. Earthquake waves will travel through bedrock differently than they will travel through younger

surficial deposits. Typically, a structure built on poorly consolidated sediments will experience longer shaking duration and greater surface wave amplitude than those built on bedrock or other stiffer geologic deposits. Severity of ground shaking damage is also largely dependent on the magnitude and distance from the earthquake source and the type and quality of construction of the structure being affected.

A significant amount of the damages to buildings from ground shaking is largely related to the age, design and construction of a structure. Over time building codes have improved, resulting in structures that are generally less susceptible to seismic ground shaking. However, the buildings constructed under older building codes and that have not been seismically upgraded or retrofitted are those that will likely be the most susceptible to strong ground shaking. These older structures will experience the most significant damages during a strong earthquake event.

An example of old structures that are susceptible to damage and possible collapse during strong seismic ground shaking are unreinforced masonry (URM) structures. Old URM buildings, whose walls are not properly connected to floors, roofs, and interior and exterior traverse walls, are an extreme seismic hazard. California passed the URM law in 1986 requiring local governments to provide an inventory of URM buildings, establish loss reduction programs and report progress to the California Seismic Safety Commission building code requirements, will likely be susceptible to severe damage or possible collapse in the event of a future severe.

The mitigation of seismic ground shaking requires earthquake-resistant structural design. Therefore, at a minimum, the structural design of proposed structures should be based on the 2019 California Building Code (CBC) and future adopted building codes. Current building codes are intended to ensure design and construction of a structure that will not collapse in the event of an earthquake; however, this does not rule out the possibility that some significant nonstructural damage and possible structural damage will occur from future severe ground shaking as can be expected in Planning Area for any newer building.

Seismic-Related Ground Failure

Strong seismic ground shaking would likely result in significant shaking-induced ground failures in the Planning Area. This would include seismically triggered landslides, seismically triggered subsidence of bay muds and ground failures related to liquefaction. Landslides and bay mud subsidence were discussed in previous sections, so this section will specifically deal with the ground failure hazards of liquefaction.

Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state because of increased pore-water pressures. Liquefaction and earthquake-induced ground failures due to liquefaction of underlying deposits can lead to significant damage to structures and potentially loss of life. Observed common types of ground failures resulting from liquefaction can include lateral spreading, flow failure, ground oscillation, and loss of bearing strength.

Liquefaction susceptibility analysis of the Bay region resulted in creating a liquefaction potential rating system and maps with a susceptibility rating. The authors of the map expect that at least 80 percent of future liquefaction failures will take place in areas judged to have high or very high susceptibilities. They expect that 20 percent or less of future liquefaction will take place in areas judged to be moderate and low, and less than one percent will take place in areas judged very low.

The geologic materials most susceptible to liquefaction in the City include bay muds, artificial fill overlying bay muds, alluvium, and colluvium. The areas with the high to very high liquefaction potential are in the low-lying areas that are generally underlain by these surficial deposits, especially areas underlain by bay mud and artificial fill over bay mud.

Tsunamis

Tsunamis are long-period waves generated by shifting of a large volume of water. They can be triggered by a submarine earthquake, submarine volcanic eruptions, submarine landslides or slumps of large volumes of earth, meteor impacts and onshore slope failures that fail into oceans or bays. Seiches are related to tsunamis and are triggered by the same sources but occur in enclosed and semi-enclosed bodies of water, such as bays, inlets, lakes and reservoirs. In the following discussion, this hazard will be referred to as a tsunami.

Once a tsunami reaches land, the damage and areal extent are determined by the wave runup and the extent of inundation. The runup is the rush of water up a beach or structure. As the runup continues inland, it reaches a maximum runup, which is the maximum vertical height above stillwater (tide level) that the water reaches. The horizontal distance that a runup penetrates inland is known as inundation and inundation height is the maximum runup along a particular transect.

Figure 4.9-2 in the subsequent Hydrology Chapter shows the tsunami inundation line and runup area in the vicinity of the Larkspur Planning Area. As shown, the inundation area is basically the low-lying areas adjacent to the bay and along Corte Madera creek. This includes the Larkspur Ferry Terminal, low-lying areas of San Quentin Peninsula and the low-lying communities along Corte Madera Creek.

Erosion

Erosion occurs when the upper layers of soil are displaced by erosive agents such as water, ice, snow, air, plants, animals, or anthropogenic forces. 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. Within the valley areas of the Planning Area, water flow in streams and rivers can erode the banks of waterways, causing the stream or river to meander. Erosion can cause the soil underneath buildings and structures to become compromised or fail, which is typically limited to localized areas.

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 (footprints, burrows, etc.). The relative rarity of paleontological resources, coupled with the scientific insight they can provide, means they are significant and valuable records of past life.

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 taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). Because potentially sensitive areas for the presence of paleontological resources are based on the underlying geologic formation, it is likely that paleontological resources would be found within the Planning Area.

2. Regulatory Setting

Federal Regulations

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law (PL) 95–124. In establishing NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic NEHRP goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

State Regulations

State regulations described below include the California Building Code, Alquist-Priolo Earthquake Fault Zoning Act, Seismic Hazards Mapping Act, regulations pertaining to oil, gas, and geothermal wells, and the Surface Mining and Reclamation Act of 1975.

California Building Code

The 2019 California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC). The CBC incorporates by reference the IBC requirements with necessary California amendments. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable.

Compliance with the 2019 CBC requires that (with very limited exceptions) structures for human occupancy be designed and constructed to resist the effects of earthquake motions. The Seismic Design Category for a structure is determined in accordance with either; CBC Section 1613 - *Earthquake Loads*: or American Society of Civil Engineers (ASCE) Standard No. 7-05, *Minimum Design Loads for Buildings and Other Structures*.

Alquist-Priolo Earthquake Fault Zoning Act (A-PEFZA)

Surface rupture is the most easily avoided seismic hazard. The A-PEFZA was passed in December 1972 to mitigate the hazard of surface faulting to structures for human occupancy. There is not an A-PEFZA designated fault zone located within the boundaries of the Planning Area.

Seismic Hazards Mapping Act (SHMA)

In 1990, following the 1989 Loma Prieta earthquake, the California Legislature enacted the SHMA to protect the public from the effects of strong ground shaking, liquefaction, landslides and other seismic hazards. The SHMA established a state-wide mapping program to identify areas subject to violent shaking and ground failure; the program is intended to assist cities and counties in protecting public health and safety. The SHMA requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. As a result, the CGS is mapping SHMA Zones and has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, ground shaking, and landslides: primarily the San Francisco Bay area and Los Angeles basin. No Seismic Hazard Zone Report has been prepared for Larkspur.

Surface Mining and Reclamation Act of 1975 (SMARA)

The principal legislation addressing mineral resources in California is the state Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710–2719), which was

enacted in response to land use conflicts between urban growth and essential mineral production. SMARA specifies that lead agencies require financial assurances of each mining operation to ensure reclamation is performed in accordance with the approved reclamation plan. The financial assurances may take the form of surety bonds, irrevocable letters of credit, trust funds, or similar mechanism. No minerals or aggregate resources of statewide importance are located in the vicinity of the Planning Area. [38]

California Environmental Quality Act

Paleontological resources are afforded protection under the California Environmental Quality Act (CEQA). The Society of Vertebrate Paleontology has set significance criteria for paleontological resources.5 Most practicing professional vertebrate paleontologists adhere closely to the Society of Vertebrate Paleontology's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most State regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the Society of Vertebrate Paleontology.

California Public Resources Code Section 5097

California Public Resources Code (PRC) Section 5097.5 prohibits the destruction or removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency.

Regional Regulations

Marin County Emergency Operations Plan

The County of Marin adopted an Emergency Operations Plan in October 20146 to better prepare for responses to "extraordinary" emergency situations that could result from natural disasters and technological incidents. To prepare for these emergencies, the County assessed the potential risks associated with earthquakes, flooding, wildland fire, and other disasters. Based on this evaluation, various response strategies were developed to address each of the threats. Emergency operations are split into four phases: 1) Preparedness Phase, 2) Response Phase, 3) Recovery Phase, and 4) Prevention/Mitigation Phase. The City of Larkspur coordinates with the Marin County Office of Emergency Services (Marin OES) to ensure emergency management functions meet the expectations of the City.

Marin County Operational Area Emergency Recovery Plan

The Marin County Operational Area Emergency Recovery Plan (Emergency Recovery Plan) adopted November 2012, establishes procedures, and assigns responsibility to ensure the effective management of emergency recovery operations in the Marin County Operational

[38] *Geology, Mineral Resources and Hazardous Materials Technical Background Report,* op. cit.

Area, which includes the Planning Area. The Emergency Recovery Plan describes operational concepts relating to the recovery, identifies components of recovery organization, and describes general responsibilities of the Marin OES. Recovery operations in a multi-jurisdictional incident are coordinated and managed by the Marin OES in accordance with the California Emergency Services Act.

Marin County Multi-jurisdictional Local Hazard Mitigation Plan

The Marin County Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP) was developed to reduce risks from natural disasters in unincorporated portions of the county and all incorporated cities in Marin County. The MCM LHMP, last adopted by the City of Larkspur on May 1, 2019, is required to be updated every five years to maintain eligibility for Hazard Mitigation Assistance grant programs administered by the Federal Emergency Management Agency (FEMA) pursuant to the Disaster Mitigation Act of 2000. The MCM LHMP identifies hazards within the city, such as earthquakes, liquefaction, severe storms, debris flow (landslides), flooding, wind, tsunamis, wildfire, and post-fire landslides. The MCM LHMP also contains a vulnerability analysis highlighting specific facilities at risk to natural hazards and outlines mitigation strategies for reducing risk of identified hazards.

Larkspur General Plan 1990-2010

The existing General Plan 1990-2010 goals, policies, and programs relevant to geology and soils are primarily in the Safety and Resilience Element. goals, policies, and programs relevant to geology, seismicity, and soils are primarily in the Health and Safety Chapter. As part of the proposed project, many existing General Plan policies would be amended, and new policies would be added. The changes are mostly in response to the LHMP, which was adopted by the City in May 2019. A comprehensive list of policy changes is provided in Appendix B, Proposed General Plan Goals, Policies, and Programs, of this Draft EIR.

Larkspur Municipal Code

The Larkspur Municipal Code (LMC) contains regulations and standards pertinent to geological, seismic, and soil hazards in the following chapters.

- Chapter 9.11 (Runoff Pollution Protection) sets forth regulations for reducing eroded sediments and other pollutants in urban runoff.
- Chapter 9.15 (Improvements) sets forth design requirements and standards for subdivisions in the city.
- Chapter 10.40 (Building Regulations) lists development regulations.
- Chapter 15.07 (California Building Code) incorporates the most recent CBC.
- Chapter 15.20 (Grading, Excavation, and Fills) sets forth rules and regulations to control excavation, grading, and earthwork construction on land to safeguard public health, safety, and welfare. It includes standards to control runoff.
- Chapter 18.34 lists special standards for slope and hillside development.

3. Project Impacts

Standards of Significance

The following thresholds of significance are based on Appendix G of the *CEQA Guidelines*. For the purposes of this EIR, implementation of the proposed project may have a significant adverse impactif it would do any of the following:

1. Directly or indirectly cause potential substantial adverse , including the risk of loss, injury, or death involving:
   a. 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
   b. Strong seismic ground shaking
   c. Seismic-related ground failure, including liquefaction
   d. Landslides
2. Result in substantial soil erosion or the loss of topsoil.
3. 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.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
5. 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.

Impact GEO-1 Implementation of the proposed project could result in exposure of people and property to a risk of loss, injury, or death from seismic events involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.

Implementation of the proposed project would result in additional residential and nonresidential development within the City. As such, additional residents and employees could be potentially exposed to the effects of fault rupture and seismic groundshaking. Because Larkspur is not located in an Alquist-Priolo Earthquake Fault Zone where fault rupture is more likely, fault rupture is unlikely to affect new or existing structures. However, all buildings located in Larkspur are vulnerable to earthquake damage. The CBC addresses seismic safety mostly to protect occupant lives during an earthquake. However, new buildings can still be significantly damaged during a major earthquake.

As shown on Figure 4.6-1, over half of Larkspur is in Zone 4 (“greatest ground shaking amplitude") with the hilly areas to the west and north being in Zone 2 (“some ground shaking amplitude”). As shown on Figure 4.6-1, the areas in Zone 4 include lands that have Artificial fill overlying bay muds. These areas are at significant risk of liquefaction. The steeper areas would

not experience the degree of ground shaking as the lower lying areas, but they would have more risk of the ground shaking causing landslides.

Most new development in Larkspur would be infill development or redevelopment, which would in many cases replace older buildings subject to seismic damage with newer structures built to current seismic standards that could better withstand the adverse effects of strong ground shaking. Potential structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized 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 liquefaction in accordance with CBC requirements. The City typically requires submittal of a geotechnical report for new drainage, hillslope development, import/export of fill, and other project elements with an application for a building permit for new development. The City uses Figure 4.6-1 to determine what level of geotechnical investigation is warranted given the site's location on the map and the relevant Slope Stability Zone.

The proposed General Plan 2040 contains goals, policies and programs related to reducing hazards from exposing people and structures to significant loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. These goals, policies, and programs codify and reinforce the City's existing regulations requiring geotechnical review of new development and including mitigation measures to avoid significant impacts resulting from these geological hazards. For example, policies and programs under Goal SAF-3 (*Limit and mitigate impacts of development prone to natural hazards*), SAF-5 (*Reduce risks associated with seismic activity and geologic hazards*), and LU-14 (*Protection of people and property from environmental hazards)* would address these hazards.

These policies and ancillary programs would reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, landsliding, liquefaction and slope failure. The following programs directly address the seismic hazard Impacts.

> *Action Program SAF-3.1.a directs the City to continue to regulate development to assure the adequate mitigation of safety hazards on sites having a history or threat of slope instability, seismic activity (including liquefaction, subsidence, and differential settlement), flooding, or fire.*
>
> *Action Program SAF-5.1.a directs the City to continue to enforce compliance with seismic design requirements in the California Building Code as part of building permit issuance and the inspection process.*
>
> *Action Program SAF-5.1.d states that the City, through project review, would continue to require geotechnical engineering investigations for structures proposed in "high" seismic hazard areas potentially subject to severe ground shaking and ground failure.*
>
> *Action Program SAF-5.5. addresses hilly areas by requiring approval of a use permit for building additions or new development in areas with an average percent of slope equal to or greater than*

> *25 percent. Action Program SAF-5.5.b requires application of a palette of standards for assessing the acceptability of new construction in hillside areas and those adjacent areas with a potential risk from landslides and debris flows; a list of specific standards is included as part of this program.*

Similar to Action Program SAF-5.1d, Action Program SAF-5.5e requires site-specific geologic and geotechnical reports where soil engineering and/or geologic conditions may affect the design, location, and safety of a structure proposed for human habitation, e.g., in hillside areas, areas subject to settlement or subsidence, and at the mouths of seasonal and intermittent streams.

Action Program SAF-5.5.f directs the City to adopt specific standards for geologic and geotechnical reports that outline the type and extent of investigation required for various stages of the development process, for various geologic and soils conditions, and for the type of land use and structure proposed.

Implementation of the General Plan 2040 goals, policies, and programs would support and reinforce the City's current project review procedures to avoid or mitigate geologic hazards. Implementation of these existing regulations would result in the avoidance of siting structures within areas susceptible to seismic hazards or require design and construction techniques to adequately mitigate those hazards. These requirements ensure that a detailed review/report of design and construction plans and incorporation of additional structural safety features, as necessary, for structures that would be located on steep slopes or in areas subject to seismic hazards such as extreme ground shaking, landslides, liquefaction, surficial debris flows, expansive soils, subsidence and settlement, fault displacement, and Bay mud areas.

Recommendations from these required geotechnical reports would be required to be implemented through the planning, grading, and building permit process. Possible future development of up to 8 residential lots on the State-owned parcel near San Quentin Prison would require City approval of an RMP to allow any new development. The RMP requires preparation of a soils report, and any development proposal would be subject to the same regulations and policies as any other hillside property in the city. Programs under Policy SAF-5.5 regulate development in hillside areas and would require the enforcement of existing regulations and procedures to identify and avoid, or mitigate potential hazards related to slope and soil instability conditions, such as landslides, soil creep or possible debris flows.

In conclusion, existing City review requirements and standards for construction along with the goals, policies, and programs of the Larkspur General Plan 2040 would reduce the impacts to people and structures from new construction to a less-than-significant level, and no further program-level mitigation is required.

Impact GEO-2 Implementation of the proposed project could result in new grading and construction that would bare soils and possibly result in soil erosion.

Approval of the General Plan 2040 would allow construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities that could cause soil erosion and loss of topsoil. Per compliance with the NPDES general permit, the County's SWPPP, other

state and regional regulations, and LMC regulations, proposed projects would be required to implement erosion control BMPs that may include scheduling and timing of grading activities and installation of erosion control processes and materials. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of stockpiled materials on site, and proper location of and maintenance of temporary sanitary facilities.

Per the LMC Chapter 9.11 (Runoff Pollution Prevention), construction site BMPs include erosion and sediment controls and pollution prevention practices. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of materials stored on site, and proper location of and maintenance of temporary sanitary facilities. The combination of BMPs selected, and their execution in the field, must be customized to the site using up-to-date standards and practices. The City has the authority to review designs and proposals for construction activities to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final site stabilization.

An approved ESCP and SCP would be a condition of the issuance of a building permit, a grading permit, or other permit issued by the City for a project subject to Chapter 9.11, (Runoff Pollution Prevention) of LMC. Adherence to the requirements of the LMC would at the programmatic level reduce the potential for the proposed project to cause erosion and the subsequent sedimentation of local streams by ensuring proper management of loose and disturbed soil.

Future projects will be required to be designed to comply with LID (Low Impact Development) recommendations set forth in the *Marin County Stormwater Pollution Prevention Program Minimum Erosion/Sediment Control Measures for Small Construction Projects*. Paving will be done with pervious paving to allow soil infiltration. Bioretention areas will be incorporated in the site plan to treat storm runoff from buildings and paved areas before that stormwater is released offsite to the City storm drain system.

The Larkspur General Plan 2040 Safety and Land Use Chapters contain goals, policies and programs related to protect water quality by reducing substantial soil erosion and the loss of topsoil. The geotechnical and other technical studies required for new development in the LMC would be used to determine whether a proposed project is consistent with LMC requirements and these General Plan policies. This would include any new development for parcels that could be annexed into the city. In particular, Policy ENV-2.8 encourages on-site water infiltration on project sites and the use of low impact development techniques to reduce run-off of sediment and toxic materials, downstream erosion, and flooding. It is concluded that continuing

implementation of LMC regulations and standards protecting water quality and limiting soil erosion would reduce the impact of soil erosion from new project grading to a less-than-significant level. No additional programmatic level mitigation measures are required.

Impact GEO-3: Implementation of the proposed project could result in construction of structures on expansive soils that could fail creating substantial risks to life or property.

Larkspur contains extensive areas near the Bay and along Corte Madera Creek that have artificial fill soils overlaying Bay mud. These areas are expected to contain expansive soils. Redevelopment of existing developed sites in these areas of expansive soils could result tin failure of the new facilities. This is a potentially significant impact.

New development would need to comply with soil investigations and building requirements set forth in the CBC and LMC. The LMC requires geotechnical reports for discretionary project proposals. In addition to compliance with CBC and LMC requirements, implementation of General Plan 2040 goals and policies would further reduce the potential for substantial risks to life or property as a result of expansive soils. In particular, Goal SAF-5 and Policies SAF-5.1 and SAF-5.4 address soil limitations and hazards.

Compliance with the CBC, the LMC, and General Plan 2040 Policies SAF-5.1 and SAF-5.4 would reduce impacts related to expansive soils on any project site in the City and its SOI to a less-than-significant level. No additional programmatic level mitigation measures are required.

Impact GEO-4: Implementation of the project would not result in construction of structures that require the use of septic systems or alternative wastewater disposal systems.

Ross Valley Sanitary District (RVSD) provides wastewater collection, treatment, and disposal services for the City of Larkspur. Properties within Larkspur's Sphere of Influence that may be annexed are either already served by the RVSD or will be as part of any annexation. There will be no new development in the City that will not be served by the RVSD. Therefore, there would be no impact as regards septic systems or alternative wastewater disposal systems

Impact GEO-5: Cumulative development in the Planning Area and surrounding communities would increase population and therefore increase the number of people exposed to potential geologic hazards, including effects associated with seismic events such as ground rupture and strong shaking.

Potential geologic and seismic hazards are project-level impacts and are not cumulative in nature. Individual development proposals are reviewed separately by the City and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential impacts would be addressed on a case-by-case basis in accordance with the requirements of CEQA. However, compliance with the Larkspur Municipal

Code and General Plan 2040 policies and programs, as well as other laws and regulations described for the previous four impacts, would ensure that project-specific impacts associated with geology and soils would be less than significant.

Construction and grading activities associated with the development of cumulative projects under the 2040 General Plan would increase the potential for soil erosion and sedimentation of surface waters. However, future construction activity on projects would be required to prepare a SWPPP and an ESCP, which outline BMPs that would address post-construction runoff. Individual projects would be required to comply with the City's erosion and sediment control regulations and the BASMAA Post-Construction Manual, as discussed above. Potential impacts associated with geology and soils would not be cumulatively considerable, and cumulative impacts related to geologic hazards would be less than significant.

4.7 Greenhouse Gas Emissions

1. Environmental Setting

Global climate change resulting from GHG emissions is an environmental concern being raised and discussed at the international, national, statewide, and local levels. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases. Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect.

The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g., livestock), wastewater treatment, landfill operations, and production and distribution of natural gas;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants, and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each

GHG is measured relative to CO2. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO2 (CO2e). For instance, SF6 is 22,800 times more intense in terms of global climate change contribution than CO2.

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO2e). These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions. In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.39 The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

2. Regulatory Framework

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. Currently (June 2022), there are no federal regulations or policies pertaining to GHG emissions from proposed projects or plans.

State Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that "there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures" and that "the evidence for climate change is overwhelming." The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, effecting the state's water supply;
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, considering the economic downturn, to 545 MMT of CO2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO2e. Thus, an estimated reduction of 80 MMT of CO2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued California's 2017 Climate Change Scoping Plan.[40] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

[40] California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets.* November. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO2e per capita (statewide) by 2030 and no more than 2 metric tons CO2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works

with the metropolitan planning organizations (e.g., Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11he CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar

photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[41]

Regional

Bay Area Air Quality Management District

BAAQMD is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plans

BAAQMD and other air districts prepare clean air plans in accordance with the State and Federal Clean Air Acts. The Bay Area 2017 Clean Air Plan (CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010, and then adopted a modified version of the Guidelines in May 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for greenhouse gas emissions. Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified greenhouse gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified greenhouse gas Reduction Strategy, it can be presumed that the project will not have significant GHG emissions under CEQA.[42] Table 4.7-1 reports the threshold for plan-level analyses based on estimated GHG emissions, as well as per capita metrics, developed by

[41] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf
[42] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

BAAQMD. The BAAQMD also has regulations regarding installation and use of stationary generators.

Table 4.7-1: BAAQMD Recommended Plan-Level Air Quality Significance Thresholds		
Pollutant/Contaminant	**Construction**	**Operational**
GHGs	None	Compliance with Qualified GHG Reduction Strategy OR 6.6 MT CO2e/SP/year (residents + employees) For this analysis, a threshold is applied: *4.0 metric tons per capita in 2030 and 2.6 metric tons in 2040.*

Note that BAAQMD's recommended GHG threshold of 6.6 metric tons per capita was developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development within the General Plan area would occur beyond 2020, so a threshold that addresses a future target is appropriate. The basis of the BAAQMD thresholds were used to develop plan level thresholds for 2040. Although BAAQMD has not yet published a quantified threshold for 2030 or 2040, this assessment uses a "Substantial Progress" efficiency metric of 4.0 MT CO2e/year/service population (S.P.) in 2030. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[43] An efficiency metric of 2.6 MT CO2e/year/S.P. for 2040 was also calculated using the same method but extending the horizon year to 2040 (i.e., 60-percent reduction of 1990 levels). Unfortunately, the tools used to compute GHG emission are constrained to those emissions rates that are occurring or regulated to occur in the future.

Marin Climate & Energy Partnership

Eleven cities and towns in Marin County along with the County and public agencies formed a partnership in 2007 to reduce GHG emissions. This partnership developed emissions inventories and climate action plans for the member cities, and collaborated on a wide range of GHG programs, such as green building regulations, electric vehicle charging infrastructure, energy efficiency, renewable energy projects, and zero waste initiatives. This partnership also tracks changes in emissions, currently reporting a 26-percent reduction in county wide GHG emissions since 2005.

[43] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

Local

Larkspur Climate Action Plan

On July 21, 2021, the City Council adopted Resolution 45/21 establishing the City's Climate Action Plan 2030 (CAP). The CAP establishes base line emissions for 2005 of 92,602 metric tons of equivalent CO2e per year ($MTCO_2e$). and emissions for each year after through 2018, broken down by emission sector. Within Larkspur, GHG emissions have decreased 23 percent since 2005. The CAP identifies emission reduction targets for 2030 and 2050, along with a "Business as Usual" forecast. Emissions in Larkspur would need to drop to 47,227 MTCO2e by 2030 and 15,740 MTCO2e by 2050. The CAP identifies State actions and local strategies to reduce emission by 40 percent below 1990 levels by 2030. State reductions would mainly come from reductions in vehicle emissions and increased energy efficiency through new or updated Title 24 standards. Local strategies mainly include low-carbon transportation, renewable energy sources, electrification of energy sources, energy efficiency, and waste reduction.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to greenhouse gas emissions if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on theenvironment.
2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose ofreducing the emissions of GHGs.
3. Result in significant cumulative impact and contribute to global climate change.

Impact GHG-1: The project could result in the generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050. In 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a GHG emissions target at 40 percent of 1990 levels by 2030, which is in line with obtaining the 80-percent reduction by 2050.

The CalEEMod model that was used to predict air pollutant emissions for the proposed project was also used to compute annual GHG emissions for existing 2020 and future 2040 General Plan Buildout conditions. Note that the model used for this analysis reflects emissions

associated with population and is computed differently than the inventory used for the CAP. Much of Larkspur is developed and only small changes in land uses are expected in the future. With few exceptions, the project will intensify use of already-developed parcels. Emissions resulting from development of up to 8 residential lots on the State-owned parcel are part of the projected General Plan buildout emissions shown in Table 4.7-2. Providing a land use classification and pre-zoning for this parcel would not result in any new or substantially greater air quality impacts than described in this Greenhouse Gas Emissions section of this EIR.

Increased GHG emissions associated with the project were assessed. These emissions were divided by the projected increase in population of 2,764 people to compute per service population emissions.

As shown in Table 4.7-2, the 2040 full buildout operation of the project that accommodates the future growth in housing would have annual emissions that are 4,656 MT/year lower than existing conditions. The existing population emissions of 3.95 MT of CO_2e/year/person in 2020 are predicted to decrease to 2.92 MT/year/person in 2040 with buildout of the project. Note that much of the existing GHG emissions are unaffected by the project, and therefore, would not change. The future growth caused by the project would be at a lower per capita emission rate of 2.0 MT/year/person. Future emissions are reduced as travel patterns change and as vehicle emission rates decrease as State requirements become more effective over time. This reduction occurs despite the fact that the population will increase by 20 percent. The emissions reported in Table 4.7-2 reflect existing emission rates for energy usage. For example, over 40 percent of 2040 emission are anticipated to come from electrical energy use. These emissions are anticipated to greatly decrease as MCE would provide mostly carbon-free electricity after 2023 and newer development would avoid use of natural gas. However, these reductions are not captured in the CalEEMod modeling. Specific information regarding the implementation of the CAP programs, changes to MCE energy portfolio and reduction in solid waste generation are not available at the detail necessary for the modeling.

Table 4.7-2 also shows the projected GHG emissions for the No Project scenario. That scenario uses the TAM Demand Model (TAMDM) 2040 projections that are based on projections of population and VMT growth in the county. This scenario does not include the expanded residential growth that would occur under implementation of the Larkspur General Plan 2040. Table 4.7-2 allows the reader to compare the impacts of buildout under the project with the TAMDM projections.

The General Plan 2040 integrates the City's recently adopted CAP to address GHG impacts. GHG emissions are specifically addressed in the Sustainability chapter of the General Plan. Together, the goals, policies and implementing actions are anticipated to reduce GHG emissions that, in addition to State measures, would meet the GHG reduction goals of the CAP. The following CAP measures and 2040 General Plan goals, policies, and programs from various chapters, as summarized in the Sustainability chapter, would serve to minimize GHG emissions:

Transportation Emissions

The CAP reports that currently transportation accounts for 45 percent of City-related GHG emissions. The CAP includes 11 measures aimed to reduce transportation-related GHG emissions (Measures LCT-C1 through LCT-C11). Measure LCT-1 would have the greatest effect by developing a Zero Emission Vehicle Plan that would result in at least 33 percent of passenger vehicles in Larkspur being zero emissions vehicles. Other CAP measures are intended to reduce GHG emissions through by enhancing or encouraging other transportation modes.

Table 4.7-2: General Plan-Related GHG Emissions (MT of CO2e by Population)

Source Category	Existing Uses in 2020	Existing Uses in 2040 (No Project)[1]	Project Increment in 2040 (Project)	General Plan Buildout in 2040 (Project)
Area	568	568	17	585
Energy Consumption	17,783	17,783	2,120	19,903
Mobile[2]	27,108	18,902	2,779	19,798
Solid Waste Generation	2,564	2,564	310	2,874
Water Usage	974	974	207	1,181
Total (MT of CO_2e)	48,996	40,790	5,432	44,340
Change in Existing - 2040 (MT of CO_2e)	N/A	-8,206	**N/A**	**-4,656**
Service Population Efficiency Metric (MT CO_2e/year/SP)	3.9	3.0	2.0	2.9
***Substantial Progress Threshold* (MT CO_2e/year/SP)**	N/A	N/A	N/A	2.6

1: TAMDM 2040 VMT projections that do not include the level of growth allowed under the project; 2: includes Planning Area VMT

Implementation of the following General Plan 2040 policies and recommendations would also reduce the use of motor vehicles:

- Land Use Policy 1.1 and actions discourage intensive residential development in steep hillside areas, where such development is difficult to access, disruptive to the natural resources and surrounding open spaces, and prone to wildfire and landslide risk. Higher density residential development is encouraged in areas in close proximity to arterials, collector roads, public transit, and commercial centers that provide a range of goods and personal services.
- Several Land Use policies and programs encourage implementation of pedestrian and bicycle facilities in commercial areas, linkages between commercial areas and surrounding neighborhoods, and also encourage a mix of commercial uses to serve the local community to reduce vehicle trips for services and goods.

- Circulation Policy 1.1 calls for developing a coordinated system of transportation options to serve all users. This includes developing Complete Streets that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets for safe and convenient travel.
- Circulation Policy 3.3 recommends developing high intensity land uses in near proximity to transit routes and transportation facilities.
- Circulation Policy 4.2 calls for developing a policy for new development to achieve a minimum percentage reduction in Vehicle Miles Traveled (VMT) per capita or per service population.
- Several Circulation policies under Goal 6 encourage use of various alternative modes of travel to and between retail areas.
- Circulation Policy 7.2 aims to develop and maintain paths and bicycle lanes and routes linking Larkspur to neighboring communities.
- Community Character Program 1.2a requires all major new development or redevelopment to provide connectivity to and from the site for bicyclists and pedestrians.
- The City's Bicycle & Pedestrian Master Plan, which was prepared to be consistent with the General Plan, contains policies to encourage and enhance pedestrian and bicycling access.
- The CAP includes recommendations to increase the use of alternative modes of transit and ridesharing, reduce VMT for new City operations and programs, accelerate installation of infrastructure to support electric vehicles, and encourage sustainable transportation modes.

Sustainable Development

Implementation of the following policies and recommendations would reduce GHG emissions resulting from the city's historic motor vehicle-oriented development pattern:

- Land Use Policies 3.1, 3.4, and 3.5 allow higher density residential development in commercial centers.
- Circulation Policy 3.3 ensures that high intensity uses, and high-density residential development are located near transit routes and facilities.
- Several Land Use policies allow upper floor residential development in shopping centers, Downtown, and the North Magnolia Commercial Corridor.
- Several Housing Chapter policies allow higher density development and incentives for development near transit systems.
- Several Housing Chapter policies encourage infill and mixed commercial and residential uses on commercially zoned properties.

Energy Efficiency

The CAP includes four measures (RE-C1 through RE-C4) to reduce GHG emissions indirectly by mainly encouraging renewable energy generation, use of GHG-free electricity and electrify typical natural gas appliances. Measure RE-1 accelerates installation of residential and commercial solar and energy storage systems. Measure RE-C2 would encourage residents to switch to MCE or PG&E GHG-free electricity. Measure RE-C3 would promote programs to change natural gas appliances to electric and prohibit new natural gas uses in new residential buildings (note the City would need to adopt an ordinance to prohibit new natural gas use, which would not occur before adoption of the next State building standards). Measure RE-4 promotes development of innovative technologies to reduce GHG emissions. The CAP also includes five measures (EE-C1 through EE-C5) to reduce GHG emissions through energy efficiency programs.

By implementation of the following 2040 General Plan policies and recommendations would reduce GHG emissions from building and equipment use:

- Land Use Policy 12.5 promotes energy efficient and green building practices for new, rehabilitated, or remodeled development, including recommended Green Building, Energy Efficiency and Renewable Energy programs in the City's CAP and the Green Building standards in the City Municipal Code.
- Housing Policies 12.1 and 12.2 call for energy efficiency and resource conservation in new and existing residences.
- Several Housing policies encourage energy conservation though energy efficient design and equipment.
- Health & Safety Policy 10.1 recommends regularly updating the CAP and monitoring of the progress towards meeting established GHG goals and development codes to implement the recommended Green Building, Energy Efficiency and Renewable Energy programs and promote state-of-the-art energy efficiency in new homes and remodels.
- Similarly, Natural Environment & Resources Policy 4.3 calls for continued implementation of the CAP.

Renewable Energy Use

CAP Measure RE-C2 would encourage residents to switch to MCE or PG&E GHG-free electricity. Implementation of the following 2040 General Plan policies and recommendations would increase the use of renewable energy:

- The City is currently implementing a CAP recommendation to increase use of renewable energy by enrolling in MCE's 100% renewable energy option.
- The CAP contains many recommendations to increase the use of renewable energy, including use of electric vehicles; energy efferent upgrades for buildings, lights, and pumps; solar energy systems; GHG-free energy generation; building and appliance electrification; innovative technologies; and energy efficiency protocols.

- As noted in previous subsections, several General Plan policies (e.g., Health & Safety Policies 2.4 and 10.1, Natural Environment & Resources Policy 4.3, Land Use Policy 11.5) all recommend maintenance and implementation of the CAP.

Solid Waste Reduction

The CAP includes seven measures to reduce GHG emission associated with solid waste generation. Organic waste disposed of at landfills can generate methane. Diversion of organic materials, including most paper and cardboard, can reduce GHG emissions. The CAP states that 14 percent of the GHG emission reduction projected in the plan would come from measures to reduce solid waste. Most of these measures are implemented in cooperation with Solid Waste disposers (e.g., Zero Waste Marin and Marin Sanitary Service). These measures are designed to ensure compliance with State Senate Bill 1383 and Assembly Bill 1826 that would reduce increase recycling and solid waste generation by 75 percent in 2025.

Implementation of the following 2040 General Plan policies and recommendations would also reduce the amount of solid waste generated in the City:

- Natural Environment & Resources Policy 5.3 supports efforts to recycle or compost wastes.
- Natural Environment & Resources Policy 5.4 promotes waste reduction strategies.
- General Plan policies (e.g., Health & Safety Policies 2.4 and 10.1, Natural Environment & Resources Policy 4.3, and Land Use Policy 11.5) all recommend maintenance and implementation of the CAP, which calls for reducing the amount of solid waste produced in Larkspur.

Reduce Water Consumption

Water conservation is a major issue throughout Marin County as the region frequently has to address water supply issues brought about by droughts. Pumping and treating water requires substantial energy, which in turn can increase GHG emissions. CAP Measure WC-C1 is intended to further reduce outdoor water usage. Implementation of the following 2040 General Plan policies and recommendations would reduce the demand for water:

- Natural Environment & Resources Policy 5.2 requires water conservation development standards and water conserving plumbing for new development, reconstructions, and remodels and calls for implementation of CAP water conservation programs.
- The CAP includes recommendations to assess, maintain and repair existing plumbing fixtures and to minimize water use, including building and parking lot landscaping, public rest rooms and parks, golf courses and other recreational facilities as feasible, upgrade and retrofit agency plumbing and irrigation systems.
- The City Municipal Code requires new development to be consistent with Marin Water Title 13 of the District Conservation landscaping and plumbing features.

2030 GHG Reductions

The Larkspur CAP computes GHG reductions from State actions at 7,736 MT/year and reductions from local or CAP (and 2040 General Plan) measures at 18,770 MT/year in 2030.

Implementing the CAP actions and General Plan 2040 policies and programs would reduce GHG emissions in Larkspur in 2040. Therefore, 2040 buildout emissions would be less than shown on Table 4.7-2.

Modeled per capita emissions in Larkspur shown in Table 4.7-2 are projected to decrease in 2040 under the project t0 2.9 MT CO_2e/year/SP. However, this GHG emissions reduction is only 25 percent less than the existing CEQA baseline emissions. The 2040 emissions target that demonstrated whether the City is on a trajectory to meet the 2050 reduction goal of Executive Order S-03-05 is 2.6 MT CO_2e/year/SP. Therefore, the modeled 2040 emissions are above the threshold.

The CEQA baseline conditions representative of 2020 conditions are assumed to be equivalent or less than 1990 levels. Note that Larkspur has already achieved a 25-percent reduction from 2005 levels as of 2018. General Plan policies with CAP measures and additional State measures are anticipated to reduce these emissions further. However, the GHG emissions modeling cannot demonstrate a trajectory of reducing emissions 60 percent that is necessary to ensure the City is on a trajectory to achieve the long-term year 2050 reduction goal of Executive Order S-03-05. Therefore, the impacts for the proposed General Plan 2040 are considered potentially significant.

The Larkspur CAP includes annual progress assessments. Measure IM-C1 requires annual monitoring that is publicized. Measure IM-C2 requires the City to update the community-wide emissions inventory annually and update inventories for City government operations every five years. Measure IM-C3 requires the City to identify and pursue local, State and federal funding sources to implement the CAP. New long-term reduction targets and strategies are incorporated into the CAP through Measure IM-C4. With full implementation of the CAP and the project, emissions could be reduced below the level shown in Table 4.7-2. Transportation-related emissions would be reduced by about 20 percent. Energy-related emissions could be reduced by more than 20 percent. Solid waste emissions would be reduced by over 60 percent. Additional reductions would occur with transportation and energy-related emissions as the State adopts additional measures. With these reductions, emissions would fall to 40 percent below 1990 levels or 2.4 MT CO_2e/year/person.

However, since specific reductions and tools to document these GHG reductions to a level that is 60-percent below 1990 levels are not available, the project is considered to have a significant and unavoidable impact with respect to GHG emissions.

Impact GHG-2: The project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CARB Scoping Plan

The CARB 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 the City to adopt policies, programs, or regulations to reduce GHG emissions). Major elements of the 2017 Scoping Plan framework include implementing Mobile Source Strategy, the Low Carbon Fuel Standard, and SB 350 (described previously). However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS) and changes in the CAFE standards.

Project GHG emissions shown in Table 4.7-2 include reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Development projects accommodated under the proposed General Plan 2040 are required to adhere to the programs and regulations identified by the Scoping Plan and implemented by State, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32 and SB 32. Future development projects would be required to comply with these State GHG emissions reduction measures as they are statewide strategies. For example, new buildings associated with land uses accommodated by implementing the proposed General Plan 2040 would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, as discussed under impact discussion GHG-1, the proposed General Plan 2040 includes goals, policies, and programs that would help reduce GHG emissions and therefore, help achieve GHG reduction goals. Therefore, implementation of the proposed General Plan 2040 would not obstruct implementation of the CARB Scoping Plan.

Plan Bay Area 2050

Plan Bay Area 2050 is the Bay Area's regional transportation plan to achieve the passenger vehicle emissions reductions identified under SB 375. *Plan Bay Area 2050* is the current SCS for the Bay Area. 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 and (Transit-Rich Areas (TRAs) planning (see previous Chapter 3.8 for a description of TRAs in Larkspur). In Larkspur, two TRAs are located around the SMART Larkspur Station and the Golden Gate Ferry Terminal, respectively. Most projected development in the city will be located within these TRAs or within HRAs along three major arterials in the city.

As identified previously, the proposed General Plan 2040 allows higher-density uses near transit stations and in areas that are less auto dependent. This is supported by Policy LU-3.1, 3.3, 3.4, and 3.5, which strive to reduce GHG emissions through the manner the City designs and locates new housing, offices, public buildings, and other uses. Thus, the project would be consistent

with the overall goals of *Plan Bay Area 2050* in concentrating new development in locations where there is existing infrastructure and transit. Therefore, the proposed project would not conflict with the land use concept plan in *Plan Bay Area 2050* and impacts would be less than significant.

Larkspur Climate Action Plan

As identified in the CAP, Larkspur has met the State GHG reduction target for 2020. According to the City's CAP, the Larkspur community emitted approximately 71,740 metric tons of carbon dioxide equivalent (MT CO_2e) in the year 2018. Of that, 56 percent came from the transportation sector, followed by 22 percent from residential uses that include energy usage and 15 percent from non-residential uses. GHG emission associated with waste generation made up about 5 percent of emissions. To meet the State's goals to reduce emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050, emissions in Larkspur would need to drop to 47,227 MTCO2e by 2030 and 15,740 MTCO2e by 2050. The CAP lays out measures that will meet the 2030 target and put the City on a trajectory to meet the 2050 goal. Additionally, the General Plan Land Use Map places higher-density uses near transit stations and in areas that are less auto-dependent. Therefore, the proposed project is consistent with the City's CAP, and impacts are less than significant.

Impact GHG-3 Implementation of the proposed project could cumulatively contribute to GHG emissions and global climate change.

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts under Impact GHG-1 are not project-specific impacts to global warming, but are the proposed project's contribution to this cumulative impact. As discussed under Impact GHG-1, implementation of the proposed project would result in a decrease in GHG emissions in horizon year 2040 from existing baseline but may not meet the long-term GHG reduction goal under Executive Order S-03-05,which entails a 2.6 MT CO2e/year/SP reduction. Implementation of the CAP would ensure that the City is tracking and monitoring the City's GHG emissions to chart a trajectory to achieve the long-term year 2050 GHG reduction goal set by Executive Order S-03-05. However, at this time, there is no plan that extends beyond 2030 that achieves the long-term GHG reduction goal established under Executive Order S-03-05. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impacts would be significant and unavoidable.

4.8 Hazards and Hazardous Materials

1. Setting

Definition

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations as follows.

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations, Title 22, Section 66261.10).

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosiveness, and reactivity. California Code of Regulations, Title 22, Sections 66261.20 through 66261.24 defines the aforementioned properties. The release of hazardous materials into the environment can contaminate soils, surface water, and groundwater supplies.

Land Use Patterns

Small quantities of hazardous materials in Larkspur are routinely used, stored, and transported in commercial and retail businesses as well as in educational facilities, hospitals, and households. Golden Gate Transit operates a refueling station at its ferry terminal located east of Highway 101 and south of Sir Francis Drake Boulevard. Diesel fuel used to power the ferries is stored in a 75,000-gallon aboveground tank.[44] Gas stations store gasoline and diesel in underground storage tanks (see Table 4.2-8 in the previous Air Quality section for a list of facilities with Bay Area Air Quality District permits. Hazardous materials users and waste generators in the city include businesses, public and private institutions, and households. Federal, State, and local agency databases maintain comprehensive information on the locations of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect surrounding land uses.

[44] California Environmental Reporting System (CERS), 2019, CERS ID No. 10032289

Past and present land use patterns are good predictors of the potential for past contamination by hazardous materials and the current use and storage of hazardous materials. Industrial sites and certain commercial land uses, such as dry cleaners, are more likely to use and store large quantities of hazardous materials than residential land uses. Land use patterns are also useful for identifying the location of sensitive receptors, such as schools, day-care facilities, hospitals, and nursing homes.

Hazardous Materials Release Sites

Larkspur is developed with residential, office, and commercial land uses. There are very few industrial land use sites. As such, there are few sites that are polluted with hazardous wastes, and most of these are older gas stations that historically experienced leaking underground storage tanks. Releases of hazardous materials may occur during use, storage, transfer, and disposal activities and contaminate soil, groundwater, and surface water. Known or suspected contaminated sites under DTSC or Water Board oversight are identified by Cal/EPA pursuant to Government Code 65962.5. The provisions of Government Code 65962.5, which are commonly referred to as the Cortese List, require the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases to the Secretary of Cal/EPA. Under the authority of the DTSC and Water Board, the MCDPW oversees the investigation and remediation of leaking underground storage tank (L.U.S.T) sites in the Planning Area.

Redevelopment projects at or near hazardous material release sites have the potential to encounter hazardous materials in soil and groundwater during construction, and, if not remediated, this contamination could result in health risks to future workers or residents. A review of environmental database information identified sixteen reported hazardous material release sites within the Planning Area. [45] All but five of these sites have been remediated, and the cases closed. In addition, contaminated sites at the location of the Rose Garden subdivision and the Ross Valley Sanitation District property in the Larkspur Landing area have been successfully remediated, and their cases have been closed. The remaining sites are listed on Table 4.8-1.

Aerially-Deposited Lead

Lead alkyl compounds were first added to gasoline in the 1920s. Beginning in 1973, the EPA ordered a gradual phase out of lead from gasoline that significantly reduced the prevalence of lead by the mid-1980s.[46] Soils adjacent to major roadways often contain elevated concentrations of aerially-deposited lead. The lead deposition is the result of airborne

[45] *GeoTracker and EnviorStor* databases accessed on 11/1/21
[46] *Draft Lead Report*, California Department of Toxic Substances Control, August 2004.

particulates and surface water runoff associated with tailpipe emissions prior to the time lead was phased out of vehicle fuels. [47]

Airport Hazards

The Planning Area is not located within an airport land use plan area. The nearest public airport is the Marin County Airport, located over 15 miles to the north of the Planning Area.

Table 4.8-1: Hazardous Materials Release Sites in Larkspur Planning Area

Site Name & Address	Hazardous Material(s) Involved	Status
Marin Car Wash 2066 Redwood Highway	Gasoline Other organic solids Unspecified oil-containing waste	Open Case - Site Assessment
Former Econogas Station 2070 Redwood Highway	PCE, Vinyl Chloride	Open Case - Site Assessment
San Quentin Prison	PCE, TCE, Vinyl Chloride	Open – Verification Monitoring
Golden Gate Ferry Terminal	Diesel	Open case – Inactive
Ross Valley Sanitary District Property	Remedial actions completed	Formal EPA approval of clean-up - completed

Emergency Response and Evacuation Planning Areas

As described below in the Regulatory Framework, the Planning Area is within the planning areas of the Marin Operational Area EOP, the Marin County Operational Area ERP, and the Larkspur LHMP.

Wildfire Hazards

A detailed discussion of wildland fire hazards is provided in Chapter 4.16, Wildfire, of this Draft EIR. As described in Chapter 4.16, the Planning Area contains land within a State Responsibility Area and Local Responsibility Area (see Figure 4.16-1). The land within the Local Responsibility Area is designated as Moderate or High Fire Hazard Severity Zones. There are no lands in the EIR Study Area classified by the State of California as being a Very High Fire Hazard Severity Zone. As shown on Figure 4.16-2, a large area in Larkspur is within the wildland-urban interface

[47] *Variance No. 00-H-VAR-01*, California Department of Toxic Substances Control, 2000a., September 22, 2000.

(WUI), which is defined as any area where structures and other human development meet or intermingle within wildland vegetation.

2. Regulatory Setting

Federal

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA)

These acts established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (enacted 1980), amended by the Superfund Amendments and Reauthorization Act (SARA) (1986)

This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established 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.

CERCLA also enabled revision of the National Contingency Plan (NCP), which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL).

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

FIFRA (7 USC 136 et seq.) provides Federal control of pesticide distribution, sale, and use. EPA was given authority under FIFRA not only to study the consequences of pesticide usage, but also to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by EPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment.

Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations

Regulations for Lead-Based Paint (LBP) are contained in the Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations (CFR) 33, governed by the U.S. Housing and Urban

Development (HUD), which requires sellers and lessors to disclose known LBP and LBP hazards to perspective purchasers and lessees. Additionally, all LBP abatement activities must be in compliance with California and Federal OSHA and with the State of California Department of Health Services requirements. Only LBP trained and certified abatement personnel are allowed to perform abatement activities. All lead LBP removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material at a landfill or receiving facility licensed to accept the waste.

U.S. Environmental Protection Agency

The U.S. EPA is the agency primarily responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials. Applicable Federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et. Seq.)
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99 499)

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. U.S. EPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

State

Department of Toxic Substances Control

As a department of the California EPA, the Department of Toxic Substances Control (DTSC) is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the U.S. EPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

Hazardous Waste Control Act

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The State program is similar to, but more stringent than, the Federal program under RCRA. The regulations list materials that may be hazardous, and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in California Code of Regulations (CCR) Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State called the Cortese List.

California Department of Pesticide Regulation, Department of Food and Agriculture, and the Department of Public Health

The California Department of Pesticide Regulations (DPR), a division of CalEPA, in coordination with the California Department of Food and Agriculture (CDFA), a division of Measurement Standards and the California Department of Public Health (CDPH) have the primary responsibility to regulate pesticide use, vector control, food, and drinking water safety. CCR Title 3 requires the coordinated response between the County Agricultural Commissioner and SBDEH to address the use of pesticides used in vector control for animal and human health on a local level. DPR registers pesticides, and pesticide use is tracked by the County. Title 22 is used also to regulate both small (less than 200 connections regulation by the SBC Water District) and large CDPH water systems.

California Fire Code (2019)

The 2019 Fire and Building Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

Regional

San Francisco Bay Regional Water Quality Control Board

The Porter-Cologne Water Quality Control Act established the State Water Resources Control Board (SWRCB) and divided the State into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB). The San Francisco Bay RWQCB, Region 2, regulates water quality in the EIR Study Area. The San Francisco Bay RWQCB has the authority to require groundwater investigations and/or remedial action if the quality of groundwater or surface waters of the State are threatened.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products. The latter are typically the responsibility of the CalEPA and the California Air Resources Board. The BAAQMD is responsible for preparation of attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and issuance of permits for activities, including demolition and renovation activities affecting asbestos-containing materials (District Regulation 11, Rule 2) and lead (District Regulation 11, Rule 1). As described in Section 4.2, Air Quality, BAAQMD also regulates diesel generators and other stationary sources.

Marin County Operational Area Emergency Recovery Plan

The Marin County Operational Area Emergency Recovery Plan (ERP), adopted in November 2012, establishes procedures and assigns responsibility to ensure the effective management of emergency recovery operations within the Marin County Operational Area, which includes the City of Larkspur. The ERP describes operational concepts relating to recovery, identifies components of recovery organization, and describes general responsibilities of the Marin County Office of Emergency Services (Marin OES).

Recovery operations in a multi-jurisdictional incident are coordinated and managed by the Operational Area in accordance with the California Emergency Services Act.

Marin Operational Area Emergency Operations Plan

The Marin Operational Area Emergency Operations Plan (EOP), adopted in October 2014, establishes policies and procedures, in addition to assigning responsibilities to ensure the effective management of emergency operations within the Marin Operational Area. Cities and towns within the county participate in the Marin Operational Area coordination of emergency management activities. Emergency operations are split into four phases: Preparedness Phase, Response Phase, Recovery Phase, and Prevention/Mitigation Phase. The City of Larkspur coordinates with Marin OES to ensure emergency management functions meet the expectation of the City.

Marin County Multi-Jurisdictional Local Hazard Mitigation Plan

The Marin County Multi-Jurisdictional Local Hazard Mitigation Plan (MCM LHMP) was completed in November 2018 to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. Several jurisdictions and special districts participated in the creation of the MCM LHMP, including the City of Larkspur. The risks and mitigations in the MCM LHMP are broad and encompassing of the entirety of Marin County. The MCM LHMP incorporates each local jurisdiction individual LHMP as appendices to ensure jurisdiction-specific information supplements the vulnerability mitigation included in the MCM LHMP. The City of Larkspur LHMP is incorporated into the MCM LHMP as Appendix O.

Local Regulations

Larkspur General Plan 1990-2010

The existing General Plan contains a goal and policies to limit the use and storage of hazardous material and to monitor the use of such materials and the transporters of such materials.

Larkspur Municipal Code

The LMC contains several chapters that regulate the use of hazardous materials. For example, there are the following chapters:

- LMC Chapter 14.04.010 requires a Hazardous Materials Management Plan and Hazardous Materials Inventory Statement for enterprises that use or store hazardous materials and limits the districts where such materials can be stored. These plans and inventories are filed with the Central Marin Fire Department and a copy is also filed with the CUPA.
- LMC Chapter 16.16.280 requires approval of the Fire Marshal or Building Official to store, use, or transport hazardous materials.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant hazard-related impact if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
5. 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, result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impact HAZ-1 Implementation of the proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Implementation of the proposed General Plan 2040 would facilitate potential new development, including residential, mixed-use, commercial, and recreational uses, within Larkspur. However, there are no changes to the amount of land that is designated for industrial uses that generate substantial quantities of hazardous materials and therefore the routine transport of hazardous materials. Potential future development under the proposed General Plan 2040 could result in the use and storage of hazardous materials, including common cleaning products, building maintenance products, paints and solvents, fertilizers and pesticides used in landscaping and yard care, along with other similar items. However, 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. As described in the previous Regulatory Framework, future development involving the routine transport or use of hazardous materials during construction, are subject to a variety of federal, State, regional, and

local regulations. All hazardous materials to be transported must remain in compliance with DOT regulations.

Potential future development would be subject to regulatory programs such as those overseen by the RWQCB and the DTSC. Non-residential 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. Additionally, Marin County Waste Management Division (WMD) that covers the City of Larkspur has numerous regulations concerning hazardous materials in the Planning Area. For example, Marin County WMD requires the development and approval of Hazardous Material Management Plans that describe safe storage and handling of hazardous materials and require inspections of such handling and storage.

Potential future development, including any future development on the State-owned parcel, that would introduce hazardous materials to a site, or that would generate hazardous waste, would be regulated pursuant to federal, State, regional, and local laws. 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.

The proposed Health and Safety Chapter contain goals, policies, and programs that require local planning and development decisions to require best hazardous materials practices as part of development. The policies, and programs would serve to minimize exposure to hazardous materials from routine transport, use, or disposal in the Planning Area.

Policy SAF-2.5: Identify essential emergency facilities and infrastructure and make provisions to ensure that they will function in the event of a disaster.

Action Program SAF-2.5.a: Identify essential emergency facilities and critical utilities and ensure that they will function in the event of a disaster, eliminate hazardous features and identify alternative facilities if needed. Work with utilities, health providers and school districts to ensure their continued operations and coordination in the event of a disaster. Ensure City staff are trained in emergency response.

Policy SAF-8.1:Limit the use and storage of hazardous materials and waste in Larkspur to commercial and industrial areas.

Action Program SAF-8.1.a: Designate zoning districts where hazardous materials can be used and stored. Small quantities of certain types of chemicals (such as dry-cleaning solvents) may be used in neighborhood commercial areas, while other types of chemicals and materials should be more strictly controlled.

Policy SAF-8.2: Coordinate with the County of Marin to monitor and enforce regulations concerning the use and handling of hazardous materials and waste.

Action Program SAF-8.2.a: Require the use, storage, transportation and handling of hazardous materials and waste within the City to comply with applicable County, State and federal laws.

Action Program SAF-8.2.b: Ensure that the City's municipal code is regularly updated to reflect current standards for the handling, storage, and transport of hazardous materials and waste.

Action Program SAF-8.2.c: Ensure that project review complies with the California Environmental Quality Act, as pertaining to identification, evaluation, and remediation of contaminated project sites.

Action Program SAF-8.2.d: Maintain up-to-date references to maps of utility transmission pipelines or transmission lines for the public to review. Refer to existing maps provided by the California Energy Commission, Pacific Gas and Electric, and other reliable sources.

Action Program SAF-8.2.e: Encourage utility providers managing underground transmission pipelines or transmission lines to perform regular inspections and address any hazardous conditions found during those inspections as quickly as possible.

Policy SAF-8.3: Prepare for hazardous materials incidents through the Emergency Management Plan.

Policy SAF-8.4: Promote educational programs to enhance public awareness of proper hazardous material or waste storage, transport, and disposal.

Action Program SAF-8.4.a: Provide educational materials in City Hall and the City website on hazardous material and waste collection facilities and suggested handling strategies for household hazardous materials and wastes.

As part of the City's project approval process, potential future development and redevelopment would be required to comply with existing federal, State, regional, and local regulations, including the proposed General Plan goals, policies, and programs that have been prepared to minimize impacts related to hazardous materials. Compliance with these regulations would minimize the risk of an adverse effect on the environment, through the routine use, transport, and disposal of hazardous materials, and therefore impacts would be less than significant. No additional mitigation is required.

Impact HAZ-2 Implementation of the proposed project could 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.

The proposed General Plan 2040 would facilitate potential new development, including residential, mixed- use, commercial, and recreational uses, within Larkspur. Some potential future development could occur on sites that are contaminated with hazardous materials, which includes sites that are active, undergoing verification monitoring, and/or undergoing remediation action, as indicated in Table 4.7-1. There are very few of these known contaminated sites in Larkspur.

Construction of new buildings could result in the release of hazardous soil-based materials into the environment during site grading and excavation. Likewise, demolition of existing structures could potentially result in release of hazardous building materials (e.g., asbestos, lead paint, etc.) into the environment. Potential future development could also result in the use of hazardous materials during project operation, such as cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and operation of certain developments.

Providing an Open Residential land use classification and RMP pre-zoning to the State-owned parcel could result in future development of up to 8 residential lots on that parcel. Portions of the parcel have been used for a gun range. It is possible that soil contamination has occurred from this use as well as other historic uses of the parcel. If the parcel is annexed to the City, the City will require preparation of an RMP prior to any development of this parcel. As part of the CEQA analysis required for approval of an RMP, a Phase 1 Environmental Site Assessment will be required to determine the potential for site contamination and, if warranted, how such contamination would be addressed and remediated.

Potential future development under the proposed project would be required to comply with existing regulations as part of the City's project approval process. The City actively monitors compliance with federal, State, regional, and local regulations, including LMC Chapter 14.04.010, that requires a Hazardous Materials Management Plan and Hazardous Materials Inventory Statement for enterprises that use or store hazardous materials and limits the districts where such materials can be stored. These plans contain specific steps to be taken to address accidental spills. LMC Chapter 16.16.280 requires approval of the Fire Marshal or Building Official to store, use, or transport hazardous materials. The required plan lists hazardous materials on a site, a map of their location and an Emergency Response Contingency Plan to address any spills or releases. Any project proposed on a site Listed on the State's Cortese list is also subject to oversight by State and other agencies. These provisions would also ensure future development under the proposed General Plan 2040 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, the impact is less than significant, and no additional mitigation is required.

Impact HAZ-3 Implementation of the proposed project could emit hazardous emissions or handle hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

It is possible that implementation of the proposed General Plan 2040 could result in potential future development that would involve use of hazardous materials, either through construction or operation of new development, within 0.25 miles of an existing or proposed school. For example, new development of parcels in the Downtown would be within one-quarter mile of Hall Middle School and St. Patrick's School. As described under Impacts HAZ-1 and HAZ-2, development in the Downtown area would not be expected to involve acutely hazardous materials. Some potential future projects could be reasonably expected to handle hazardous materials or generate hazardous emissions, but the storage, use, and handling of these

materials would be subject to existing federal, State, and local regulations. Potential future development would be required to comply with existing regulations as described in the previous, Regulatory Framework, and listed in Impacts HAZ-1 and HAZ-2, including General Plan goals, policies, and programs that have been prepared to minimize impacts as a result of hazardous materials. These regulations would ensure requirements regarding use or transport of hazardous materials are met prior to construction, which includes buffer zones between schools and hazardous materials sites.

Compliance with federal, State, regional, and local requirements regarding ongoing environmental review and management of hazardous materials would ensure that potential future development under the proposed General Plan 2040 would not result in a significant impact to adjacent land uses that may contain sensitive receptors. The impact would be less than significant, and no additional mitigation is required.

Impact HAZ-4 Implementation of the proposed project could be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment

As discussed previously, public records and reporting systems state that Larkspur has few sites where hazardous waste, such as asbestos, cleaning solvents, fertilizers, and pesticides, needs to be cleaned up, and most of those were old gas stations with leaking underground tanks. It is possible there are unreported and/or unknown contaminated sites. As shown in Table 4.8-1, there are only five sites that are open cases regarding cleanup of hazardous materials. One site has been remediated and is waiting for final EPA clearance, two are gas stations, one is San Quentin Prison, and the final one is the Golden Gate Ferry Terminal. Although implementation of the proposed General Plan 2040 anticipates that potential future development and redevelopment could occur on existing infill sites, the location of potential future development is unknown and theoretically could occur on these sites. As discussed in Impacts HAZ-1 through HAZ-3, construction on a site listed in the database could result in the release of potentially hazardous soil-based materials into the environment during site grading and excavation operations. Further, demolition of existing structures could potentially result in the release of hazardous building materials (e.g., asbestos, lead-based paint) into the environment. Use of hazardous materials on newly developed properties after construction could potentially include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and operation of future development.

As described in Impacts HAZ-1 through HAZ-3, potential future development that would occur under implementation of the proposed General Plan 2040 would be required to comply with all federal, State, regional, and local regulations regarding the safe handling, transport, disposal, and use of hazardous materials. Further, the proposed General Plan 2040 includes specific goals, policies, and programs that would further require land planning and development decisions to reduce the impacts that potential future development with known hazardous materials, or the use of such materials, could have on the environment and the public. The

combination of General Plan 2040 policies and programs and existing regulations governing storage, use, and transport of hazardous material as well as the few monitored sites reduce the impact of future residents or workers being exposed to significant amounts of hazardous materials reduce the risk to a less than significant level. No additional mitigation is required.

Impact HAZ-5 Implementation of the proposed project could, for a project located within an airport land use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.

Larkspur is not within an airport land use plan nor within two miles of a public airport. There would be no impact, and no mitigation is required.

Impact HAZ-6 Implementation of the proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Potential future development in the city is projected to occur primarily in the form of infill and redevelopment on sites either already developed, underutilized, and/or in close proximity to existing residential and residential-serving development, and in areas with close proximity to public transportation. The State-owned parcel on the San Quentin peninsula is an undeveloped hillside. Future development of that site would not block emergency access or evacuation on the adjacent Sir Francis Drake Boulevard or Highway 580. Implementation of the proposed General Plan 2040 would not include land use changes that impair or physically interfere with the Marin Operational Area EOP, the Marin County Operational Area ERP, or the MCMLHMP.

See the discussion under Impact FIRE-1 in Section 4.16, Wildfire, for a detailed discussion of possible wildfire-related impacts to emergency response or emergency evacuation plans. That impact analysis concludes that the General Plan 2040 would not impair implementation or interfere with an emergency response or evacuation plan.

The proposed Health and Safety Chapter contains goals, policies, and programs that require local planning and development decisions to comply with existing emergency response and evacuation plans. The following goals, policies, and programs would serve to ensure potential future development in the Planning Area does not physically interfere with any such adopted plan.

Goal SAF-2: Planned, coordinated response to all disasters

Policy SAF-2.1: Maintain an updated emergency response plan and evacuation plan.

Action Program SAF-2.1.a: Regularly review and update, as necessary, the City's Emergency Management Plan to coordinate with emergency plans of other governmental agencies and respond to changing conditions. Incorporate the likelihood of sea level rise and extreme heat and storm events.

Policy SAF-2.2: Prepare and maintain a comprehensive multi-modal evacuation plan.

Action Program SAF-2.2.a: Maintain and expand the network of anticipated emergency response routes and regularly exercise evacuation protocols and procedures.

Action Program SAF-2.2.b: Support measures to designate, create, maintain, resurrect, and enhance those steps, lanes, paper streets, and paths that could serve as evacuation routes.

Action Program SAF-2.2.c: Continue to maintain and clearly identify those facilities and networks that serve as emergency response and evacuation routes.

Potential future development under implementation of the proposed General Plan 2040 would be required to comply with existing regulations and adopted plans related to emergency response and evacuation as part of the City's project approval process. Compliance with applicable federal, State, and local regulations would ensure future development under the proposed General Plan 2040 would not interfere with existing adopted plans, such as the Marin Operational Area EOP, the Marin County Operational Area ERP, and the MCM LHMP, and impacts would be less than significant.

Impact HAZ-7 Implementation of the proposed project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury,or death involving wildland fires.

Chapter 4.16, Wildfire, of this Draft EIR provides a thorough discussion of the relevant regulatory framework and existing conditions pertaining to wildland fire hazards in the Planning Area. The Planning Area contains land within the Local Responsibility Area, as shown on Figure 4.16-1. The portion of the Planning Area within the Local Responsibility Area is designated as very high, high, or moderate fire hazard severity zones. The Planning Area also includes lands within the Wildland Urban Interface (WUI), which is defined as any area where structures and other human development meet or intermingle within wildland vegetation. However, very little new development is projected in the WUI, and that development would be required to have adequate access and meet fire and building codes. The California Building Code (CBC), Part 2 of 24 California Code of Regulations, identifies building design standards, including those for fire safety. Typical fire safety requirements of the CBC include the installation of sprinklers in all high-rise buildings and other facilities; the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction in Very High Fire Hazard Severity Zones (VHFHSZs); requirements for smoke-detection systems; exiting requirements; and the clearance of debris.

In addition, there are no proposed land use changes as part of the proposed General Plan 2040 that would modify the types of land uses or exacerbate any risks beyond what is currently allowed in the General Plan 1990-2010. The State-owned parcel near San Quentin Prison is currently zoned by the County as Agricultural, Limited with a BS Combining zoning or A2-B2. The A2-B2 zoning allows a wide range of agricultural, residential, and other uses on the 48.77-acre parcel. It would permit a maximum of 211 dwelling units as well as an equal number of

Accessory Dwelling Units (ADUs). However, if, as expected, future development of the remaining portion of the parcel is a proposed subdivision, then under the Hillside Subdivision Design (Chapter 22.82.050) of the County Development Code, the maximum development of the remaining portion of the parcel would be approximately 50 dwelling units. The City is proposing an Open Residential land use classification and an RMP pre-zoning. These designations would result in up to 8 residential lots. Therefore, the proposed project would reduce the number of potential residences currentlyin this high fire hazard zone. Additionally, the required RMP for this property would include all fire hazard reduction actions the City requires for new development in high fire hazard zones.

Potential future development under the proposed General Plan 2040 would result in increased opportunities for development to occur on infill sites in existing urban areas of the Planning Area. Therefore, almost all new development would be outside the WUI and the high or very high fire hazard zones. All potential future development under the proposed General Plan 2040 would be required to comply with State and local regulations as well as the proposed goals, policies, and programs described in Chapter 4.16, Wildfire, of this Draft EIR, which reduce the likelihood of new development being exposed to a more significant risk of loss, injury, or death involving wildland fires than is currently the case. Therefore, implementation of the proposed General Plan 2040 would not expose people or structures, either directly or indirectly, to a new significant risk of loss, injury, or death involving wildland fires, and impacts would be less than significant. The risk of wildfire will continue to exist. However, proposed development allowed by the General Plan 2040 would not increase wildfire hazard.

Impact HAZ-8 Implementation of the proposed project could result in a cumulatively considerable impact to hazards and hazardous material.

As discussed previously, potential future development allowed by the proposed project would not result in significant impacts from hazardous materials and would not increase exposure to potential hazards associated with wildland fires. Where the Planning Area contains sites included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, compliance with federal, State, and local regulations would reduce these impacts to less than significant. Implementation of the proposed project would not interfere with implementation of emergency response plans or result in significant impacts regarding airport hazards.

Cumulative development in adjacent jurisdictions would be subject to the same federal, State, and regional regulations, as well as regional safety plans, such as the Marin County Operational Area ERP and the Marin County Operational Area EOP. Since impacts associated with hazardous materials and wildland fires are by their nature focused on specific sites or areas, the less-than-significant impacts within the Planning Area from the proposed project would not contribute to a cumulative increase in hazards in the Planning Area or the greater Marin County region. Therefore, cumulative impacts associated with hazards and hazardous materials would be less than significant.

4.9 Hydrology and Water Quality

1. Setting

Introduction

The Planning Area encompasses approximately 11 square miles of open water and tidal habitats within Corte Madera Creek and Richardson Bay, and six square miles of uplands and transitional floodplains. The lower elevation zones are part of the bay plain and alluvial valley depositional province. They are characterized by fortified shoreline zones, tidal and brackish water marsh, perennial streams and their riparian corridors, filled baylands, alluvial fan deposits, and, in zones of past hillslope instability, unconsolidated colluvial deposits. Tidal marsh is concentrated along the lower reach of Corte Madera Creek, extending upstream to roughly Bon Air Bridge. Additional freshwater marsh occurs in portions of Creekside Park and adjacent to the Tamalpais Creek confluence.

Larkspur Creek (Arroyo Holon) drains the higher elevation terrain flanking Baltimore and Madrone Canyons, as well as the old Downtown area. The eastern flank of Mt. Tamalpais forms the headwaters of Larkspur Creek. The Creek maintains a natural channel and riparian corridor as it flows through the Baltimore Canyon Open Space Preserve. Between Monte Vista Drive and Meadowood Drive the creek has been diverted to an underground culvert beneath the Downtown. Below Meadowood Drive tidal influence increases and the character of the channel transitions to fully tidal as it approaches the Doherty Drive crossing. The creek discharges to lower Corte Madera Creek via a maintained reach adjacent to the Larkspur Marina.

King Mountain Creek is a smaller, perennial creek that drains the north-facing slopes of King Mountain and discharges to Corte Madera Creek opposite Creekside Park. Greenbrae Creek drains the community of Greenbrae, which is included in the Planning Area. Greenbrae Creek is contained in a storm drain system for most of its length, and discharges to lower Corte Madera Creek near the Sir Francis Drake crossing under U.S. 101. The lower reach of Tamalpais Creek is also within the Planning Area; however, the majority of its watershed lies within Marin County (Kentfield).

Elevations within the Planning Area range from approximately 1,000 feet along Blithedale Ridge to below sea level in the sub-tidal zone at Corte Madera Creek's outlet in western San Francisco Bay. Mean annual rainfall in the Planning Area ranges from 20 inches to in excess of 40 inches on the eastern flank of Mt. Tamalpais. Most of the rainfall occurs during the wet winter season, which typically extends from November through March. Significant runoff events occur in response to prolonged rainfall of two to three days duration, punctuated by short periods of intense, nested rainfall.

Historically, severe flooding has primarily affected the Planning Area's low-lying areas adjacent to lower Corte Madera Creek where incoming stormwater discharges and high Creek stages can

exceed the capacity of the City's storm drainage facilities. Major floods that produced significant flood damage occurred in 1955, 1958, 1973, January 1982 and most recently December 31, 2005. Both the 1982 and 2005 floods have been determined to equal or exceed the magnitude of the 100-year event for Corte Madera Creek.

Drainage and Flooding

Local topography, geology and watershed land use influence the character of natural channel flow and stormwater drainage within the Planning Area. In the steep undeveloped lands that comprise the headwaters areas for Larkspur Creek and King Mountain Creek, main stem or tributary channels flow perennially where upslope springs deliver sufficient groundwater discharge (i.e., base flow). Where perennial springflow is minimal or absent, flows are ephemeral or intermittent. Ephemeral flow occurs in response to a specific runoff-generating rainstorm and dissipates soon thereafter, while intermittent flow is maintained for much of the winter rainy season. Further downstream in the urbanized portions of the watersheds, the high degree of connected impervious surface cover and related storm drain system installation produces accelerated delivery of stormwater runoff to receiving channels.

Tidal influence from North San Francisco Bay extends westward along Corte Madera Creek into the Planning Area. During periods of extreme high tides and/or elevated flood stages on Corte Madera Creek, local low-lying stormwater outfalls may be subject to tidal backwater, which reduces their hydraulic capacity and hinders stormwater evacuation. When tidally-induced flooding occurs, the City's stormwater pump stations are activated to discharge accumulating floodwater to Corte Madera Creek. Normal tidal influence and siltation along the lower reaches of Corte Madera Creek and Larkspur Creek can also result in decreases in channel cross-section and capacity.

Aside from the effects of large-scale geologic instabilities, the most prevalent modification to natural drainage patterns occurs in association with residential and commercial development. Hillslope grading, roadway, driveway, and parking lot construction, landslide remediation and installation of storm drain systems in Planning Area drainageways can both concentrate and/or reroute site stormwater runoff. In the Planning Area, existing urbanization borders on open space conservation zones and preserves which limit the potential for further development at higher elevations. Therefore, opportunities for implementing peak flow mitigation measures will accrue primarily from new infill development and/or upgrades to existing stormwater infrastructure.

Stormwater Drainage Infrastructure and Maintenance

In 2001, the City Council adopted Larkspur 2050: Capital Expenditure Plan, often referred to as the "2050 Plan." The document serves as the City's vision plan for capital pursuits and has helped guide infrastructure decisions of the past seventeen years. In 2017, the Council proposed revisiting the 2050 Plan. This 2018 update of the 2050 Plan focuses primarily on the

state of the City's infrastructure needs. The Update recommended that a Storm Drain Master Plan be prepared and adopted.

The City approved the *Larkspur Storm Drain Master Plan* in 2019. The following discussion summarizes the more pertinent findings of that study.[48]

The City's storm drainage system consists of storm drainpipes that have outlets to creek channels. The majority of the City's system has capacity for smaller storms (up to 10-year storms); however, portions of the system lack the capacity necessary to meet the 10-year standard. The majority of the system performs well in a 10-year storm with most flooding confined to the streets. Larkspur generally drains from southwest and northeast direction to the Corte Madera Creek. Tidal flooding is most common along bay front parcels.

Areas of significant potential flooding were identified. The Master Plan recommended. improvements to improve system performance for the 10-year storm. It is impossible to entirely remove flooding throughout the project area, either due to local topography, but the majority of model-predicted flooding can be mitigated with the capital improvements proposed in the plan.

Pump stations are often an important element of Master Plan models where they play a large part in managing stormwater runoff. The City of Larkspur owns five stormwater pump stations. Pumping stations are required due to Corte Madera Creek backwater effects, which during high creek and/or tide stages can restrict unassisted, gravity evacuation of stormwater. The pumping stations are Greenbrae Boardwalk, Heatherwood, Industrial Way, Larkspur Plaza, Larkspur Plaza Wall, and Redwood Marsh. Each of these stations contains two pumps of equivalent capacity, one operating as a back-up in case of equipment failure. The adjoining Town of Corte Madera independently maintains and operates nine stormwater pumping stations along the U.S. 101 and Corte Madera Creek corridors.

Known flooding problem areas identified by City staff include:

- Flooding in the area encompassed by Tulane Drive, Yale Avenue, Harvard Drive, and Bon Air Road
- Flooding in the area near intersection of Magnolia Avenue and Park Way
- Flooding in the area near intersection of Redwood Highway and Industrial Way
- Flooding during high tides in the Larkspur Plaza Drive near intersection with Creekside Drive
- Flooding during high tides in north-western and north-eastern corners of Riviera Circuit from Corte Madera Creek

[48] *City of Larkspur Storm Drain Master Plan*, Schaaf & Wheeler Consulting Engineers, October 2019.

Based on modeling results, the following areas with potential inadequacies in the storm drain network were identified

- Area around Larkspur Landing Circle
- Area near intersection of Eliseo Drive and Bretano Way
- Area near intersection of Sir Francis Drake Boulevard and El Portal Drive
- South Eliseo Drive between Via Holon and Via Belardo
- Area on Doherty Drive west of the intersection with Riviera Circle
- Area near intersection of Murray Avenue and Magnolia Avenue
- Area in Parkside Way just west of intersection with Eliseo Drive

For each of the areas identified to have a potential deficiency in the storm drain network, a possible capital improvement plan (CIP) was developed and verified using hydraulic modeling.

Ten high priority projects are aimed at reducing significant 10-year flooding in problematic areas and at carrying out short term improvements at selected pump stations. Six moderate priority projects aim to reduce most flooding at the 10-year level of service and perform long-term improvements at selected pump stations. The City may need to progressively re-prioritize moderate priority projects based on funding, other utility improvements, land use changes, and condition assessments. Four low priority projects are recommended to alleviate minor 10-year flooding. These projects are not likely to be constructed before the next storm drain master plan update. The master plan includes cost estimates. Given available resources, the City will continue to implement master plan CIP recommendations as part of its annual Five-Year CIP.

Ross Valley Flood Protection & Watershed Program[49]

In 2006, after devastating flooding in downtown San Anselmo and other communities in the Ross Valley, the County of Marin commissioned a new hydraulic model of the Ross Valley watershed to use as a basis for five new design alternatives for flood control improvements for Corte Madera Creek. Ross Valley voters (including the voters of the City of Larkspur with property that drains to the Ross Valley watershed) approved a 20-year flood improvement fee in 2007 to fund the County's flood control improvements. Subsequently, the County established the Ross Valley Flood Control & Watershed Program. This program identified a list of possible projects with a long-range goal to increase the existing 6-year level of flood protection in the Ross Valley to a 100-year level. Phase 1 of the remaining fee years (2019 – 2027), seeks to implement projects for a shorter-term target goal of between 10-year and 25-year level of flood protection. Phase 2 (2028 – 2050), depending on securing funding sources such as grants and a renewal of the storm

[49]Data taken from the Ross Valley Flood Protection & Watershed Program is taken from the FINAL Storm Drainage Fee Update Report accessed on June 12, 2020 at: https://www.marinwatersheds.org/sites/default/files/2021-08/2021-2022%20Storm%20Drainage%20Fee%20Update%20%28FINAL%20Unsigned%29.pdf

drainage fee for the typically required local matching funds, would add additional measures to work toward achieving a target goal of 25-year to 100-year level of flood protection. Several of the projects were eliminated or delayed because of public opposition or engineering constraints. Major projects either completed or remaining active include:

San Anselmo Flood Risk Reduction Project. The objective of the project is to reduce both peak flows in Fairfax Creek and out-of-bank flow in San Anselmo Creek in concert with other flood risk reduction measures. In Fiscal Year 2021-22, the project will continue in design, permitting and construction of three project components: (1) Sunnyside Flood Diversion and Storage Basin at 3000 Sir Francis Drake Boulevard (Phase 2 Construction); (2) the removal of a building at 634-636 San Anselmo Avenue in San Anselmo, a structure that partially obstructs the flow of San Anselmo Creek; and (3) flood mitigation measures on downstream private properties that may see impacts from the project. Construction of the project started in 2019 and will continue in phases through 2023.

Ross Valley Bridge Projects. The Town Bridge Replacement Projects are local projects seeking community input as part of the bridge redesign processes for the Azalea Bridge in Fairfax, Nokomis Avenue, Madrone Avenue, and Center Boulevard bridges in San Anselmo, and the Winship bridge in Ross. These projects are managed by the respective Towns and are in the environmental review and design phases. The Town of San Anselmo has obtained funding to replace four bridges in San Anselmo including the Nokomis Avenue, Madrone Avenue, Bridge Street, and Center Boulevard Bridges all of which have been identified as constriction points causing flooding in Town. The District will continue to work closely with the Towns of Ross, San Anselmo and Fairfax on final designs and environmental review for bridge modifications /replacements that will increase flow capacity in the creeks and reduce localized flooding. Nine (9) bridges were originally identified for replacement in the 10 Year Work Plan, seven (7) of which received Caltrans funding. The District has provided local matching funds for Design and CEQA through local storm drainage fees and the towns will continue to provide project management. Five (5) of the bridge projects were approved for Caltrans funding (88.5%-100% funding by Caltrans) including:

- Azalea Avenue Bridge, Town of Fairfax
- Madrone Avenue Bridge Replacement, Town of San Anselmo
- Sycamore Avenue/Center Boulevard Bridge Replacement, Town of San Anselmo
- Nokomis Avenue Bridge Replacement, Town of San Anselmo
- Winship Avenue Bridge, Town of Ross

Funding is currently being sought by the Towns for the replacement of the Bridge Avenue Bridge in the Town of San Anselmo and the Sir Francis Drake Boulevard Bridge in Town of Ross. Although Caltrans has placed funding of the bridge projects on hold the Towns are seeking funding sources to proceed in replacing the bridges.

Corte Madera Creek Flood Risk Management Project. This project was approved by the Marin County Board of Supervisors in August 2021. The Project is located along the Corte Madera Creek in Ross and Kentfield. The objective of the project is to reduce peak flood flow water surface elevations while minimizing any downstream impacts; restoring sections of the existing concrete channel to provide more natural creek habitat and floodplain overflow areas where possible and improving fish passage through the concrete channel. In Fiscal Year 2021-2022, the locally led project will incorporate input from previous public workshops and community feedback to produce and circulate for comments a Final EIR and complete the CEQA process. Coordination with District Partners including Town of Ross, College of Marin, Friends of Corte Madera Creek, and regulatory agencies will continue to complete technical studies and finalize the project plans and specifications. The District will submit environmental permitting applications and seek US Army Corps of Engineers 408 approvals to modify the existing Corps project and plan for the project construction to begin in Spring of 2022.

Lower Corte Madera Creek Improvement Study. The Study provided a comprehensive assessment of the current condition of the levee and creek system downstream of the concrete channel and identified and provided recommendations for improvements including how to achieve the equilibrium channel dimensions for Corte Madera Creek (also known as the Geomorphic Dredge study). The Study provided a comprehensive assessment of the current condition of the levee and creek system downstream of the concrete channel and identified and provided recommendations for improvements including how to achieve the equilibrium channel dimensions for Corte Madera Creek (also known as the Geomorphic Dredge study). The Study considered potential project concepts that could be partially funded for final design and construction under the Department of Water Resources Local Levee Assistance Program or from other funding sources. In Fiscal Year 2019-20, the Local Levee Evaluation Study was completed and is available from the project page.

Flood Control and Dredging in Corte Madera. Corte Madera Creek is heavily silted, particularly where the concrete channel of Unit 3 transitions to the mud channel just upstream and immediately downstream of the concrete channel. No dredging of the main channel has taken place for decades, due to lack of funds and concerns about environmental impacts. As a result, the Creek has decreased capacity for upstream flood runoff. The Ross Valley Flood Protection & Watershed Program includes the Lower Corte Madera Creek and Geomorphic Dredge Study to assess what type of dredging may be included in the Flood Control Project. This study is part of the Lower Corte Madera Creek Improvement Study.

Existing Flood Hazards

Flooding occurs in the Planning Area as a result of either watershed flooding and coincident high tides or during extreme high tides accompanied by storm surge. Storm surges develop during storm events due to the concurrent low barometric pressure that causes a rise in ocean levels. Both types of flooding are modeled by the Federal Emergency Management Agency (FEMA), the results of which are published in Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) in conjunction with risk assessments for the National Flood Insurance

Program (NFIP. Figure 4.9-1 depicts the mapped FEMA Flood Hazard Areas. The bulk of the Food Hazard Area is labeled as a zone of 1% Annual Chance of Flood Hazard.[50]

Tsunamis

Given the history of tsunamis in the San Francisco Bay Area, the risk of flooding due to a tsunami event is considered to be low for the City of Larkspur. Tsunami hazards in the San Pablo and San Francisco Bays are much smaller than along the Pacific Coast because the bays are enclosed bodies of waters. However, as shown on Figure 4.9-2, the land adjacent to Corte Madera Creek are within the mapped tsunami inundation zone.

Dam Failure

Phoenix Lake located near Ross is a water supply reservoir located on upper Ross Creek, which is operated and maintained by the Marin Municipal Water District (Marin Water). Phoenix Lake dam (the only dam upstream from Larkspur) is considered secure. MMWD has a comprehensive Dam Safety Program to ensure that all of its dams and spillways are safe and functioning properly. The program includes ongoing monitoring, inspections, and maintenance. Along with all other dams in California, it is subject to yearly safety inspections by the California Division of Safety of Dams (DSOD). The most recent visit by DSOD was in February 2017. The 2018 Marin County Multi-Jurisdiction Local Hazard Mitigation Plan reports the following regarding Phoenix Dam.

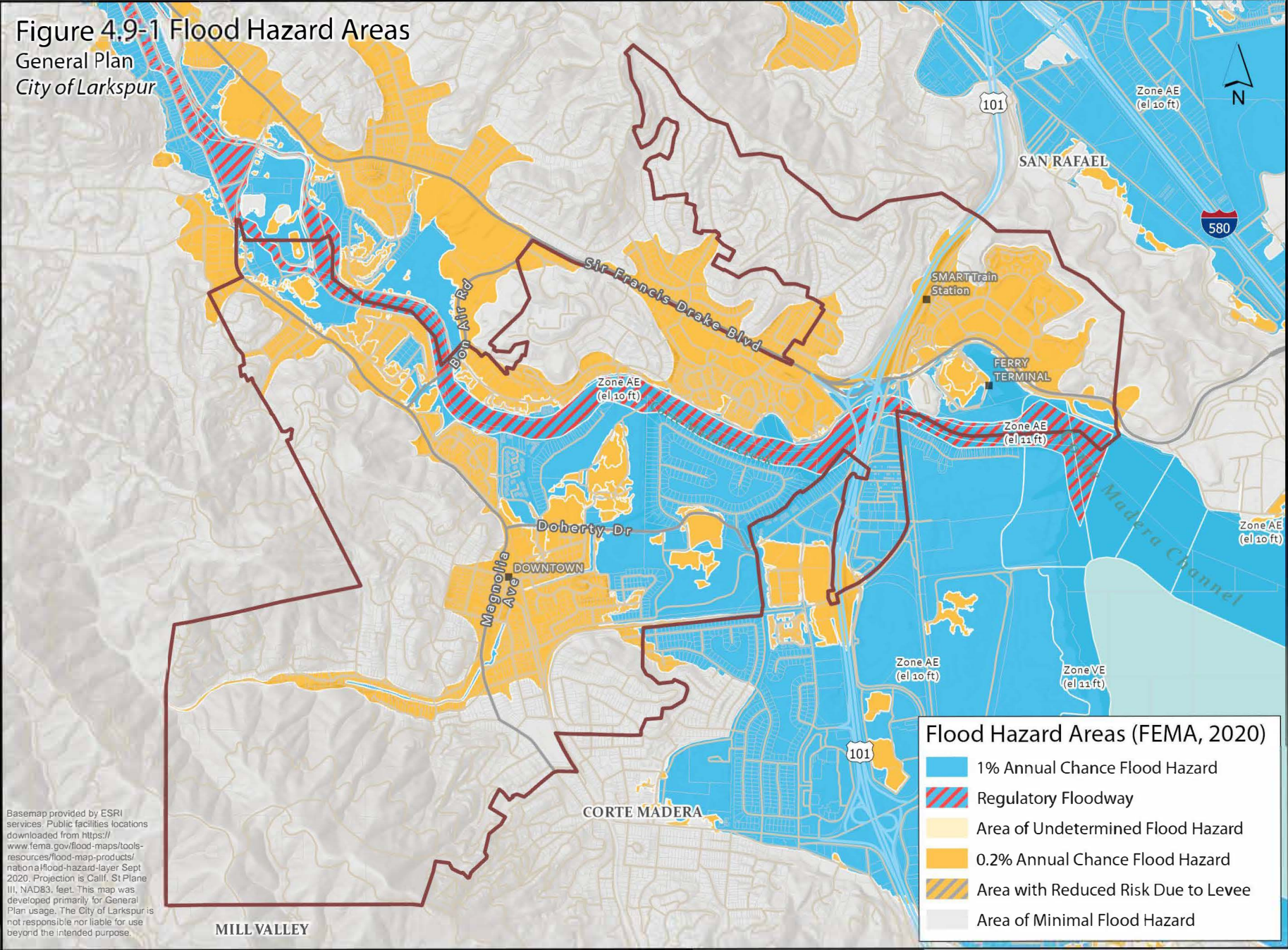
According to the 1988 Town of Ross General Plan Safety Element, "in 1974, a seismic stability analysis of Phoenix Lake Dam was conducted for the Marin Municipal Water District. The purpose of this study was to assess the risk of seismically induced flooding associated with failure of Phoenix Lake Dam. The earth dam was constructed just prior to the 1906 earthquake, which created a landslide on the inside portion of the dam embankment. The slope stability analysis conducted in 1974 concluded that the dam spillway could settle from 4 6 feet during an earthquake with a Richter magnitude of 8.5 generated along the San Andreas fault. The 1906 San Francisco earthquake had a Richter magnitude of 8. In response to this assessment, the Marin Municipal Water District has widened the spillway by 5 to 6 feet and has lowered the

[50] FEMA defines SFHA Zones AE and VE as follows: *Zone AE*- Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply. *Zone VE*- Areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Figure 4.9-1 Flood Hazard Areas

General Plan

City of Larkspur

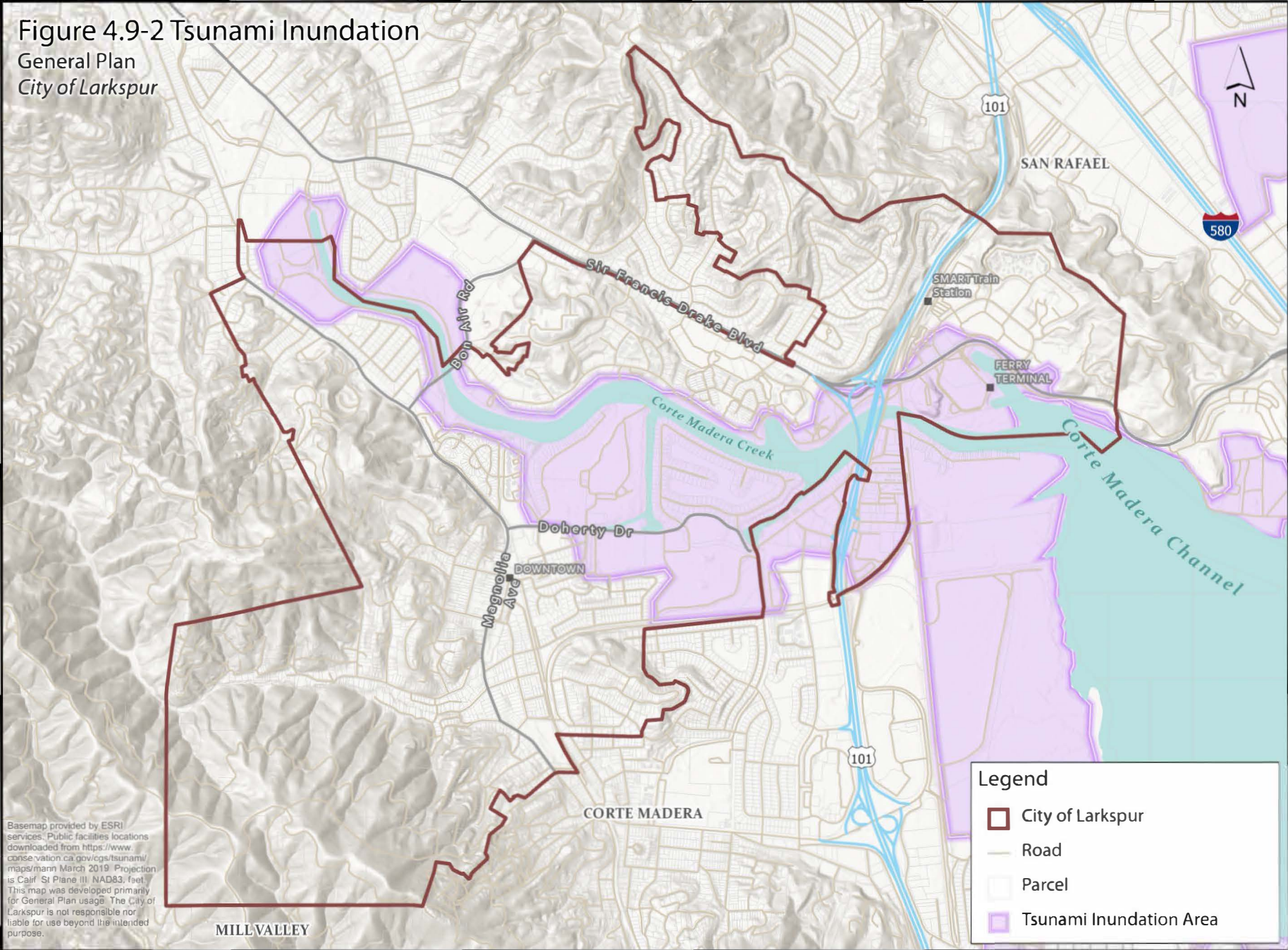


Basemap provided by ESRI services. Public facilities locations downloaded from https://www.fema.gov/flood-maps/tools-resources/flood-map-products/national/flood-hazard-layer Sept 2020. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Figure 4.9-2 Tsunami Inundation

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from https://www.conservation.ca.gov/cgs/tsunami/maps/mann March 2019. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

spillway by 6 feet. Accordingly, these improvements to the dam have reduced the flood risk to one flood in 30,000 years." [51]

In the unlikely event of dam failure, areas of Larkspur along the banks of Corte Madera Creek would likely experience flooding (see Figure 4.9-3). Neighborhoods most at risk of flooding from dam failure include College Park, Hillview, Bon Air Landing, Creekside, Larkspur Plaza, Boardwalk One, Cape Marin, portions of the Larkspur Marina, and portions of the Redwood Highway area (including the area's largest mobile home park).

Tubb Lake is located less than 100 feet upslope from the project site's northeastern boundary. Reportedly, the lake was constructed about 100 years ago to provide water for a brick refractory formerly located nearby. The reservoir embankment is about 20 to 25 feet higher than the downstream toe. The reservoir covers an area of about 0.5 acre, with a maximum depth of about 13 feet. When full, it is estimated that the reservoir holds about 3.8 acre-feet of water. If the dam were to fail, it could flood the area downslope. The stability of the dam was investigated in the late 1990s and found to be in need of upgrades. Since that time, the City of Larkspur has completed all the recommended upgrades and is implementing a maintenance plan that requires regular inspections and maintenance of the dam and its associated components.

Climate Change and Sea Level Rise

A balance of naturally occurring gases dispersed in the atmosphere determines the Earth's climate by trapping infrared radiation (heat), a phenomenon known as the greenhouse effect. Evidence suggests that human activities are increasing the concentration of these gases (known as "greenhouse gases" or GHGs) in the atmosphere, causing a rise in global average surface temperature and consequent global climate change. The 2021 San Francisco Bay Plan Climate Change Policy Guidance states that *the future extent of global warming is uncertain. It will be driven largely by future greenhouse gas emissions levels, which will depend on how global development proceeds. The United Nations Intergovernmental Panel on Climate Change (IPCC) developed a series of global development scenarios and greenhouse gas emissions scenarios for each development scenario. These emissions scenarios have been used in global models to develop projections of future climate, including global surface temperature and precipitation changes.*

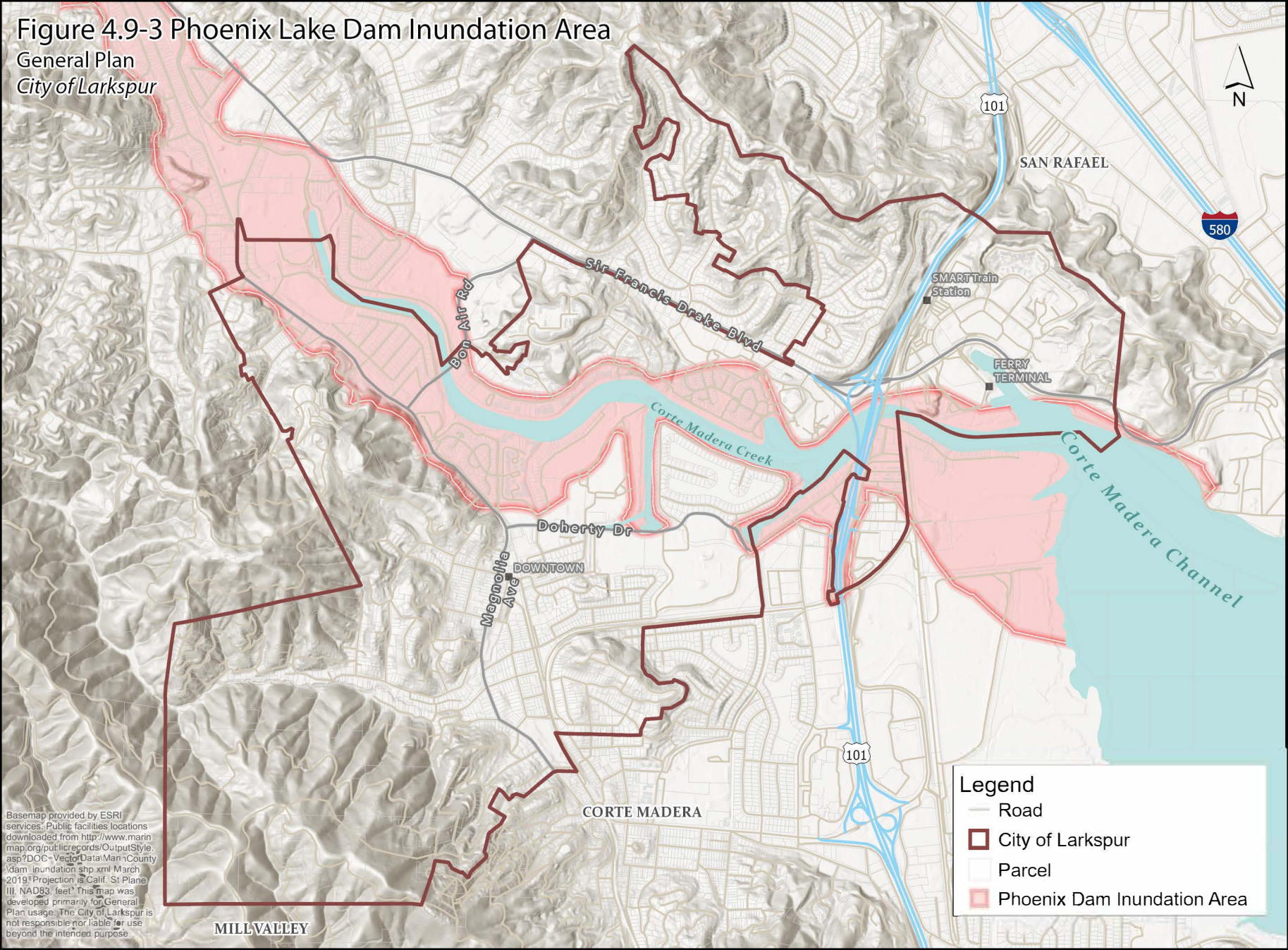
In Marin County, climate change is expected to intensify existing hazards, such as sea level rise, wildfire, and drought, and create new hazards, such as severe weather events and extreme

[51] Multi-Hazard Local Hazard Mitigation Plan, 2018, p. 40

Figure 4.9-3 Phoenix Lake Dam Inundation Area

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=VectorData\MarinCounty\dam_inundation.shp.xml March 2019. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

heat events.

The effects of climate change include changes in precipitation patterns. Precipitation levels in Marin County are expected to remain similar or increase, but there will be more years with extreme levels of precipitation, both high and low, and more frequent and more intense droughts.

Extreme heat is any time period when the air temperature is well above usual levels. Under a scenario in which GHG emissions peak around 2040, then decline, the average annual number of extreme heat days and warm nights in Marin County could increase to 19 and 27 by 2050, and 18 and 28 by 2099.[52]

The County of Marin has been very proactive in developing approaches for communities to adapt to sea level rise (SLR). The County instituted a long-term planning effort (called the Bay Waterfront Adaptation Vulnerability Assessment or BayWAVE) to begin the adaptation planning along the shoreline.

In 2017, BayWAVE published the *Marin Shoreline Sea Level Rise Vulnerability Assessment.* The vulnerability assessment is an informational document that catalogs impacts with six different sea level rise scenarios across the entire bay shoreline. The Vulnerability Assessment uses map-based data to catalog what resources and assets are exposed and how sensitive they are to SLR. The first stage of the assessment was to identify assets potentially at risk; assets included land, buildings, transportation, utilities, agriculture, habitats and wildlife, recreation, emergency services, and cultural resources. Next, the assessment assessed vulnerability of these assets given three scenarios of SLR plus adding 100-year storm events.

The *Marin Shoreline Sea Level Rise Vulnerability Assessment.* projected SLR increases of 10 inches by 2030 (see Figure 4.9-4), 20 inches by 2060 (see Figure 4.9-5), and 60 inches by 2100 (see Figure 4.9-6), with up to 46 to 96 inches of sea level rise when combined with the 100-year storm event. In the medium term, more than 150 buildings in Larkspur can anticipate tidal flooding, and several hundred more could anticipate impacts during a 100-year storm surge.

Figures 4.9-4 through 4.9-6 show the area in Larkspur that would be affected by the three selected 2017 SLR scenarios. Note that the attached maps are based upon data from the National Oceanic and Atmospheric Administration (NOAA) showing 1-foot, 2-foot, and 5-foot increases, which vary slightly from the scenarios analyzed in the Vulnerability Assessment. Also, these maps show only tidal rise, and not the more extensive areas that would be affected by SLR plus the 100-year storm, stream flooding, storm drain failure, king tides, or other exacerbating factors.

[52] Marin County Community Development Agency, *Public Draft Safety Element*, 2022.

Figure 4.9-4 Near-Term Sea Level Rise

General Plan

City of Larkspur

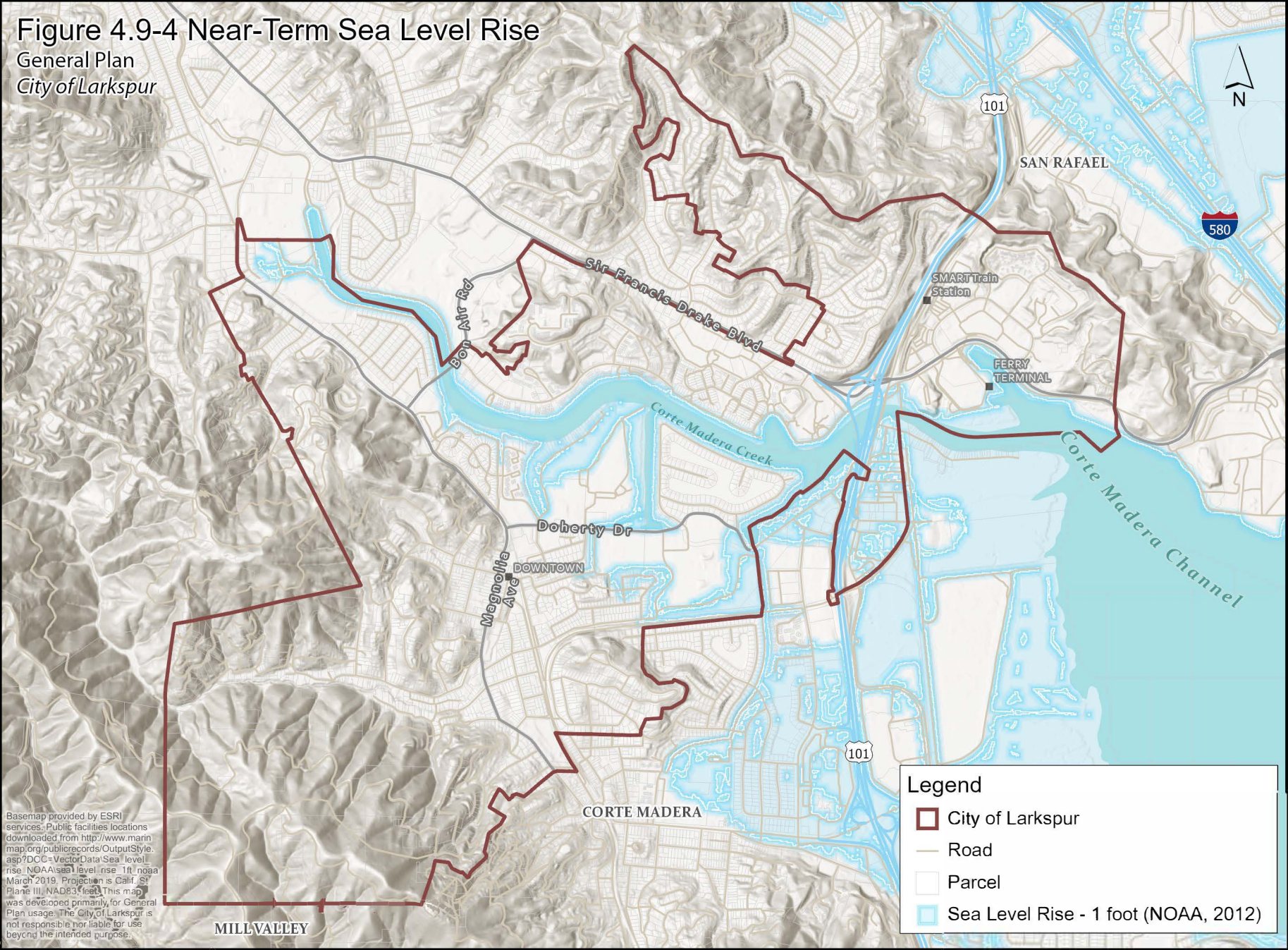


Figure 4.9-5 Mid-Term Sea Level Rise

General Plan

City of Larkspur

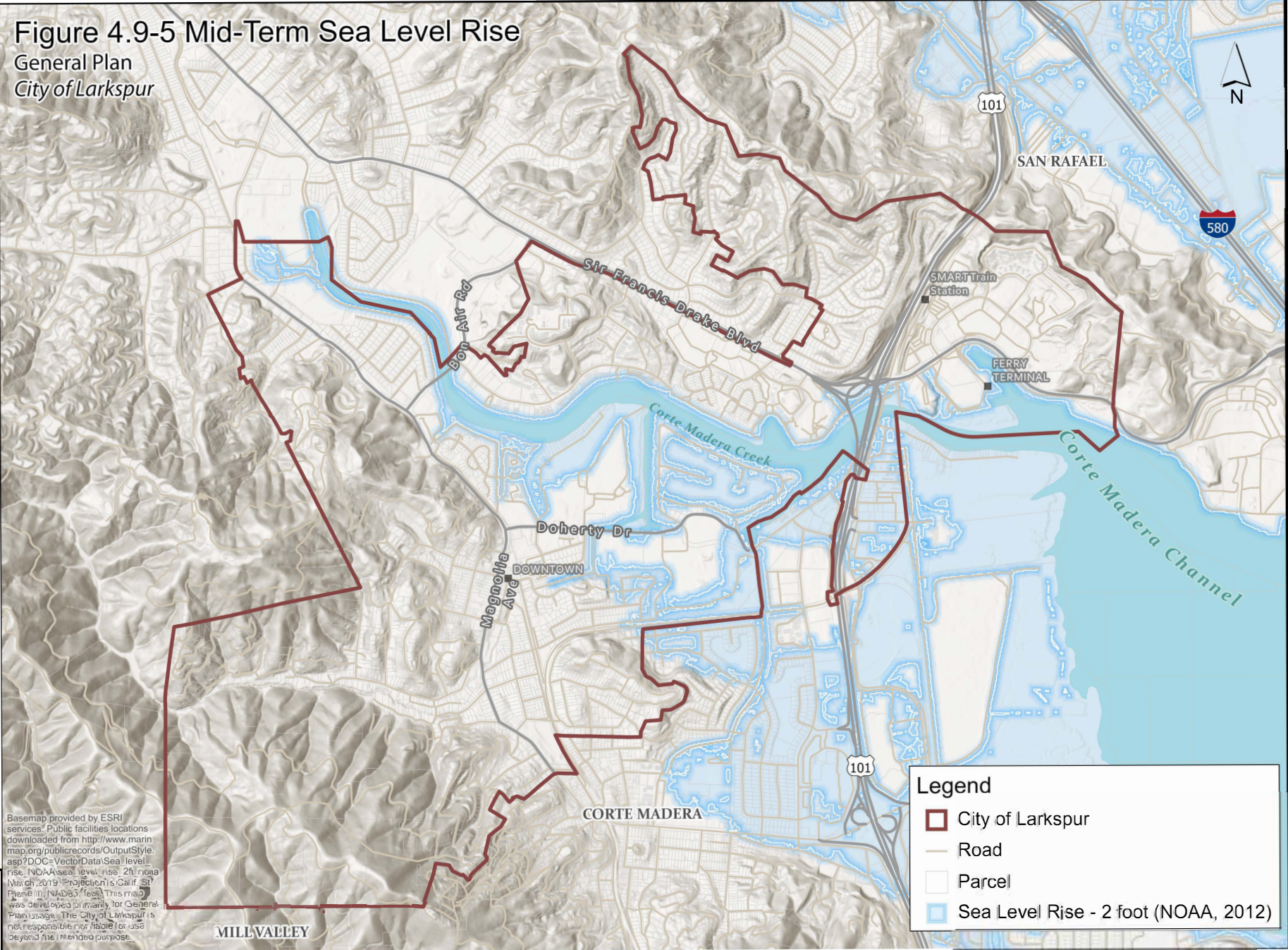
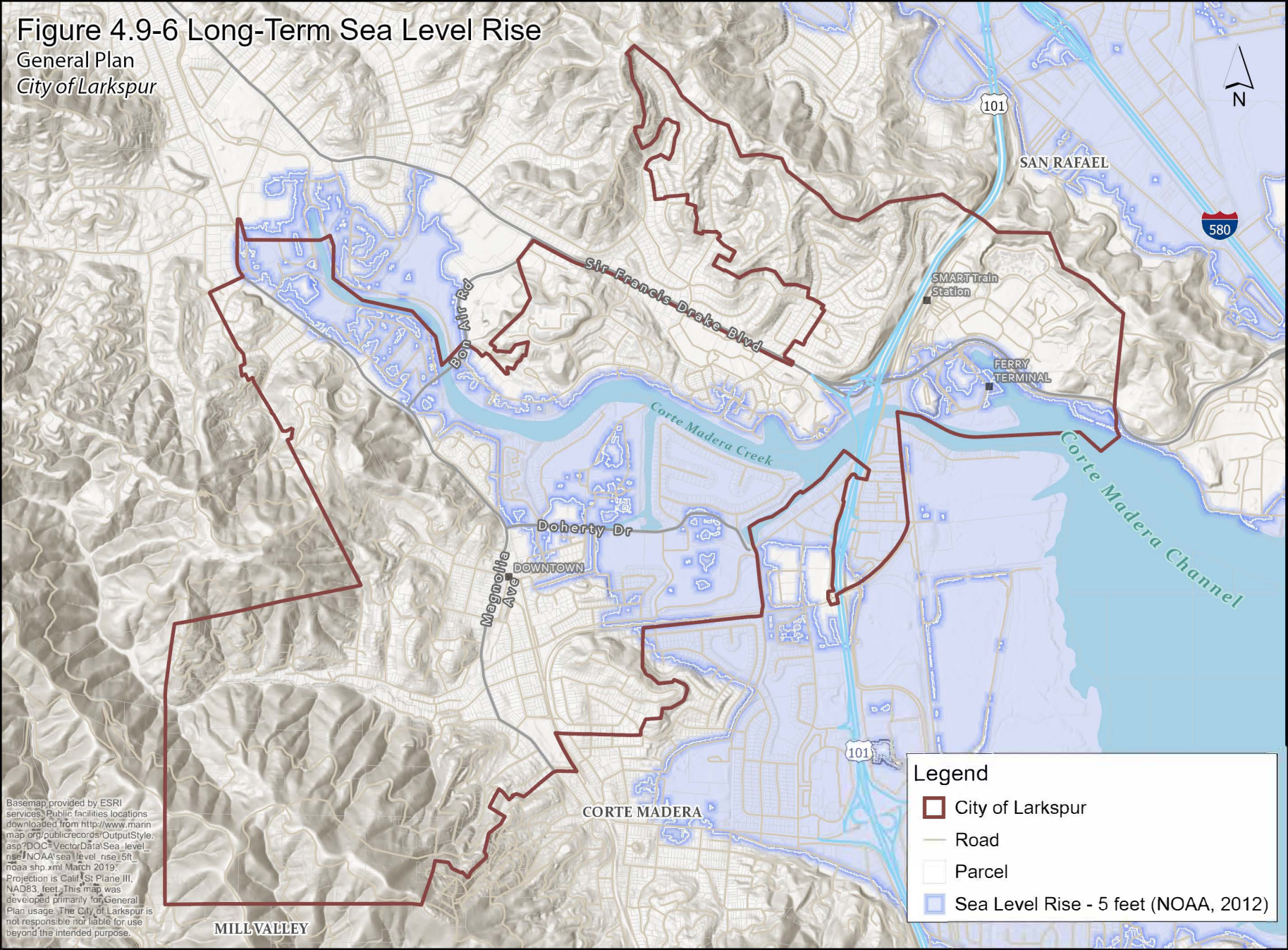


Figure 4.9-6 Long-Term Sea Level Rise

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=VectorData\Sea_level_rise\NOAA\sea_level_rise_5ft_noaa.shp.xml March 2019. Projection is Calif. St. Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

The Vulnerability Assessment lists how many parcels, buildings, streets, utilities, critical buildings, recreation facilities, schools and other resources that would be affected by the previously described three scenarios as well as three additional scenarios that add the storm and flooding flows to the tidal increases. To give an example, in the near term, forty buildings, two percent of all buildings in Larkspur, could experience tidal flooding. Several hundred buildings could anticipate additional storm surge impacts. In the medium term165 buildings could anticipate tidal flooding, and 670 buildings could anticipate impacts during a 100-year storm surge. In the long term, 802 buildings, or 20 percent of buildings in Larkspur, could experience tidal flooding. With the additional 100-year storm surge, 1,160, or 28 percent of buildings could be vulnerable to five feet of sea level rise combined with a 100-year storm surge.

It should be noted that Larkspur also is located at the confluence of Corte Madera Creek and San Francisco Bay. Receiving stormwater runoff from the Ross Valley watershed further complicates the ability to defend Larkspur properties from tide and storm surge from the Bay. The following highlights a few of the Larkspur assets at risk from predicted Sea Level Rise:[53]

- In the near-term, 132 acres, seven percent of Larkspur, could be exposed to tidal flooding from sea level rise. Ten percent of the community could be impacted by an additional 100-year storm surge. In the medium-term, about 150 acres would be exposed to sea level rise and about another 150 acres could be exposed to storm surge flooding. In the long-term scenario, nearly twenty percent of the community could expect tidal flooding, and 30 percent, or 544 acres, could be exposed with an additional 100-year storm surge.
- The three most impacted uses in Larkspur are public land uses, such as schools, parks, and emergency services, residential uses, and industrial land uses. Industrial parcels east of Highway 101 on the shoreline already flood seasonally and could continue to suffer from storms over the next fifteen years. In medium-term scenario, the few industrial parcels impacted are one-third of the city's industrial base. By the long-term, all of Larkspur's industrial land could flood tidally at Mean Higher High Water (MHHW) rendering the properties to be very narrow parcels and not likely to support existing uses. Moreover, any industrial products and contaminants from machining or the gas station could spread pollutants into the surrounding properties and the Bay waters, thereby adversely affecting water quality and possibly creating a health risk to people contacting the polluted water.
- Residential development along Corte Madera Creek could experience tidal flooding in the near- and medium terms. In the long-term, tidal flooding could impact fifteen percent of residential parcels in Larkspur. Multi-family parcels could also see flooding on Larkspur Plaza Drive. Fifty mobile homes, some of Marin's limited affordable housing,

[53] *Marin Shoreline Sea Level Rise Vulnerability Assessment* Consulting, June 2017.

could flood tidally at MHHW in the long-term and face storm flooding in the medium-term.

- Similar portions of commercial parcels could be vulnerable to tidal flooding, though far less in number and acreage, with 27 parcels and 27 acres flooded in the long-term.
- Larkspur contains a high number of potentially vulnerable buildings relative to other communities in the area. In the near-term, forty buildings, two percent of all buildings in Larkspur, could experience tidal flooding. Several hundred buildings could anticipate additional storm surge impacts. In the medium-term, more than 150 buildings could anticipate MHHW tidal flooding, and several hundred more could anticipate impacts during a 100-year storm surge. In the long-term scenario, 802, or 20 percent of buildings, could experience tidal flooding at MHHW. With the addition of the 100-year storm surge to the predicted sea level rise, 1,160, or 28 percent of buildings could be vulnerable. A thirty percent loss of buildings would significantly impact Larkspur's ability to recover from disastrous flooding at a community level.
- Highway access to Larkspur could be compromised at Lucky Drive and Sir Francis Drake Boulevard US Highway 101 exits. Riviera Circle and Doherty Drive could anticipate storm impacts as early as scenario 2 and tidal flooding by the long-term and medium-term respectively. Floodwaters move up the creek and can reach into the neighborhoods, impacting streets in low elevation areas at Bon Air Road and west of Corte Madera Creek. Bon Air Road is a critical route to area hospitals and has experienced flooding as recent as 2017 with up to 1.5 feet of water at the Bon Air Bridge. These roads enable goods. commuters, school children, and emergency vehicles to travel to, from, and within the community.
- Larkspur could experience utility issues common in other shoreline communities in the study area, including:
    - Underground pipes face forces from water and the road,
    - Road erosion and collapse with underlain pipes,
    - Saltwater inflow and infiltration causing inefficiencies in wastewater treatment,
    - Continuously subsiding soils or fill,
    - Escalating activity, capacity demands, energy consumption, and wear and tear on pump stations in stormwater and wastewater systems,
    - Aging individual site connections for water, sewer, and electrical, and
    - Flood waters interrupting access for utility employees to reach work sites.

Subsequent to preparing the 2017 *Marin Shoreline Sea Level Rise Vulnerability Assessment*, the County prepared the *Marin Ocean Coast Sea Level Rise Adaptation Report* (2018), which presents potential actions to accommodate, protect against, or retreat from the threats of sea level rise and coastal hazards along the Marin Pacific Ocean coastline that can be considered by communities, homeowners, and asset managers. In 2019, the County prepared the *Adaptation Land Use Planning: Guidance for Marin County Local Governments* that presents adaptation measures and planning methods that can be particularly valuable in Marin County.

Consistent with State requirements, in 2022 the County prepared Public Review Draft Housing Element and Safety Element. The Draft Safety Element uses projections of sea level rise based on the new projection scenarios. Given the uncertainty in the magnitude and timing of future sea level rise, planning documents use a scenario-based approach to assess a range of potential sea level rise impacts derived from the U.S. Geologic Survey (USGS) Coastal Storm Modeling System (CoSMoS), which identifies various sea level rise scenarios based on global and regional climate and wave models to produce local hazard projections. Generally consistent with the State Agency Sea-Level Rise Action Plan for California which uses CoSMoS projections, published in 2022 by the Ocean Protection Council, the County's Public Draft Safety Element states that Marin County has chosen to plan for the following Sea Level Rise scenarios, which go beyond the minimums set out by the State:

- 1.6 feet of Sea Level Rise Near-term (2040-2050)
- 3.3 feet of Sea Level Rise Medium-term (2050-2070)
- 6.6 feet of Sea Level Rise Long-term (2100)[54]

These projected increases in sea level exceed the projected sea level rise in the previous *Marin Shoreline Sea Level Rise Vulnerability Assessment* that the City used for assessing sea level rise impacts by the General Plan horizon year of 2040 in this Draft EIR. The current projected sea level rise by 2040-2050 would be 1.6 feet instead of 1.0 feet as projected in 2017. This 1.6-foot increase is approximately the increase projected for the medium-term scenario described in the 2017 report and as shown on Figure 4.9-5. The inundation of property and resources described above for the medium-term, scenario is likely the level of tidal flooding that can be expected for Larkspur in 2040.

Therefore, the number of properties and resources that would be inundated by 2040 would be expected to be similar to the medium-term scenario described in the 2017 report and shown on Figure 4.9-5. These figures and the expected resources inundated by 2040 will be finalized and updated in the revised Safety Element that the City is currently preparing. It is expected that this new Safety Element will be adopted within the first quarter of 2023. Upon its adoption, it will replace the Draft Safety Chapter of the Larkspur General Plan 2040 assessed in this Draft EIR. The revised Safety Element will include a CEQA analysis that will address any additional or revised sea level rise impacts not assessed in this General Plan 2040 EIR.

Water Quality

The quality of stormwater runoff in the Planning Area affects the biotic health of the Planning Area's creeks and the receiving waters in western San Francisco Bay. It also influences the

[54] Marin County Community Development Agency, *Public Draft Safety Element*, 2022.

extent and quality of water-oriented recreational uses. Stormwater contamination originates primarily as runoff from roadways, parking lots, and other impervious surfaces used by automobiles. Surface runoff and groundwater inflows can also be contaminated by pesticide, herbicide, and fertilizer residues applied to maintain residential and commercial landscaping. Contaminated surface flows from impervious surfaces are routed downslope to roadside storm drain inlets and eventually discharge to drainageways and creeks and to western San Francisco Bay.

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.

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.

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 Clean Water Act. For 303(d) listed water bodies, a limit is established that defines the maximum amount of pollutants that can be received by that water body.

Once a water body has been placed on the 303(d) list of impaired waters, states are required to develop a Total Maximum Daily Load (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 EPA for mercury in Central San Francisco Bay and diazinon in Corte Madera Creek.

2. Framework

Federal

Clean Water Act

Congress enacted the Clean Water Act (CWA) with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollution Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by SWRCB and its nine Regional Water Quality Control Boards (RWQCB). Larkspur is in a watershed administered by the San Francisco Bay RWQCB.

As part of Section 402 of the CWA, the U.S. EPA has established regulations under the NPDES program to control both construction and operation (occupancy) stormwater discharges. Individual projects in the City that would disturb at least one acre of land must provide stormwater treatment during construction and would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ or 2009-0009-DWQ General Permit). The Stormwater Pollution Prevention Plan (SWPPP) must contain stormwater and erosion control Best Management Practices (BMP), a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment. Future projects projected by General Plan 2040 would be subject to the SWRCB Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), and the provisions set forth in Section E.12, Post Construction Stormwater Management Program. Provision E.12 of the NPDES MS4 permit addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area, including 1) incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions. In addition, Low Impact Development (LID) requirements apply. Projects that create and/or replace between 2,500 and 5,000 square feet of impervious surface must implement site design measures, including stream setbacks and buffers, soil quality improvement and maintenance, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns (SWRCB 2013).

Section 401 of the CWA requires that any activity that would result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible and minimized and mitigated where avoidance is not possible. Section 303(d) of the CWA requires states to establish TMDL programs for streams, lakes and coastal waters that do not meet certain water quality standards.

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 City of Larkspur lies within the jurisdiction of San Francisco Bay RWQCB (Region 2) and is subject to the waste discharge requirements for the Phase II Small MS4 Permit (Order No. 2013-0001- DWQ) and NPDES Permit No. CAS000004, with the last amendment, Order No. WQ 2018-0007-EXEC, issued in March 2018 and the latest amendments taking effect on January 1, 2019.

Under Provision E.12 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 techniques. In addition, projects that create and/or replace one acre or more of impervious surfaces must comply with the hydromodification requirements specified in the E.12 provisions of the Phase II Small MS4 permit. These requirements include implementing site design measures to achieve infiltration, evapotranspiration, and/or harvesting/reuse of the 85th percentile 24-hour storm runoff event to the extent feasible and treatment of the remaining runoff with bioretention facilities. The hydromodification provisions also require that post-project runoff does not exceed pre-project runoff for the 2-year, 24-hour storm event.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) 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 one year. The locations within the 100-year floodplain are provided on Figure 4.9-1.

As required by the FEMA regulations and local regulations (LMC Chapter 15.18), residential construction, new or substantial improvement, in any special flood hazard area (SFHA) Zone A or AE, shall have the lowest floor, including basement, elevated to a minimum of one foot above the base flood elevation (BFE). Nonresidential construction shall either be elevated one foot above the BFE or be floodproofed below the elevation recommended so that the structure is watertight with walls substantially impermeable to the passage of water. Special rules apply to construction within areas designated as Floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential.

A hydrologic and hydraulic analysis must be performed that must demonstrate that the development does not cause any rise in base flood elevation levels, because no rise is permitted within regulatory floodways. Upon completion of any development that changes existing Special Flood Hazard Area boundaries, the NFIP 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 become available

National Flood Insurance Act/Flood Disaster Protection Act

The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for any federal financial assistance for \ property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of regulatory floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones.

State

California Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967 requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for State waters within the City are contained in the Water Quality Control Plan for the San Francisco Bay Basin (San Francisco Bay Regional Water Quality Control Board 2017). The Water Quality Control Plan, or Basin Plan, protects designated beneficial uses of State waters through the issuance of Waste Discharge Requirements (WDRs) and through the development of TMDLs.

Anyone proposing to discharge waste that could affect the quality of the waters of the State must make a report of the waste discharge to the RWQCB or SWRCB as appropriate, in compliance with Porter-Cologne.

State Requirements for Assessing Hazards Related to Sea Level Rise

Government Code Section 65302(g)(2) requires a jurisdiction that has adopted a local hazard mitigation plan in accordance with the federal Disaster Mitigation Act of 2000 (Public Law 106-390), on or after January 1, 2017 to incorporate the local hazard mitigation plan by reference in the General Plan (this was included in this General Plan 2040: see Action Program SAF-1.1.i) and to summarize in the general plan how the requirements set forth in Government Code Section 65302(g)(4) are addressed in the local hazard mitigation plan. Those requirements are listed below along with a summary of how the adopted Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP) plus this General Plan Update satisfies those requirements.

(*A) A vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts.*

The Bay Waterfront Vulnerability Assessment lists what improvements in Larkspur are at risk. The vulnerability assessment is included in the aforementioned Bay Waterfront Adaptation Vulnerability Assessment. This assessment is incorporated into the MCM LHMP, which includes tables listing structures and improvements at risk from sea level rise. Appendix K of the plan specifically lists the improvements at risk in the City of Larkspur.

(*B) A set of adaptation and resilience goals, policies, and objectives based for the protection of the community.* The MCM LHMP includes Goal 3 to reduce the damages and losses from flooding. This goal has been expanded on in this General Plan Update to include policies and action programs to specifically address the impacts of climate change.

(*C) A set of feasible implementation measures designed to carry out the goals, policies, and objectives identified pursuant to subparagraph (B) including, but not limited to, all of the following:*

(i) Feasible methods to avoid or minimize climate change impacts associated with new uses of land.

The MCM LHMP includes Action FLD-2 to incorporate flood planning in local planning and permitting; Action FLD-11 encourages integration of SLR and climate change into planning documents, systems operations, and maintenance to develop a Comprehensive Flood Management Plan; and Action MLT-19 to prevent infrastructure expansion in high-risk areas. Appendix K of the plan explains that the City's subdivision ordinance restricts new development in areas of flooding or other areas where conditions pose a risk to life or property. The City's Floodplain Management regulations contained in its Municipal Code regulate and restrict

development in flood-prone areas to promote the public health, safety and general welfare, to minimize public and private losses due to flood conditions in specific areas, and to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.

(*ii) The location, when feasible, of new essential public facilities outside of at-risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in at-risk areas.*

As mentioned above, the City's Floodplain Management regulations regulate and restrict development in flood-prone areas. Policies in this General Plan Update (e.g., Policy SAF-3.1 and Policy SAF-4.2; Policy SAF-4.3 states the City will consider projected sea level rise when designing and funding capital improvements). These policies and regulations are all encouraged in the MCM LHMP.

(*iii) The designation of adequate and feasible infrastructure located in an at-risk area.*

The MCM LHMP addresses infrastructure at risk in Action FLD-2 (incorporate flood planning into local planning), Action FLD-5 (expand flood management systems especially where critical facilities are near streams), Action FLD-6 (consider acquisition or relocation of flood prone structures), Action FLD-10 (continue to participate in County sea level rise planning and implement strategies stemming from that planning), and Action FLD 11 (integrate SLR and climate change into planning, systems operations, and maintenance). As mentioned above, policies in the General Plan Update, regulate new development in flood-prone area including areas where flooding is projected due to sea level rise.

(iv) Guidelines for working cooperatively with relevant local, regional, state, and federal agencies.

The MCM LHMP includes the aforementioned Actions FLD-10 and FLD-11 that encourage local jurisdictions to work with the County in addressing hazards associated with climate change. In addition, Action FLD-7 recommends continuing support of the SF Bay Area Advanced Quantitative Precipitation Information System and FLD-8 to conduct multi-jurisdictional repetitive loss area analysis as part of the multi-jurisdictional local hazard mitigation planning.

(v) Identification of natural infrastructure that may be used in adaptation projects, where feasible.

Again, the MCM LHMP incorporates the Bay Waterfront Adaptation Vulnerability Assessment prepared by the County. This Assessment contains preliminary approaches to development of adaptation projects. That Assessment, the MCM LHMP, and this Draft General Plan all contain policies and actions to continue to work collectively to identify and implement infrastructure improvements to address the hazards caused by climate change and sea level rise.

This Larkspur General Plan 2040 has been prepared consistent with the aforementioned State requirements for addressing sea level rise. The adaptation to SLR will be a long-term process, but current and future residents of the Bay Area will benefit from the current efforts to assess vulnerability and develop possible adaptive responses. This General Plan 2040 is where the City describes its proposed actions, particularly for the period to 2040. Many of the actions will be to collaborate with the County and other agencies and cities on shared infrastructure improvements and landscape-based projects that cross jurisdictional boundaries beyond the City limits. Several elements of this General Plan Update contain policies and action programs addressing SLR and climate change in general. See Chapter 2, Sustainability of the proposed General Plan 2040 for a listing of pertinent policies and programs and where they are listed in the various chapters of the General Plan

State Water Resources Control Board 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 (2009-0009-DWQ) as amended by 2010-0014-DWQ and 2012-0006-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. Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP. See the previous discussion under the NPDES of what must be included in a SWPPP.

In addition, the SWRCB requires all projects subject to a grading permit or a building permit that has the potential for erosion or significant discharges of sediment and/or construction waste, to submit an Erosion and Sediment Control Plan (ESCP) for approval by the City. The ESCP must describe erosion and sediment control measures that will be implemented during the construction phase as well as final stabilization control measures. The BMPs specified in the ESCP must be implemented year-round and the ESCP format should follow the most recent version of the MCSTOPPP (see the subsequent subsection on MCSTOPPP) Construction Erosion and Sediment Control Plan Applicant Package. This requirement applies to projects that are less than one acre in size if they require grading permits or building permits that could result in non-stormwater discharges to a storm drain.

Assembly Bill 162

Assembly Bill 162 requires cities and counties to address flood-related matters in the land use, conservation, safety, and housing elements of their General Plans (DWR. The General Plan must

contain a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by FEMA or DWR. The conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for the purposes of groundwater recharge and stormwater management. The safety element shall identify information regarding:

- Flood hazards, including flood hazard zones
- National Flood Insurance Program maps published by FEMA
- Information about flood hazards that is available from the United States Army Corps of Engineers
- Dam failure inundation maps
- Awareness Floodplain Mapping Program maps
- Levee protection zone maps
- Historical data on flooding
- Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities
- Local, state, and federal agencies with responsibility for flood protection.

The safety element must establish a set of comprehensive goals, policies, objectives, and feasible implementation measures based on the information identified above for the protection of the community from unreasonable risks of flooding, including but not limited to:

- Avoiding or minimizing the risks of flooding to new development
- Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in a flood hazard zone
- Maintaining the structural and operational integrity of essential public facilities during flooding
- Locating, when feasible, new essential public facilities outside of flood hazard zones
- Establishing cooperative working relationships among public agencies with responsibility for flood protection.

Regional

San Francisco Bay Regional Water Quality Control Board

The City of Larkspur is within 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 May 4, 2017. This Basin Plan designates beneficial uses of the State waters within 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. The Water Quality Control Policy for the Enclosed Bays and Estuaries of California, as adopted by the SWRCB in 1995 and last amended in 2018, also provides water quality principles and guidelines to prevent water quality degradation and protect the beneficial uses of waters of enclosed bays and estuaries. The San Francisco Bay RWQCB also administers the Phase II Small MS4 permit for Marin County and the municipalities within Marin County, including the City of Larkspur.

San Francisco Bay Conservation and Development Commission

The California Coastal Act carries out its mandate locally through the BCDC. BCDC's jurisdiction for San Francisco Bay includes all sloughs, marshlands between mean high tide and five feet above mean sea level, tidelands, submerged lands, and land within 100 feet of the shoreline. BCDC also maintains jurisdiction over Corte Madera Creek from its downstream end to its juncture with the concrete channel at the downstream end of Unit 3 near the College of Marin in Kentfield.

The current BCDC policy allows for the protection of existing and planned development from flooding by the placement of fill, encourages innovative means of dealing with flood danger, and states that local governments will determine how best to deal with development projects inland of BCDC's jurisdiction, which extends 100 feet inland from the shoreline. The provisions of BCDC's San Francisco Bay Plan do not apply outside BCDC's jurisdiction for purposes of implementing the California Environmental Quality Act (CEQA).

The new BCDC policies require sea level rise risk assessments to be conducted when planning shoreline areas or designing large shoreline projects within BCDC's jurisdiction. As a permitting authority along the San Francisco Bay shoreline, BCDC is responsible for granting or denying permits for any proposed fill, extraction of materials, or change in the use of any water, land, or structure within BCDC's jurisdiction. Permits may be granted or denied only after public hearings and after the process for review and comment has been completed by the City (or by the County for projects within unincorporated areas). BCDC will approve the permit if it is determined that the project is in accordance with defined standards for use of the shoreline, provisions for public access, and advisory review of appearance.

Projects within BCDC jurisdiction that involve bay fill must be consistent with the policies of the BCDC's San Francisco Bay Plan on the safety of fills and shoreline protection.

Marin County Stormwater Pollution Prevention Program

Municipal stormwater discharges in Marin County are regulated under the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit). Marin's 12 cities and towns, the County of Marin and the Marin County Flood Control and Water Conservation District began addressing stormwater pollution in the early 90s. In 1993 the

County created the Marin County Stormwater Pollution Prevention Program (MCSTOPPP), which provides for the coordination and consistency of approaches between the local stormwater programs. Marin County's 11 cities and towns, including the City of Larkspur and the County of Marin. Each MCSTOPPP member agency implements a local stormwater pollution prevention program and funds the countywide MCSTOPPP, which provides for the coordination and consistency of approaches between the local stormwater programs.[55] MCSTOPPP also provides technical assistance to member agencies and the public and implements an outreach and education program. Resources are also provided for construction projects, including the MCSTOPPP Erosion and Sediment Control Plan Applicant Package, which must be submitted to the applicable municipality for review and approval prior to the start of construction. Minimum control measures for small (<1 acre) construction projects are provided. Post-construction stormwater requirements are also provided at MCSTOPPP's website, which includes projects that create and/or replace more than 2,500 square feet of impervious area.[56]

Bay Area Stormwater Management Agencies Association

The Bay Area Stormwater Management Agencies Association (BASMAA) is a consortium of the following nine San Francisco Bay Area municipal stormwater programs:

- Alameda Countywide Clean Water Program
- Contra Costa Clean Water Program
- Fairfield-Suisun Urban Runoff Management Program
- Marin County Stormwater Pollution Prevention Program
- Napa Countywide Stormwater Pollution Prevention Program
- San Mateo Countywide Water Pollution Prevention Program
- Santa Clara Valley Urban Runoff Pollution Prevention Program
- Sonoma County Water Agency
- Vallejo Sanitation and Flood Control District

BASMAA was initiated by local governments in response to the NPDES permitting program for stormwater to promote regional consistency and to facilitate efficient use of public resources. BASMAA encourages information sharing and cooperation and develops products and programs that are more cost-effective when produced regionally than could be accomplished

[55] County of Marin, 2019, About MCSTOPPP https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/about-mcstoppp, accessed on March 20, 2019.

[56] County of Marin, 2020. Development Projects/Post Construction Stormwater Management. Accessed at https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/development/new-and-redevelopment- projects?panelnum=2 on October 5, 2020.

locally. The BASMAA Post-construction Manual includes standards and requirements applicable to development projects within the Planning Area. The Manual provides a low impact development approach to implementing Provision E.12 of the Phase II Small MS4 permit, which requires postconstruction stormwater BMPs. Provision E.12 requires single-family homes that create and/or replace 2,500 square feet of impervious surface or small projects that create and/or replace between 2,500 and 5,000 square feet of impervious surface to implement at least one BMP to reduce runoff. Regulated projects that create and/or replace 5,000 square feet or more of impervious surface must implement site design and runoff reduction BMPs and prepare a Stormwater Control Plan (SCP).

Local Regulation

Marin County Multi-jurisdictional Local Hazard Mitigation Plan

The Marin County Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP) was developed to reduce risks from natural disasters in unincorporated portions of the county and all incorporated cities in Marin County. The MCM LHMP, last adopted by the City of Larkspur on May 1, 2019, is required to be updated every five years to maintain eligibility for Hazard Mitigation Assistance grant programs administered by the Federal Emergency Management Agency (FEMA) pursuant to the Disaster Mitigation Act of 2000. The MCM LHMP identifies hazards within the city, such as earthquakes, liquefaction, severe storms, debris flow (landslides), flooding, wind, tsunamis, wildfire, and post-fire landslides. The MCM LHMP also contains a vulnerability analysis highlighting specific facilities at risk to natural hazards and outlines mitigation strategies for reducing risk of identified hazards.

Local Disaster Mitigation, Preparedness, Response, and Recovery

Marin's Office of Emergency Services (OES) operates consistent with the State's Standardized Emergency Management System. OES provides emergency management services for the entire County, including coordinating emergency operations activities among all the various local jurisdictions within the Marin Operational Area as well as coordinating mutual aid from other operational areas, the region, state, and federal agencies. OES develops written guidelines for emergency preparedness, response, recovery, and mitigation to natural/man-made disasters, and technological disasters. OES maintains the Marin Operational Area Emergency Operations Plan (EOP), which establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Marin, and establishes the overall operational concepts associated with Marin County's Emergency Operations Center (EOC) activities.

The Marin County Sheriff's Office, the Marin Wildfire Protection Authority (MWPA), and all Marin municipalities launched ZoneHaven, a community evacuation interface that allows the public access to real-time status updates and instructions for their evacuation zone and provides County municipalities and fire responders with an evacuation planning application. Agencies in Marin are able to use ZoneHaven to send evacuation warnings to evacuation zones

in Novato, San Rafael, Ross Valley, Southern Marin, and West Marin. Fire Safe Marin and Marin fire agencies, cities and towns, and other partners developed improved wildfire evacuation maps and messaging for residents of Marin's WUI communities. These FireClear maps show both evacuation zones and evacuation routes by community and are found on the MWPA website: Fire Safe Marin Evacuation Maps.

The MWPA is conducting an Evacuation Ingress-Egress Risk Assessment to create a rating system of roads, presenting a visual risk assessment of the County's roadways at various levels of aggregation (geographic areas, evacuation zones, or other). In addition to the software platform, a report will also present an initial list of risk factors for improvement by area, by risk category, and by responsible agency.

The County maintains on its main website a collection of links to sources containing disaster preparedness materials. Ready Marin, a County emergency preparedness website, contains emergency planning checklists, a collection of links to disaster preparedness resources, and registration links for the Marin Community Emergency Response Team (CERT), a community disaster training program, and Get Ready, a one-hour recurring disaster training program facilitated by community volunteers. The Marin County Sheriff's Office provides disaster preparedness materials for families, functional needs populations, organizations, schools, County employees, and pet owners on its Preparedness & Recovery web portal. The Marin County Public Emergency Portal provides information on critical alerts systems, including AlertMarin and Nixle, severe weather alerts and weather radios, disaster preparedness social media feeds, and emergency and evacuation preparedness.

Larkspur General Plan 1990-2010

The existing General Plan contains goals, policies, and programs addressing flooding and drainage in the Health and Safety Chapter. Water quality issues are addressed in the Environmental resources Chapter. The plan policies are aimed at preventing development in areas subject to flooding, reducing pollution of surface waters, and providing adequate drainage. The various federal, State, and regional laws, regulation, and guidelines summarized in the previous subsections in many cases provide additional protections to these general plan policies and actions.

Larkspur Municipal Code

The LMC contains regulations to address flooding and water quality.

- Chapter 9.11 (Runoff Pollution Protection) sets forth regulations for reducing eroded sediments and other pollutants in urban runoff.
- Title 15 (Building Regulations) lists development regulations.
- Chapter 15.08.160 (Drainage) authorizes the Building Official to require drainage improvements.
- Chapter 15.18 (Floodplain Management) includes provisions for flood hazard reduction.

- Chapter 15.20 (Grading, Excavation, and Fills) sets forth rules and regulations to control excavation, grading, and drainage on land to safeguard public health, safety, and welfare. It includes standards to control runoff.

2. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. 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 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.
4. Risk release of pollutants due to project inundation if in a flood hazard, tsunami, or seiche zones.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
6. Expose people or structures to significant risk or loss, injury or death involving inundation by seiche, tsunami, or mudflow.
7. Result in a cumulatively considerable impact to hydrology and water quality.

Impact HWQ-1: Implementation of the proposed project could result in a discharge of pollutants that could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Discharges from Construction Activities

Future construction activities associated with the proposed project could entail grading or other activities disturbing soil thereby resulting in soil erosion due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, cut and fill activities, and grading. The disturbed soil could be washed off site by rain or blown off the site by wind and be deposited in a stream or other waterbody. Similarly, residues from motorized equipment used to construct projects could be washed off the construction site and enter a stream or other waterbody.

The types of pollutants contained in runoff from construction sites would be typical of suburban areas and may include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported to downstream drainages and ultimately into streams and the bay, contributing to degradation of water quality.

Per compliance with the NPDES general permit, the County's SWPPP, other state and regional regulations, and LMC regulations, proposed projects would be required to implement erosion control BMPs that may include scheduling and timing of grading activities and installation of erosion control processes and materials. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of stockpiled materials on site, and proper location of and maintenance of temporary sanitary facilities.

Per the LMC Chapter 9.11 (Runoff Pollution Prevention), construction site BMPs include erosion and sediment controls and pollution prevention practices. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of materials stored on site, and proper location of and maintenance of temporary sanitary facilities. The combination of BMPs used, and their execution in the field, must be customized to the site using up-to-date standards and practices.

An approved ESCP and SCP would be a condition of the issuance of a building permit, a grading permit, or other permit issued by the City for a project subject to Chapter 9.11, (Runoff Pollution Prevention) of LMC. Adherence to the requirements of the LMC would at the programmatic level reduce the potential for the proposed project to cause erosion and the subsequent sedimentation of local streams by ensuring proper management of loose and disturbed soil.

Future small construction projects will be required to be designed to comply with LID (Low Impact Development) recommendations set forth in the *Marin County Stormwater Pollution Prevention Program Minimum Erosion/Sediment Control Measures for Small Construction Projects*. Paving will be done with pervious paving to allow soil infiltration. Bioretention areas will be incorporated in the site plan to treat storm runoff from buildings and paved areas before that stormwater is released offsite to the City storm drain system.

All construction activities, no matter how minor, must control potential pollutants to prevent them from being released to the environment. Some active construction projects must comply with expanded erosion and sediment control requirements to protect local creeks, bays and the ocean. Construction activities, including excavation and trenching, may encounter shallow groundwater. In the event that shallow groundwater is encountered, dewatering of the excavation or trenching site may be required. If improperly managed, these dewatering activities could result in discharge of contaminated groundwater. In accordance with the San Francisco Bay RWQCB Groundwater General Permit (Order No. R2-2012-0060; NPDES No. CAG912004), contaminated groundwater would be treated prior to discharge or disposed of at an appropriate disposal facility or wastewater treatment plant. LMC Chapter 9.11 prohibits the establishment, use, maintenance or continuance of illicit discharges to the city storm drains or watercourses.

Compliance with applicable regulations and policies would reduce the risk of water degradation in Larkspur from soil erosion and other pollutants related to construction activities. Compliance would ensure consistency with the federal Clean Water Act, the California Porter Cologne Water Quality Act, State Water Resources Control Board Construction General Permit. San Francisco Bay Basin Water Quality Control Plan, Marin County Stormwater Pollution Prevention Program, and the Larkspur Municipal Code. Because violations of water quality standards would be minimized, impacts on water quality from the proposed project would be less than significant.

Operational Impacts

Operation of new development allowed under the proposed project could potentially add contaminants into the stormwater runoff entering stormwater drainage system. Runoff from new development could contain contaminants such as oil, grease, metals, and landscaping chemicals (pesticides, herbicides, fertilizers, etc.) that could degrade surface water and groundwater quality. The City of Larkspur's NPDES Storm Water Program and the LMC prevent illicit discharges into drains, waterways and wetlands.

The City may also require, as a condition of a future project approval, permanent structural controls designed for the removal of sediment and other pollutants and for control of the volume and rate of stormwater runoff from the project's added or replaced impervious surfaces. Post-construction measures may include source control measures to reduce stormwater runoff from the site, low impact development design, site design measures,

stormwater treatment measures, and hydromodification management measures. MCSTOPPP's Stormwater Program details requirements and BMPs to control runoff and stormwater pollution during both construction and operation of projects in Marin County and is designed to achieve compliance with the SWRCB's Phase II General Permit (Water Quality Order No. 2003-0005-DWQ) for stormwater discharges from small MS4s.

To help prevent long-term impacts associated with land use changes and in accordance with the requirements of the BASMAA Post-Construction Manual and the Phase II Small MS4 permit, designated new development and significant redevelopment projects must incorporate low-impact development (LID)/site design and BMPs to address post-construction stormwater runoff. In addition to compliance with mandatory CWA and the detailed LMC requirements, implementation of General Plan 2040 goals and policies would further reduce the potential for water quality degradation. As summarized in the Sustainability Chapter of the General Plan 2040, ten Natural Environment & Resource policies under Goal ENV-2 address protecting water resources from degradation, especially the following:

> Policy ENV-2.8: Encourage on-site water infiltration on project sites and the use of low impact development techniques to reduce run-off of sediment and toxic materials, downstream erosion, and flooding.
>
> > *Action Program ENV-2.8.a: Require drainage plans for projects that are designed, at a minimum, to produce no net increase in the rate and volume of peak runoff from the site compared to pre-project conditions. Encourage drainage plans that decrease the rate and volume of peak runoff compared to pre-project conditions.*
> >
> > *Action Program ENV-2.8.b: Continue to implement slope and hillside development regulations, including preservation of natural state conditions in steep hillside areas.*
> >
> > *Action Program ENV-2.8.c: Continue to require the use of low impact development techniques and other best management practices per Marin County Stormwater Pollution Prevention Program guidelines during development review, construction process, and site operation.*

To summarize, pollution from stormwater runoff is clearly addressed in federal and State laws and regulations. These federal and State requirements have been incorporated into LMC detailed regulations for control of pollutants entering waterways. These regulations are intended at a programmatic level to reduce water pollution impacts to a less-than-significant level. Continued regulation of new development proposals in Larkspur, including possible future development of up to 8 residential lots on the State-owned parcel near San Quentin Prison, will therefore reduce water pollution impacts to a less-than-significant level, and no additional mitigation is required at the programmatic level. Future project applications will be required to undergo analysis and mitigation per the cited regulations.

Impact HWQ-2 Implementation of the proposed project would not substantially decrease groundwater supplies nor interfere substantially with groundwater recharge

such that the project may impede sustainable groundwater management of the basin.

The California Statewide Groundwater Elevation Monitoring Program (CASGEM.) does not map a groundwater basin in the Larkspur Planning Area.[57] There is no groundwater withdrawal for municipal use. Groundwater is limited to domestic and irrigation uses from private groundwater wells. For the nearest monitored groundwater basin, San Rafael, Marin Water has determined that the potential for municipal groundwater use of that basin is very limited due to low production capabilities, water quality constraints, and potential water rights issues. Therefore, groundwater beneath that basin is not currently used and is not planned to be used as a municipal water supply source by Marin Water. [58]

Projected 2040 buildout would occur almost entirely as reuse or redevelopment of sites that are already developed. The amount of new impermeable surface resulting from this new development would convert almost no current open space to development with new impervious surfaces.

Individual projects that would create or replace 2,500 square feet or more of impervious surface would be required to implement site design measures identified in the SWRCB Phase II General Permit to reduce project site runoff. These measures include stream setbacks and buffers, soil quality improvement and maintenance, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns. Individual projects that create or replace 5,000 square feet or more of impervious surface area would be required to implement Low Impact Development (LID) design standards, hydromodification management measures, and post-construction storm water management measures to reduce runoff and maximize infiltration. Compliance with LMC requirements would maintain post-development peak runoff rates similar to the predevelopment conditions to the maximum extent practicable. As stated previously, most new development will be on sites that have already been developed with buildings and impervious surfaces. Due to the small amount of new impervious surfaces on these sites associated with the proposed project, and with adherence to SWRCB Phase II General Permit requirements to minimize runoff and maximize infiltration, implementation of the proposed project would not substantially interfere with groundwater recharge such that a lowering of the local groundwater table level would result. In addition, the City does not use groundwater as a source for municipal water supply. Therefore, implementation of the proposed project would not result in extraction of groundwater resources or the direct lowering of local groundwater levels.

[57] https://www.marincounty.org/depts/cd/divisions/environmental-health-services/groundwater-resources
[58] *Larkspur General Plan & Downtown Precise Plan Final EIR,* May 2021.

Compliance with the SWRCB Phase II General Permit requirements and adherence with General Plan 2040 policies would minimize runoff from future project sites and maximize groundwater infiltration. In addition, new impervious surfaces associated with implementation of the proposed project would occupy less than one percent of the total recharge area for the underlying aquifer. Therefore, this impact would be less than significant, and no mitigation is required.

Impact HWQ-3 Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

As described previously under Impact HWQ-1, implementation of the proposed project could cause soil erosion and consequent deposition of sediments in waterways. However, as described under that impact, future project construction would be required to conform with existing federal, State, and LMC requirements and regulations that would reduce the loss of soil and deposition into streams and waterways to a less-than-significant level. In addition, almost all new development projected for the City would occur in flat areas already developed with suburban uses. Development of these areas would be less prone to erosion than hillside areas to the west. Almost no new development of these hillside areas is expected except for possible future development of up to 8 residential lots on the State-owned parcel near San Quentin Prison. Any future development proposal of the State-owned parcel, if it is annexed to the City, would require City approval of an RMP District and preparation of a Residential Master Plan (RMP) for future residential development. It is expected that up to 8 residential lots could be developed. The RMP would require a CEQA analysis and findings by the City that the Plan and future development under the RMP would be consistent with the City's General Plan, including the policies and programs listed in this chapter on Hydrology and Water Quality. The RMP will include the LMC regulations for controlling soil erosion and slope stability in hillside areas (Chapter 18.20 – Slope and Hillside Development).

The small amount of additional sediment deposition from erosion of building sites into Corte Madera or Larkspur Creek would not be expected to have a measurable effect on the creeks and would not alter the course of these streams. The impact of sedimentation from new development proposals on stream alteration pales in comparison to the effects on the course of creeks from Sea Level Rise, which is discussed later under Impact HWQ-5. Therefore, the impact would be less than significant, and no additional mitigation is required at the programmatic level.

Impact HWQ-4 Implementation of the proposed project could increase the amount of runoff throughout the city thereby resulting in on- and off-site flooding, exceeding the capacity of existing or planned stormwater drainage systems, or creating substantial additional sources of polluted runoff.

Flooding On- or Off-site

New development or redevelopment within the Planning Area could result in an increase in impervious surfaces, which could result in an increase in stormwater runoff, higher peak discharges to drainage channels, and the potential to cause erosion or siltation in drainage swales and streams. However, as noted previously, most new development would involve redevelopment of existing developed properties. There are almost no undeveloped parcels in Larkspur. The increase in impervious surfaces from developing the few undeveloped lands or lightly developed lands would not be expected to measurably increase flows in the creek. The additional impervious surface would be minimal compared to the total amount of impervious surface in the city and the Corte Madera Creek watershed.

In addition, all potential future development must comply with the requirements of the Phase II MS4 Permit and the BASMAA Post-Construction Manual as well as BCDC regulations of properties within its jurisdiction along Corte Madera Creek. Regulated projects must implement BMPs, including LID BMPs and site design BMPs, which effectively minimize the amount of impervious surface, retain or detain stormwater on-site, decrease surface water flows, and slow runoff rates. Projects that create and/or replace one acre of impervious surface must also adhere to the hydromodification requirements of the BASMAA Post-Construction Manual to ensure that post-project runoff does not exceed pre-project runoff for the 2-year, 24-hour storm. LMC Chapter 9.11 also mandates that projects maintain pre- development stormwater runoff rates to the extent possible. Adherence to these regulatory requirements would minimize the amount of stormwater runoff from new development and redevelopment within the Planning Area. Therefore, projects pursuant to the proposed General Plan 2040 would not result in additional flooding on- or off-site, and impacts would be less than significant.

Stormwater Drainage System Capacity

As noted above, an increase in impervious surfaces with new development or redevelopment within the Planning Area could result in increases in stormwater runoff, which in turn could exceed the capacity of existing or planned stormwater drainage systems. All potential future development and redevelopment projects would be required to comply with the Phase II Small MS4 permit requirements and follow the BASMAA Post-Construction Manual when designing on-site stormwater treatment facilities. The hydrology study and SCP for each project is subject to City review to verify that the on-site storm drain systems and treatment facilities can accommodate stormwater runoff from the site and would not exceed the capacity of downstream drainage systems at the point of connection.

Also, implementation of the MS4 E.12 provisions for new development, which include LID design and bioretention areas, would minimize increases in peak flow rates or runoff volumes as well as decrease additional sources of polluted runoff, thus reducing stormwater runoff to the storm drain system. In addition, the LMC Chapter 9.11 states that pre- development

stormwater runoff rates should be maintained whenever possible for new development projects.

Potential future development within the Planning Area would be infill projects or the intensification of existing land uses mainly in TRAs and HRAs that are in developed areas with existing storm drain systems. With the implementation of the MS4 E.12 provisions for new projects within the Planning Area, there would not be a significant increase in stormwater runoff to the City's storm drain system. Any existing storm drain system inadequacies would continue to be addressed by the City's annual financing of priority system upgrades recommended in the City's Storm Drain Master Plan.

New development and redevelopment within the Planning Area would not create substantial additional sources of polluted runoff. During the construction phase, projects would be required to prepare SWPPPs, SCPs, and ESCPs, thus limiting the discharge of pollutants from the site. During operation, projects must implement BMPs and LID measures that minimize the amount of stormwater runoff and associated pollutants.

With implementation of these control measures and regulatory provisions to limit runoff from new development sites, including possible future development of up to 8 residential lots on the State-owned parcel, the proposed General Plan 2040 would not result in significant increases in runoff that would exceed the capacity of existing or planned storm drain facilities or polluted runoff, and the impact is less than significant.

Redirecting Flood Flows

The discussion above regarding on- and off-side flooding is also applicable to the analysis of impeding or redirecting flood flows. Since new development projects are required to comply with E.12 provisions of the Phase II Small MS4 Permit and retain stormwater on-site via the use of bioretention facilities, any flood flows would also be retained for a period of time on-site, which would minimize the potential for flooding impacts. The following impact analysis under Impact HYD-5 discusses the potential for impeding or redirecting flood flows with development in areas within the 100-year floodplain. Based on these discussions, impacts related to impeding or redirecting flood flows would be less than significant.

The proposed Land Use Chapter and Health and Safety Chapter contain policies, and programs that require local planning and development decisions to consider impacts to hydrology. The following General Plan 2040 policies, and programs would serve to minimize potential adverse impacts on drainage patterns:

> Policy SAF-4.1: Support completion of flood control improvements in the Ross Valley Watershed that are relevant to the City of Larkspur.
>
> Policy SAF-4.2: Regulate built structures in flood-prone areas, including those areas vulnerable to sea level rise and subsidence, and allow new development in those areas only with appropriate mitigation.

Action Program SAF-4.2.a: Refer to the most up-to-date FEMA flood hazard area maps and the Marin Shoreline Sea Level Rise Vulnerability Assessment (June 2017 or as updated) when considering development and/or public projects in areas currently identified within a FEMA flood hazard zone as well as areas that may be subject to flooding in the medium- (50 years) or long-term (100 years) under the vulnerability analysis.

Action Program SAF-4.2.b: Review and adopt updated standards for minimum grades and minimum finish floor elevations that exceed Federal Emergency Management Agency floodplain regulations and take into consideration the rising sea levels over the medium- and long-term. Establish new base flood elevations (BFEs) applicable to the Floodplain Management Ordinance.

Action Program SAF-4.2.c: Review and adopt updated height limits for new development and redevelopment that accommodates increased base flood elevations (BFEs) in those area vulnerable to flooding and sea level rise. Review and adopt updated development restrictions, including standards for minimum grades and minimum finish floor elevations that exceed Federal Emergency Management Agency floodplain regulations and take into consideration the rising sea levels over the medium- and long-term.

Action Program SAF-4.2.d: Work with Marin County Department of Public Works, other agencies and organizations (e.g., San Francisco Bay Conservation and Development Commission, California Coastal Conservancy, etc.) to develop and adopt adaptation standards for existing development and new development and redevelopment within areas identified as vulnerable to sea level rise. Regularly update standards to reflect changing best practices.

Action Program SAF-4.2.e: Seek grant funding and non-profit, community assistance to support shoreline stabilization, marsh restoration, and other sea level rise adaptation measures that benefit open space, parks, water quality, and natural habitat.

Action Program SAF-4.2.f: Require site plans to locate structures outside or above the 100-year flood zone and sea level rise vulnerability area, to the extent feasible.

Action Program SAF-4.2.g: Implement actions to mitigate flooding and sea level rise hazards listed in the MCM LHMP.

Implementation of these policies and programs along with implementing the City's Storm Drain Master Plan and other regulations listed previously would ensure that the City maintains and implements an adequate storm water management plan and that the storm water drainage system provides adequate storm water drainage for both existing and new development. Development in the TRAs and HRAs would also comply with these policies that would ensure adequate storm water management. Implementation of these goals, policies, and programs, in addition to compliance with applicable laws and regulations, would minimize the potential for increased runoff and flooding and would reduce this potential impact to a less-than-significant level. No additional mitigation is required at the programmatic level.

Impact HYD-5 Implementation of the proposed project could risk release of pollutants due to project inundation if a development site is in a flood hazard, tsunami, or seiche zone.

Projected buildout could involve development of some projects in the FEMA 100-year flood zones. As shown on Figure 4.9-1, most of the land along Corte Madera Creek and much of the land south of that creek and east of the Downtown area is within the 100-year floodplain. The proposed General Plan 2040 land use map designates residential and general commercial land uses as well as recreational and public facility uses within this floodplain.

Potential future development in 100-year flood zones would be subject to floodplain requirements listed in LMC Chapter 15.18. Prior to the start of construction or development within a Flood Hazard Area (i.e., 100-year floodplain), the City of Larkspur requires project applicants to obtain a development permit from the City's Floodplain Administrator and construct new development in accordance with the standards in LMC Section 15.18.050 (Provisions for Flood Hazard Reduction). The standards of construction include provisions for flood risk reduction, including anchoring and use of flood-resistant materials and construction methods, with the lowest floors elevated above the base flood elevation.

Properties within 100 feet of the Corte Madera Creek, San Pablo or San Francisco Bay shoreline are within the BCDC jurisdiction. Potential future development of these properties and large shoreline projects, including shoreline protection projects, would be required to conduct a sea level rise risk assessment and be designed to be resilient to a midcentury sea level rise projection. BCDC also requires that if it is likely that the project will remain in place longer than midcentury, an adaptive management plan should be developed to address the long-term impacts that will arise, based on the risk assessment. Potential new development under the proposed General Plan 2040 that is more than 100 feet inland from Corte Madera Creek, San Pablo or San Francisco Bay shoreline would not be subject to BCDC review. However, potential future development under the proposed General Plan 2040 would be required to comply with LMC Chapter 15.18 (Provisions for Flood Hazards Reduction), which restricts development in areas subject to flooding and requires protections for new development within inundation areas.

General Plan 2040 policies listed under the previous impact analysis, including Policies LU-3.1, SAF-4.1 and Policy SAF-4.2 (and the program actions listed under those policies) provide policy direction to regulate new development in flood zones.

Tsunami

Due to the infrequent nature of tsunamis and relatively low predicted tsunami wave height in the area, the City is reasonably safe from tsunami hazards. Furthermore, LMC 15.18.030 includes requirements for development within coastal high-hazard areas, which includes tsunami zones.

Marin County and the City are part of the tsunami warning system. The Marin Operational Area Emergency Operations Plan provides information and guidance for tsunami warnings, advisories, watches, and information statement bulletins, and specifies the roles and responsibilities of local response agencies in alert and warning dissemination. Additionally, the Marin Emergency Recovery Plan provides a concept of operations for long term recovery and restoration after extensive damage due to tsunami. Both the Marin Operational Area Emergency Operations Plan and the Marin Emergency Recovery Plan are discussed further in Chapter 4.9, Hazards and Hazardous Materials, of this Draft EIR.

Sea Level Rise

As discussed in the Flood Hazard discussion above, potential development under the proposed General Plan 2040 could involve development in areas that will be inundated by sea level rise and associated coastal flooding. As shown on Figures 4.9-4 to 4.9-6 and as projected in the new sea level rise scenarios described in the Setting section, most of the land along the Corte Madera Creek, east of the intersection of Doherty Drive and Magnolia Avenue, and east of Highway 101 will be in sea level rise inundation areas by 2040 and 2100, with additional land being inundated during a 100-year storm surge.

In addition to contributing to increased overland flooding, sea level rise can lead to the intrusion of salt water into groundwater aquifers, causing shallow groundwater tables to rise. This phenomenon can in turn cause ponding of water or flooding in low lying areas with little to no past flooding occurrences; infiltrate underground water, sanitary sewer, water, and storm drain pipelines; increase soil liquefaction risk during seismic events; and remobilize old soil contaminants. This effect of sea level rise has been studied less in coastal communities compared to increased overland flooding.[59]

As shown on Figure 4.3-1 of this Draft EIR, nearly every land use designated on the General Plan 2040 land use map would have properties within the projected sea level rise inundation area for 2050 with a 100-year storm surge. Many of the inundation areas would include parks and open space, residential, or commercial uses.

The State-owned parcel uphill of San Quentin Prison is elevated above any floodplains and would not be affected by projected sea level rise.

Additionally, the City has adopted the *Marin County Multi-Jurisdictional Local Hazard Mitigation* Plan that addresses actions to mitigate SLR, and the City proposes in the General Plan 2040 to adopt the *Marin Shoreline Sea Level Rise Vulnerability Assessment (as updated by more current plans)*, which identifies potential adaptation measures and approaches to reduce

[59] Marin County Community Development Agency, *Public Draft Safety Element*, 2022.

the risk of inundation from sea level rise and coastal flooding. Goals, policies, and programs to address SLR in the General Plan 2040 include the following.

Policy SAF-4.2: Regulate built structures in flood-prone areas, including those areas vulnerable to sea level rise and subsidence, and allow new development in those areas only with appropriate mitigation.

Action Program SAF-4.2.a: Refer to the most up-to-date FEMA flood hazard area maps and the Marin Shoreline Sea Level Rise Vulnerability Assessment (June 2017 or as updated) when considering development and/or public projects.in areas currently identified within a FEMA flood hazard zone as well as areas that may be subject to flooding in the medium- (50 years) or long-term (100 years) under the vulnerability analysis.

Action Program SAF-4.2.b: Review and adopt updated standards for minimum grades and minimum finish floor elevations that exceed Federal Emergency Management Agency floodplain regulations and take into consideration the rising sea levels over the medium- and long-term. Establish new base flood elevations (BFEs) applicable to the Floodplain Management Ordinance.

Action Program SAF-4.2.c: Review and adopt updated height limits for new development and redevelopment that accommodates increased base flood elevations (BFEs) in those area vulnerable to flooding and sea level rise. Review and adopt updated development restrictions, including standards for minimum grades and minimum finish floor elevations that exceed Federal Emergency Management Agency floodplain regulations and take into consideration the rising sea levels over the medium- and long-term.

Action Program SAF-4.2.d: Work with Marin County Department of Public Works, other agencies and organizations (e.g., San Francisco Bay Conservation and Development Commission, California Coastal Conservancy, etc.) to develop and adopt adaptation standards for existing development and new development and redevelopment within areas identified as vulnerable to sea level rise. Regularly update standards to reflect changing best practices.

Action Program SAF-4.2.e: Seek grant funding and non-profit, community assistance to support shoreline stabilization, marsh restoration, and other sea level rise adaptation measures that benefit open space, parks, water quality, and natural habitat.

Action Program SAF-4.2.f: Require site plans to locate structures outside or above the 100-year flood zone and sea level rise vulnerability area, to the extent feasible.

Action Program SAF-4.2.g: Implement actions to mitigate flooding and sea level rise hazards listed in the MCM LHMP.

Policy CIR-11.1: Avoid, where possible, locating new circulation infrastructure in areas with identified long-term risks of flooding (especially flooding due to future sea level rise) or seismic, geologic, and/or soil hazards to protect circulation system users and avoid extraordinary maintenance and operating expenses.

Policy SAF-4.3: Consider the impacts of Sea Level Rise when designing and funding capital improvements.

Action Program SAF-4.3.a: Implement the recommended drainage system improvements of the Larkspur 2050 Capital Improvement Program, and any other recommended improvements identified in the future through the City's Capital Improvement Program. Design storm drain improvement to avoid back-flow intrusion in areas vulnerable to flooding and sea level rise.

Action Program SAF-4.3.b: Coordinate with the County, Caltrans, the Marin Municipal Water District, Pacific Gas and Electric, and other relevant agencies to study and mitigate potential impacts of sea level rise on infrastructure, including roadways, water conveyance systems, sewer lines, and submerged electrical systems.

Action Program SAF-4.3.c: When considering constructing engineered shoreline protection and flood control structures, encourage preparation of a cost-benefit analysis to study financial impacts on taxpayers.

Action Program SAF 4.3.d: Work collaboratively with other agencies, utilities, and special districts to address shared impacts of sea level rise and seek outside funding to support projects that benefit multiple jurisdictions and/or agencies.

Action Program SAF 4.3.e: Work with the State Lands Commission to clarify the Commission's jurisdiction and leasing rights to City properties that become inundated by sea level rise.

Policy SAF-4.4: Balance required flood protection measures with the need to protect environmental resources and integrate the protection of natural resources with design improvements.

Action Program SAF-4.4.a: Prior to approving the construction of shoreline protection structures (such as sea walls, levies, and others), study the potential impact of the structure on shoreline and marsh areas in Larkspur.

Furthermore, as noted previously, potential future development under the proposed General Plan 2040 within 100 feet of the Corte Madera Creek shoreline would be subject to review and approval by the BCDC. Potential future development and large shoreline projects, including shoreline protection projects, would be required to conduct a sea level rise risk assessment and be designed to be resilient to a midcentury sea level rise projection.

Sea level rise may inundate areas contaminated with unknown hazardous wastes or hazardous products used on these sites. Inundation of these sites could result in polluted bay water, which could result in a health or environmental resource impact. This is a potentially significant impact.

As previously noted, the City is nearing completion of the State-required update of its Safety Element. It is expected that the update will include additional programs that expand on or clarify the policies and programs included in the Larkspur General Plan 2040 to further reduce the impacts of future development on hydrology and water quality. More importantly, it is expected that the updated Safety Element will address in more detail the impacts of SLR on the community and its environment. The October 2022 Draft Safety Element prepared by the County identifies many policiesies and programs that provide additional clarification of actions

to be taken per the policies and programs listed above for the General Plan 2040 to address SLR that could be considered in updating the Safety Element. Some of these policies and programs are:

- Increase community resilience to climate change and protection of vulnerable populations. Engage in community education and community-driven planning that leads to identification of community priorities that increase resilience.
- Increase Infrastructure, Building, and Services Resilience. Increase the resilience of Larkspur infrastructure, buildings, and services with an initial focus on nature- based solutions.
- Adapt to Sea Level Rise. Safeguard the Marin shoreline, coastline, natural resources, recreational resources, and urban uses from flooding due to rising sea levels.
- Adapt Water Supply. Prepare for a reduced, long-term water supply resulting from more frequent and/or severe drought events.
- Regular Review of Adaptation and Resiliency Strategies. Periodically review the Count climate adaptation and resiliency strategies and update them as needed to ensure compliance with state laws and community needs. Use best practices review and amend at regular intervals all relevant public codes to incorporate the most current technical knowledge.
- Develop Adaptation Plans. Develop adaptation plans that lead to community resilience. Adaptation plans can be hazard specific or cover multiple hazards, they can cover the entire county or individual communities, but all adaptation plans should recognize the interactions among climate change impacts and should accomplish the following: be consistent with the goals, policies, and programs in this Safety Element; integrate and prioritize equity and social justice; lead to County actions that improve resilience; be phased over time, for example, by including adaptation pathways with identified triggers; incorporate nature-based measures; consider both public and private roles; include identified funding mechanisms for construction, operations and maintenance; include metrics for monitoring; be developed in coordination with relevant jurisdictions, agencies, organizations, and other stakeholders; include measures for continued coordination; and identify a lead jurisdiction, agency or organization. Where retreat from a hazard area is a potential long-term outcome, plan for it early to identify the best possible means of managing an equitable and safe retreat.
- Disclose Current and Future Hazards. Develop a resale inspection permit program that provides disclosure of hazard risk information to prospective buyers prior to the sale of property. The program should include detailed hazard information, such as very high and high hazard wildfire severity zones, flood zones, tsunami and future sea level rise inundation areas, and Alquist-Priolo zones.
- Use Environmentally Sensitive Adaptation Strategies. Where feasible the County should encourage the use of existing natural features and ecosystem processes, or the restoration thereof, in adaptation projects and measures.
- Integrate Natural Infrastructure. During the development review process, when

developing alternatives and addressing adaptation in proposed projects, the County should require applicants to identify natural infrastructure that may be used through the conservation, preservation, or sustainable management of open space to reduce climate change hazards. Proposals addressing adaptation must analyze the feasibility of integrating natural infrastructure before proposing alternative measures.

- Employ Sea Level Rise Scenarios in Planning. The County should cooperate with state, federal, and other monitoring agencies to track bay and ocean levels and share baseline topographic and resource data obtained by the County in implementing its own projects to enhance hydrodynamic and ecosystem modeling efforts and assessment of regional climate change impacts. Project design and environmental review for development applications and County sponsored projects infrastructure should incorporate official mid-century sea level rise estimates, the most current State of California recommendations for sea level rise scenarios as appropriate for the risk tolerance and expected life of the project.
- Rise in Flood Control Planning and Projects. Consider sea level rise in future countywide and community plan flood control efforts. Apply for membership in the National Flood Insurance Program's (NFIP) Community Rating System (CRS), and as appropriate through revisions to the Marin County Code, obtain reductions in flood insurance rates offered by the NFIP to community residents. official mid- century and end-of-century sea level rise estimates in Participate in the Bay Area Climate & Energy Resilience Project and its March 2013 Proposed 12-Month Action Plan, developed by the Bay Area Joint Policy Committee of the Association of Bay Area Governments. Cooperate with FEMA in its efforts to comply with recent congressional mandates to incorporate predictions of sea level rise in its Flood Insurance Studies and FIRM. Periodically revise the Marin County Hydrology Manual to, at a minimum, incorporate use of the most recent updated rainfall frequency data from NOAA's Atlas 14 Volume 6, Vers. 2.1 California (rev. 2012).

Mitigation Measures

Mitigation Measure HWQ-1: Add the following policy and program to Goal SAF-4:

Policy SAF-4.5: Minimize the release of hazardous pollutants from sites inundated by sea level rise.

Action Program SAF-4.5.a: Work with Marin County Department of Public Works, other agencies and organizations (e.g., San Francisco Bay Conservation and Development Commission, California Coastal Conservancy, etc.) to develop and adopt standards for identifying hazardous materials or contaminated sites that could be inundated by sea level rise and for treating or protecting such sites to eliminate or minimize the risk of contamination of bay waters due to that inundation.

Impact Significance After Mitigation

The additional policy and program ensure that the City, working with other affected jurisdictions and agencies, will specifically address the risk and potential impacts of sea level rise inundation of contaminated sites. With the implementation of this mitigation along with

compliance with regulatory requirements, the MCM LHM, the *Marin Shoreline Sea Level Rise Vulnerability Assessment*, and the listed General Plan goals, policies, and programs, the programmatic impacts of pollution from new development in areas subject to the 100-year flood and SLR would be less than significant, and no additional mitigation is required at this programmatic level of analysis.

The policies and programs of the General Plan 2040 provide a programmatic foundation for addressing the challenges of sea level rise. The Safety Element update being prepared by the City will re-visit these analyses given the most recent sea level rise scenarios and SLR adaptation guidelines to revise or add policies and programs, if warranted.

As is the case with previous impact conclusions, individual projects would be assessed per the goals, policies, and programs to ensure that new residential, commercial, or industrial development is not allowed in areas of severe flooding and SLR to reduce the impacts of that development adversely affecting the environment. A key role of the proposed General Plan 2040 is to address the growing risk from SLR and how Larkspur along with neighboring jurisdictions can adapt to SLR and minimize impacts to the environmental and risk to its citizens and their assets. The mitigation would reduce the programmatic impact to a less-than-significant level.

Impact HYD-6 Implementation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Adherence to the LMC, the Phase II MS4 Permit, and the BASMAA Post-Construction Manual would ensure that surface and groundwater quality are protected from erosion and pollution during grading and construction. As a result, site soils would not be adversely impacted during construction and operation of development pursuant to the proposed General Plan 2040. Therefore, development will not obstruct or conflict with the implementation of the San Francisco Bay Basin Water Quality Control Plan nor the San Francisco Bay Plan. Furthermore, potential future development will be within the Marin Water service area, which relies solely on surface water supply. Groundwater is not currently used or planned to be used as a municipal water supply source by Marin Water, and future projects would not conflict with the sustainable management of the groundwater basins. Therefore, the proposed General Plan 2040 would not obstruct or conflict with the RWQCB's Basin Plan or groundwater management plans, and impacts would be less than significant. No additional mitigation is required at the program level of analysis.

Impact HYD-7 Implementation of the proposed project could result in a cumulatively considerable impact to hydrology and water quality.

The geographic context used for the cumulative assessment to hydrology, drainage, flooding, and water quality encompasses the Corte Madera Creek watershed. New development in this

watershed could increase impervious areas, thus increasing runoff and flows into the storm drainage systems.

Potential future development would be required to comply with the Phase II MS4 Permit, implement BMPs that direct drainage to landscaped areas, and integrate bioretention facilities into the site design. Implementation of these BMPs on a regional basis would reduce cumulative impacts to hydrology and drainage to less than significant.

All projects would be required to comply with various Municipal Code provisions and policies and County ordinances as well as numerous water quality regulations that control construction-related and operational discharge of pollutants into stormwater. The 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 NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the Phase II Small MS4 Permit encompasses all of the surrounding municipalities to manage stormwater systems and be collectively protective of water quality. Projects in the watershed would implement structural and nonstructural source-control BMPs that reduce the potential for pollutants to enter runoff, and treatment control BMPs that remove pollutants from stormwater. Therefore, cumulative water quality impacts would be less than significant after compliance with these permit requirements, and impacts would not be cumulatively considerable.

Projects in the watershed may be constructed within 100-year flood zones, areas of sea level rise, or tsunami inundation zones. Such projects would be mandated to comply with National Flood Insurance Program requirements. In addition, other jurisdictions within these watersheds regulate development within flood zones in a similar manner as the Larkspur Municipal Code and in compliance with FEMA standards to limit cumulative flood hazard impacts. Therefore, cumulative impacts to hydrology, drainage, and flooding would be less than significant, and impacts of the proposed project would not be cumulatively considerable.

4.10 Land Use and Planning

1. Setting

Existing Conditions

Larkspur General Plan 1990-2010

The Larkspur General Plan 1990-2010 is the City's official policy document that describes the City's vision and goals for the future and establishes the location and intensity of different land use types. The chapters of the *Larkspur General Plan 1990-2010* include Land Use, Circulation, Community Character, Community Facilities and Services, Environmental Resources, Health and Safety, and Bicycle and Pedestrian Trails and Paths.

The current project is an update of this existing general plan. To update the plan, the City Council appointed the General Plan Update Citizen Advisory Committee (CAC). The CAC completed a review of the 1990 General Plan Elements in November 2011 and provided recommendations to City staff regarding necessary updates to their goals, policies, and action programs. City staff prepared an Administrative Draft of the updated General Plan in December 2011 that incorporated the recommendations of the CAC. It was anticipated that the updated General Plan would be adopted in the fall of 2014. However, the plan update was interrupted when the City received a planning grant from MTC and ABAG to develop a Station Area Plan near the proposed SMART station. As described in more detail in a subsequent subsection of this Setting section, a plan and a Draft EIR was prepared for that project in 2014. Ultimately, the City Council chose not to adopt the Station Area Plan. Following that decision, it was necessary for the City to focus on several other key planning processes, most notably updating and obtaining recertification of the City's Housing Element Update before returning to the General Plan Update.

In 2016 the City re-initiated the update of the General Plan. At that time, it was clear there was additional work needed to address further changes in State Law, changing conditions within the City, and finished formatting and graphics for the documents. On March 15, 2017, the City Council authorized formation of a General Plan Update Steering Committee (GPUSC) to be comprised of two Councilmembers and two Planning Commissioners, to build upon the earlier efforts of the General Plan Update Citizen Advisory Committee (CAC). Since that time, the GPUSC met 13 times with two public workshops. On October 12, 2020, the GPUSC approved the Administrative Draft of the General Plan Update 2040, including all major policies, action programs, and updated data and diagrams.

Larkspur General Plan 1990-2010 Land Use Designations

Chapter 2, Land Use Element of the *Larkspur General Plan 1990-2010* groups land uses into several categories which are described below and summarized on Table 4.10-1. The *Larkspur General Plan 2040* maintains these designations with only a few changes described in a subsequent subsection.

Residential

- Open Residential – Single family residential category allows up to 0.2 units per gross acre. Minimum lot size is five acres, but smaller existing parcels would not be precluded from developing one housing unit.
- Very Low Density Residential – Allows up to 1 unit per gross acre. Minimum lot size is 1 acre, but smaller existing parcels would not be precluded from developing one housing unit.
- Low Density – Allows up to 5 dwellings units per gross acre. The lowest minimum lot size is 7,500 square feet on parcels that are flat or on slopes up to 10 percent and may increase up to 43,560 square feet (1 acre) for slopes ranging from 10 to 25 percent.
- Medium Density – Allows up to 12 dwellings per gross acre. Maximum density decreases with slope to a minimum of two units per gross acre for slopes greater than 45 percent.
- High Density – Allows up to 21 units per acre on sites where slope is less than ten percent. Maximum density decreases with slope to a minimum of two units per gross acre for slopes greater than 45 percent.
- Mobile Home Park – Allows only mobile homes and accessory uses, up to 14 units (about 28 persons) per gross acre.

Per the General Plan, single-family homes are permitted in medium- and high-density residential zoning districts.

Commercial

- Administrative and Professional Offices – Provides for office uses such as administrative, executive, medical, dental, and business offices, some service establishments, medical supply sales, and laboratories. Floor area ratio should not exceed 0.35, and landscaped areas should cover at least 30 percent of the lot area.
- Restricted Commercial – Provides for neighborhood shopping areas to meet the frequent and recurring needs of nearby residents. Second-story residential units over first-story commercial uses are encouraged and exempt from floor area ratio restrictions, except as may otherwise be stated in a specific plan or planned development plan. Senior housing is preferred. Second-story residential density shall be limited by parking and height restrictions and mixed-use housing shall not exceed 21 residential units per acre. The maximum floor area ratio is 0.4.
- Commercial – This designation provides for neighborhood shopping needs and the broader goods and service needs of Larkspur residents. However, the Commercial

designation is characterized by businesses that may rely on customers traveling by vehicle, and those uses which do not necessarily benefit from high-volume pedestrian concentrations. Second-story residential units over first-story commercial uses are encouraged and exempt from floor area ratio restrictions, except as may otherwise be stated in a specific plan or planned development plan. Senior housing is preferred. Second-story residential density shall be limited by parking and height restrictions and mixed-use housing shall not exceed 21 residential units per acre. The maximum floor area ratio is 0.4.

- Downtown – The land use Goal of the Downtown district is to promote personal services and retail sales of convenience goods while enhancing the vitality and character of the historic commercial area. Typical uses include small-scale restaurants, drug stores, retail shops, book stores and art galleries. Second-story residential units over first-story commercial uses are encouraged and exempt from floor area ratio restrictions, except as may otherwise be stated in a specific plan or planned development plan. Senior housing is preferred. Second-story residential density shall be limited by parking and height restrictions and mixed-use housing shall not exceed 21 residential units per acre. The maximum floor area ratio is 1.0.
- Industrial and Service Commercial – Provides for a wide variety of commercial, wholesale, service, and processing uses which are of value to the community at large. It allows warehousing, heavy commercial, auto sales and repair, food and drink processing, construction yards, print shops, and similar uses. Live/work units may be conditionally permitted. Floor area ratio should not exceed 0.4.
- Public and Government
- Schools – This designation applies to public schools and their grounds. Floor area ratio should not exceed 0.25.
- Public Facilities – This designation applies to federal, state, county, special district, and publicly-owned City facilities, not including schools and colleges. Floor area ratio should not exceed 0.25.

Open Space

- Parkland – This designation applies to active and passive parks, and linear parks in urban areas. The only structures allowed are shelters, restrooms, storage sheds, and other structures needed to accommodate public use or provide for maintenance of the land. Floor area ratio should not exceed 0.10.
- Open Space Area – This designation applies to any parcel of land or water which is essentially unimproved and is devoted to the preservation of natural resources, views, and wildlife habitats, the managed production or resources, outdoor recreation and education or public health and safety. Floor area ratio should not exceed 0.10.

Table 4.10-1: Larkspur General Plan 1990-2010 Land Use Designations

Category Title	Density Range[60], [61]	Description	Corresponding Zoning District(s)
Residential Low Density	1 to 6 DU/acre	Low density and large lot single-family residential development	R-1, T-R, RMP, PD
Residential Medium Density	6 to 12 DU/acre	Low- to medium-density residential development	R-2, P-D
Residential High Density	13 DU/acre to 21 DU/acre	Medium- to high-density multi-family residential development and attached single-family residential development	R-3, P-D
Mobile Home Park	Up to 14 DU/acre	Existing mobile home parks	MHP
Administration & Professional	N/A	Office-related activities that serve local and regional needs; Second level residential	A-P, P-D
Neighborhood Commercial	N/A	Neighborhood shopping areas to meet the recurring needs of nearby residents	C-1, P-D
Commercial	N/A	Commercial areas to meet the broader goods and service needs of residents of Larkspur and the region	C-2, P--D
Downtown	N/A	Specific guidance for Larkspur's Downtown properties	SD, GD, TD, P-D
Industrial & Service Commercial	N/A	Areas that provide a wide variety of commercial, wholesale, service, wholesale, processing, and freeway frontage retail and services	L-I, S
Education/Environ-mental Resource	N/A	This category applies solely to the College of Marin campus	E/ER
Public Facilities	N/A	Public school campuses, government and publicly owned facilities	R-1, R-2, R-3, SD, C-2, P-D, S
Parkland	N/A	Public parks	R-1, R-3, AP, P-D
Open Space	N/A	Public and private open space lands protected as a condition of project approval	R-1, P-D, P-D, S
Shoreline/Marsh Conservation/Water	N/A	Undeveloped areas used for conservation of environmental resources	R-1, RMP, P-D,
Open Residential	Up to 0.2 DU/acre	This category applies to a single-family site located at the Baltimore Park Railroad Jct. and the remainder portion of the State-owned A.P. No. 018-152-12	RMP

- Shoreline/Marsh Conservation Area – This designation applies to lands containing tidal marshes, seasonal marshes, beaches, rocky shorelines, mudflats, wetlands, low-lying

[60] "DU" denotes dwelling unit. Density calculations (dwelling units per acre for specific development proposals are rounded up to the nearest whole number if the calculation results in more than 0.50 of a unit, rounded down (except as otherwise provided by State law) to the nearest whole number if less than 0.50 of a unit. N/A denotes "not applicable.

[61] Density of a given development project may be approved at less than the stated minimum based on slope standards and/or by findings set forth in the Zoning Ordinance.

grasslands overlying historic marshlands, streams, and riparian vegetation. Floor area ratio should not exceed 0.10.

- Educational/Environmental Resources Area – Applies only to the College of Marin campus in Larkspur. It allows for outdoor athletic and recreational programs and activities; landscape management and horticulture educational, environmental science, and nature study, and floodplain and wildlife habitat. No additional structures are allowed on the land, except for classrooms, consistent with state law which gives community college district independence from local zoning.
- Water Area – This designation applies to the channels of Corte Madera and Larkspur Creeks, the lagoon within the Greenbrae Marina development, and San Francisco Bay.

The Larkspur Zoning Ordinance is contained in Title 18 of the Larkspur Municipal Code. It serves as the regulatory mechanism that implements the policies of the General Plan. The Zoning Ordinance defines and provides development regulations for all land use districts throughout the City.

Larkspur Downtown Specific Plan (1992)

The Downtown Specific Plan encompasses most parcels fronting each side of Magnolia Avenue from Doherty Drive to William Avenue. Magnolia Avenue is considered the City's main street and provides the City's primary commercial identity. The *Downtown Specific Plan* was developed with the overall objective to guide and facilitate the continuing development and conservation of the designated downtown area.

Central Larkspur Specific Plan and EIR

The City Council adopted the Central Larkspur Area Specific Plan (CLASP) in 2006 with the intent to revitalize one of the City's gateways to its historic Downtown. The CLASP Area encompasses 27.58 acres of land along, and including, Doherty Drive and along Magnolia Avenue between East Ward Street and Doherty Drive. Since its adoption, CLASP subarea 3 has been developed with 85 homes, consisting of 29 single-family homes with 6 second units, 6 affordable cottages, 42 senior condominium units and 8 senior cottages. In accordance with the approvals, the City retains at 2.43-acre site to develop as a community facility (recently designated by the City Council as The Commons).

SMART Station Area Plan

In May 2011, the Metropolitan Transportation Commission and the Association of Bay Area Governments awarded a station area planning grant to the City of Larkspur to develop a Station Area Plan. The goals of this grant program were to promote transit ridership, reduce vehicle usage, increase housing supply (particularly affordable housing) near station areas, increase jobs near transit corridors and locate key services and retail within station areas throughout the Bay Area. In 2013,the City of Larkspur developed the *Larkspur SMART Station Area Plan*, a local area plan that evaluated opportunities to maximize the land use and transportation context of

the then planned Sonoma-Marin Area Rail Transit (SMART) commuter rail station and the nearby Larkspur Ferry. The primary objectives of the ˆ*Station Area Plan* were to:

- Provide a land use plan for the area that will guide development towards supporting transit ridership and housing.
- Provide a market demand analysis to guide land use alternatives.
- Formulate urban design guidelines promoting a walkable, livable environment with pedestrian and bicycle connectivity.
- Provide an analysis of infrastructure needs relevant to the plan area.
- Address flooding and sea level rise in the plan area.
- Provide an implementation plan to identify costs, funding sources, and strategies to carry out the development and design scenarios.

The plan included potential development of 920 new residential units and approximately 300,000 square feet of office and retail uses on six "opportunity sites." A draft EIR was prepared for the project in 2014. Following the closure of the public comment period for the Draft EIR on June 2, 2014, the City Council held a public workshop on June 18, 2014 at which they voted unanimously to stop the Station Area Plan process in consideration of the myriad of community concerns with the effort. The Council formalized this action with adoption of a Resolution July 16, 2014, which also directed City staff to restart the General Plan Update process that led to the current Draft General Plan 2040.

2. Regulatory Framework

State

California Housing Element Law

California Housing Element Law 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 the meeting of these needs. Additionally, in order to ensure that counties and cities recognize their responsibilities in contributing 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 City of Larkspur's 2015–2023 Housing Element Update was adopted in May 2015. Though it is not being updated as part of the proposed General Plan 2040, the goals, policies, and programs in the proposed General Plan 2040 would continue to support adequate housing in Larkspur. The City has initiated the next housing element update with adoption expected to occur before January 1, 2023.

Cortese-Knox Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2002 established a Local Agency Formation Commission (LAFCo) in each county in California and authorized these commissions to review, approve, or deny proposals for boundary changes and incorporations for cities, counties, and special districts. The LAFCo established a "sphere of influence" (SOI) for cities within their jurisdiction that describes the city's probable future physical boundaries and service area. The Larkspur SOI is regulated by the Marin County LAFCo. The Larkspur SOI is shown on Figure 3.4-1 in Chapter 3, Project Description. Larkspur has chosen to define its Planning Area as having the same boundaries as its SOI. The City does not propose to annex or de-annex any areas of the SOI as part of this proposed project.

Regional Regulations

Plan Bay Area 2050

As discussed in Chapter 4.0, Environmental Analysis, of this Draft EIR, *Plan Bay Area 2050* is the regional transportation plan/sustainable community strategy, as mandated by the Sustainable Communities and Climate Protection Act (Senate Bill 375). *Plan Bay Area 2050* lays out a development scenario for the nine- county Bay Area region that works to provide equitable housing opportunities and to align transportation and land use planning in order to reduce vehicle miles traveled through modified land use patterns. The current *Plan Bay Area 2050* projects growth and development patterns through 2050.

Plan Bay Area is prepared and regularly updated by the Metropolitan Transportation Commission (MTC) in partnership with the Association of Bay Area Governments (ABAG), Bay Area Air Quality District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). Each of the agencies has a different role in regional governance. ABAG primarily does regional land use planning, housing, environmental quality, and economic development; MTC is tasked with regional transportation planning, coordinating, and financing; the Bay Area Air Quality Management District (BAAQMD) is responsible for regional air pollution regulation; and the San Francisco Bay Conservation and Development Commission (BCDC) focus is to preserve, enhance, and ensure responsible use of the San Francisco Bay.

As described in Chapter 4.0, Environmental Analysis, *Plan Bay Area 2050* designates Growth Geographies where approximately two-thirds of new development over the next 30 years is projected to occur These Growth Geographies include Priority Development Areas (PDAs), Transit-Rich Areas (TRATRAs), and High Resource Areas (HRAs) throughout the region. Larkspur does not contain any PDAs. TRAs in Larkspur are centered near the SMART Station and Ferry Terminal, while HRAs are located along Sir Francis Drake Boulevard, Redwood Highway, and Magnolia Avenue.

Plan Bay Area 2050 distributes future growth across the San Francisco Bay Area region in order 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 MTC/ABAG, 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 Growth Geographies.

San Francisco Bay Conservation and Development Commission

In 1969, the McAteer-Petris Act designated the San Francisco BCDC as the agency responsible for the protection of the San Francisco Bay and its natural resources. BCDC fulfills this mission through the implementation of the San Francisco Bay Plan (Bay Plan), an enforceable plan that guides the future protection and use of San Francisco Bay and its shoreline. The Bay Plan includes a range of policies on public access, water quality, dredging and fill, and project design. The Bay Plan also designates shoreline areas that should be reserved for water-related sports, industry, and public recreation; airports; and wildlife areas. Impacts related to biological resources and water quality are discussed in Chapter 4.3, Biological Resources, and Chapter 4.9, Hydrology and Water Quality, of this Draft EIR.

BCDC has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Tidal action is defined by the shoreline that extends up to mean high water, except in marsh areas, where BCDC's jurisdiction extends to 5 feet above mean sea level. The BCDC also has "shoreline band" jurisdiction over an area 100 feet wide inland and parallel to the shoreline. For projects within BCDC jurisdiction, permits may be required, depending on the nature of the activity. Those projects requiring a permit must comply with the requirements of the McAteer-Petris Act and the Bay Plan.

Bay Area Air Quality Management District

The BAAQMD is the agency responsible for assuring that the National and California ambient air quality standards are attained and maintained in the local air basin that includes Marin County. The BAAQMD adopted the 2017 Clean Air Plan (CAP) on April 19, 2017 to comply with State air quality planning requirements set forth in the California Health & Safety Code. The 2017 CAP includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter (PM), ozone (O3), and toxic air contaminants (TACs); to reduce emissions of methane and other “super-greenhouse gases (GHGs)” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion. The proposed control strategy for the 2017 CAP consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality

impacts. The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP.

Regional

Marin Countywide Plan

The 2017 Marin Countywide Plan is a comprehensive long-range guide for land use in the unincorporated portions of the county, including land outside of Larkspur's city limit but within the Planning Area. The Marin Countywide Plan includes provisions for "fringe" development. The Marin Countywide Plan directs the County to generally maintain land use designations in "urban fringe areas" that are consistent with land use designations surrounding urban areas. This direction is in the "Community Development" section of the built environment element:

Goal CD-6: Confinement of Urban Development. Concentrate new medium- to high-intensity land uses atinfill areas where services can be provided.

> Policy CD-6.1: Coordinate Urban Fringe Planning. Seek city review of development proposed adjacent to urban areas. Discourage development requiring urban levels of service from locating outside urban service areas. Coordinate with cities and towns regarding their plans and rules for annexing urbanized areas.

Local

Larkspur General Plan 1990-2010

The Larkspur General Plan 1990-2010 goals, policies, and programs that are relevant to land use and planning are primarily in the Land Use (LU) and Housing (H) Elements. As part of the proposed project, some existing General Plan goals, policies, and programs would be amended or substantially changed, and new policies would be added in order to address changing conditions and new laws and regulations.

Larkspur Municipal Code

Besides the General Plan, the City of Larkspur Municipal Code (LMC) is the primary tool that regulates physical development in Larkspur. The LMC contains all ordinances for the city and identifies land use categories, site development regulations, and other general provisions that ensure consistency between the General Plan and proposed development projects. The LMC is organized by title, chapter, and section. Most provisions related to land use impacts are in Title 18, Zoning Ordinance. The primary purpose of the Zoning Ordinance is "to establish such regulations as are deemed necessary in order to encourage the most appropriate use of land; to conserve and stabilize the value of property; to provide adequate open spaces for light and air; to prevent undue concentration of population; to lessen congestion on streets; to facilitate adequate provisions for community utilities such as transportation, water, sewerage, schools, parks, and other public requirements; to promote and protect the public health, safety, peace, morals, comfort, convenience, general welfare and natural beauty; to protect the character and

economic stability of residential, commercial, industrial, and other areas within the City and to assure the orderly and beneficial development of such areas as parts of a well-coordinated community, all in accord with a comprehensive plan." The Zoning Ordinance is the mechanism used to implement the land use goals, policies, and programs of the General Plan and to regulate all land use in the city. The Zoning Ordinance describes zoning designations and contains the zoning map and development standards for the zoning designations.

Other City Plans

All specific plan, area plans, master plans, or similar plans—such as a climate action plan or a hazard mitigation plan—and zoning in the city must be consistent with the General Plan. The two adopted specific plans were discussed previously. The following describes some of the other key plans that guide development in Larkspur.

Bicycle and Pedestrian Master Plan

The Bicycle and Pedestrian Master Plan, updated in 2017, contains an analysis of priority areas that is intended to guide development of the bicycle and pedestrian network in Larkspur. The plan encourages using natural and man-made corridor for the alignment of future multiuse trails, and it also encourages construction and updating of bike and pedestrian paths along major transportation corridors.

Climate Change Action Plan 2030

The City of Larkspur Climate Change Action Plan (CCAP) 2030 was adopted in July 2021. The CCAP includes a series of strategies intended to help the City meet the greenhouse gas emissions reduction target of 40 percent below 1990 emissions levels by 2040 and 80 percent below 1990 levels by 2050. The CCAP includes a variety of regulatory, incentive-based, and voluntary strategies that are expected to reduce emissions from both existing and new development in Larkspur

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant land use and planning related impacts if it would:

1. Physically divide an established community.
2. 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. Result in a cumulative impact related to land use and planning.

Impact LU-1 Implementation of the proposed project could physically divide an established community.

The physical division of an established community typically refers to the construction of a physical feature or the removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community or between a community and outlying areas.

As discussed in Chapter 3.0, Project Description, of this Draft EIR, the proposed General Plan 2040 builds off the current General Plan 1990-2010 by incorporating the topics that are now required by State law and revising relevant goals, policies, and programs to meet those requirements, including growth targets set by ABAG in the Final 2023-2031 RHNA and the *Plan Bay Area 2050*. The proposed General Plan 2040 includes changes that may influence the types and intensities of land uses permitted on different sites in the city.

- Several policies in the Land Use Chapter have been revised to encourage development of upper-story housing above commercial development and reuse and redevelopment of large commercial lots.
- A new "Mixed Use I" designation was added, and the chapter encouraged a Planned Development District for a large vacant parcel; in the Larkspur Landing Area.
- A program was added to consider amending commercial and industrial development standards in the Zoning Ordinance to be more flexible (such as reduced on-site or shared parking, more unified parking standards, increased building heights and FAR, amended sign regulations, etc.).
- A plan to conduct studies of other commercial sites to allow a mix of uses that includes new housing was recommended.
- A land use classification of Open Residential and a pre-zoning of Residential Master Plan was added to State-owned Assessor's Parcel No. 018-152-12.

None of these changes would result in future development that would result in a dividing of the community or neighborhoods. The proposed General Plan 2040 also extends the planning horizon forward by 20 years, consistent with other regional plans, including *Plan Bay Area 2050*.

Potential future development from implementation of the proposed General Plan 2040 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 Planning Area or the region. The proposed General Plan 2040 would increase development potential in the Planning Area; however, potential future development would occur on a limited number of vacant parcels, already-developed sites in the form of infill/intensification, and/or underutilized parcels.

Additionally, the proposed General Plan 2040 maintains 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 Planning Area. Therefore, implementation of the proposed General Plan 2040 would not physically divide an established community, and impacts would be less than significant.\Impact LU-2 Implementation of the proposed project could 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.

The proposed General Plan's potential to conflict with other applicable plans and regulations adopted for the purpose of avoiding or mitigating an environmental effect is discussed in detail in the other environmental topic chapters of this Draft EIR. Specifically, these discussions are in Chapter 4.2, Air Quality; Chapter 4.3, Biological Resources; Chapter 4.4, Cultural and Tribal Cultural Resources; Chapter 4.7, Greenhouse Gas Emissions; Chapter 4.8, Hazards and Hazardous Materials; Chapter 4.9, Hydrology and Water Quality; Chapter 4.11, Noise; Chapter 4.12, Population and Housing; Chapter 4.13, Public Services and Recreation; Chapter 4.14, Transportation; Chapter 4.15, Utilities and Service Systems; and Chapter 4.16, Wildfire. As discussed in those chapters, implementation of the proposed General Plan 2040 would not be inconsistent with or obstruct the implementation of any applicable plan or regulation adopted for the purposes of avoiding or mitigating an environmental effect.

The proposed General Plan 2040 has been developed to be consistent with ABAG and MTC housing projections. The plan contains goals, policies, and programs that will facilitate the Housing Element update that the City initiated in the autumn of 2021.

The proposed General Plan 2040 Land Use (LU) Element maintains consistency with the *Marin Countywide Plan* by recognizing that land use decisions on unincorporated properties within the Larkspur Planning Area are under the jurisdiction of the County and the *Marin Countywide Plan.* Larkspur has chosen to make its General Plan coterminous with its Sphere of Influence and to work with the County to assure that County land use decisions within the Larkspur Sphere of Influence are compatible with this General Plan. The following goal, policies, and program ensure a collaborative process as potential future development outside the Larkspur city limits occurs:

Goal LU-12: Collaboration with other jurisdictions in addressing regional challenges, protecting environmental resources, and providing public services.

> Policy LU-12.1: Continue to participate with other communities and neighboring jurisdictions in regional and countywide planning studies.
>
> Policy LU-12.2: Continue to work with other communities and agencies in the Ross Valley to develop common policies for protection and enhancement of natural resources such as Corte Madera Creek.
>
> Policy LU-12.3: When land use conflicts arise between governmental agencies, base land use decisions in Larkspur on local community desires, where practical and legal.

The proposed General Plan 2040 is the primary planning document for the City of Larkspur. The proposed update is intended to ensure consistency between the General Plan, Zoning Ordinance, and State law. The proposed General Plan 2040 is consistent with Marin County LAFCO requirements that a property being considered for possible annexation be given a General Plan land use classification and a pre-zoning. Because the proposed General Plan 2040 is the overriding planning document for the city, and because the proposed General Plan 2040

involves amending the General Plan 1990-2010 to improve consistency, the impact would be less than significant.

Impact LU-3 Implementation of the proposed project could result in a cumulatively considerable impact to land use and planning.

The geographic context for the cumulative land use and planning impacts would occur from potential future development under the proposed project combined with impacts of development on lands adjacent to the city.

As discussed in Impacts LU-1 and LU-2, the proposed project would not divide an established community or conflict with established plans, policies, and regulations. The proposed project would not conflict with any State, regional, or local land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Future development that would be allowed under the proposed project would not create substantial land use impacts related to dividing a community or inconsistency with other plans.

It is possible that future development could occur in unincorporated parts of the Planning Area. That development would be guided by the *Marin Countywide* Plan, unless the area was annexed to the City. As most of the unincorporated part of the Planning Area is built out with primarily residential development, future development potential, other than the addition of new ADUs, would be limited to vacant portions of State-owned land that is adjacent to the San Quentin Prison property. Development at that site would be under the jurisdiction of the State. Even if development was permitted by the State on that property, it would not divide a community and would be consistent with State laws and regulations.

Therefore, the proposed project would not result in a cumulatively considerable contribution to cumulative impacts related to land use changes, and cumulative impacts would be less than significant.

4.11 Noise

1. Environmental Setting

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measuring scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of ten decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each ten decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a ten dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level (*L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA $\mathbf{L_{dn}}$. Typically, the highest steady traffic noise level during the daytime is about equal to the $\mathbf{L_{dn}}$ and nighttime levels are ten dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference are therefore possible when exterior noise levels are about 57-62 dBA $\mathbf{L_{dn}}$ with open windows and 65-70 dBA $\mathbf{L_{dn}}$ if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows with Sound Transmission Class ratings greater than 30 STC.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The $\mathbf{L_{dn}}$ as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA $\mathbf{L_{dn}}$. At a $\mathbf{L_{dn}}$ of about 60 dBA, approximately two percent of the population is highly annoyed. When the $\mathbf{L_{dn}}$ increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent of the population. Therefore, there is an increase in annoyance due to ground vehicle noise of about one percent per dBA between a $\mathbf{L_{dn}}$ of 60-70 dBA. Between an $\mathbf{L_{dn}}$ of 70-80 dBA, each decibel increase increases the percentage of the population highly annoyed by about two percent. People appear to respond more adversely to aircraft noise. When the $\mathbf{L_{dn}}$ due to aircraft noise is 60 dBA, approximately ten percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about two percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase in aircraft noise results in about a three percent increase in the percentage of the population highly annoyed.

Ground-borne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Groundborne vibration related to human annoyance is generally related to root mean square (RMS) velocity levels expressed in vibration decibels (VdB). However, construction-related groundborne vibration in relation to its potential for building damage can also be measured in inches per second (in/sec) peak particle velocity (PPV) (Federal Transit Administration [FTA], 2018).

The background vibration velocity level in residential and educational areas is usually around 50 VdB (FTA 2018). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in buildings.

Construction Vibration

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving, and vibratory compaction equipment typically generates the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec, PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to a building is very rare

and has only been observed in instances where the structure is at a high state of disrepair and the construction activity (e.g., impact pile driving) occurs immediately adjacent to the structure.

Stationary Noise Sources

Commercial and industrial operations are the primary stationary noise sources that make a significant local contribution to community noise levels. Such uses can generate noise due to the regular operation of equipment including fans, blowers, chillers, compressors, boilers, pumps, and air conditioning systems that may run continuously. Other intermittent sources of noise include horns, buzzers, and loading activities. In general, these stationary noise sources are often located in areas that are isolated from noise sensitive land uses. However, the possibility of sensitive development encroaching on some of these stationary noise sources remains, which could result in some land use conflicts.

Noise sources that affect sensitive receptors within the community also include commercial land uses or those normally associated with and/or secondary to residential development. These include entertainment venues, nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-thrus, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks. These non-transportation noise sources are local and typically only affect their adjacent neighbors.

Temporary Noise Sources

Another source of noise in Larkspur relates to intermittent construction activities. Construction noise can be significant for short periods of time at any particular location as a result of public improvement projects, private development projects, remodeling, etc. The highest construction noise levels are normally generated during grading and excavation, with lower noise levels occurring during building construction. Typical hourly average construction-generated noise levels are about 80 to 85 dBA measured at a distance of 50 feet from the site during busy construction periods. Some construction techniques, such as impact pile driving, can generate very high levels of noise (105 dBA L_{max} at 50 feet) that are difficult to control.

2. Regulatory Framework

Federal

Department of Housing and Urban Development (HUD)

HUD environmental criteria and standards are presented in the Code of Federal Regulations (24 CFR Part 51). New residential construction qualifying for HUD financing proposed in high noise areas (exceeding 65 dBA $\mathbf{L_{dn}}$) must incorporate noise attenuation features to maintain acceptable interior noise levels. A goal of 45 dBA $\mathbf{L_{dn}}$ is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction any building will provide sufficient attenuation to achieve an interior level of 45 dBA $\mathbf{L_{dn}}$ or less if the exterior level is 65 dBA $\mathbf{L_{dn}}$ or less. Approvals in a "normally

unacceptable noise zone" (exceeding 65 decibels but not exceeding 75 decibels) require a minimum of 5 decibels additional noise attenuation for buildings if the day-night average is greater than 65 decibels but does not exceed 70 decibels, or minimum of 10 decibels of additional noise attenuation if the day-night average is greater than 70 decibels but does not exceed 75 decibels.

Federal Highway Administration

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes requires an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise." 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. 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).[62]

Federal Transit Administration

The Federal Transit Administration (FTA) has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day).

State

California Administrative Code Section 65302(f)

California Government Code Section 65302(f) requires that all General Plans include a Noise Element to address noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems

[62] *Traffic Noise Analysis Protocol*, Caltrans Division of Environmental Analysis, May 2011.

- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine stands, and all other ground facilities and maintenance functions related to airport operation
- Local industrial plants, including, but not limited to, railroad classification yards
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment.

Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above.

The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

California Noise Insulation Standards

The State of California establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings as set forth in the *2019 California Building Code* Title 24, Part 2). The noise limit is a maximum interior noise level of 45 dBA **L_{dn}**. Where exterior noise levels exceed 60 dBA **L_{dn}**, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. The General Plan facilitates the implementation of the Building Code noise insulation standards, Division of Aeronautic Noise Standards

Title 21 of the California Code of Regulations 63 sets forth the State's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction." Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB.

[63] *California Code of Regulations Airport Noise Standards*, Title 21, Public Works Division 2.5, Division of Aeronautics (Department of Transportation), Chapter 6 Noise Standards, Article 1.General.

California Department of Transportation – Construction Vibration

There are no applicable state plans, policies, regulations or laws related to ground-borne vibration from construction activities, but guidance developed by the California Department of Transportation (Caltrans) has been used in past construction vibration impact assessments of projects developed in Sunnyvale. Caltrans uses a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 0.25 to 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e., walls and floors) to ground-borne excitation.

Local

City of Larkspur Municipal Code

Noise control regulations enforced in the City of Larkspur are established in Title 9, Chapter 9.54, of the Larkspur Municipal Code. Exterior noise limits are established in Section 9.54.040.

9.54.040 Exterior Noise Limits.

Unless otherwise specifically indicated in this chapter, it shall be unlawful for any person at any location within the City to create, or cause to be created, any noise that exceeds the applicable exterior noise limit as described below:

Receiving land use	**Time**	**Noise level not to be exceeded for more than 30 minutes per hour (dBA)**
Residential	7 AM – 10 PM 10 PM – 7 AM	50 40
Commercial	Any time	60

B. The exterior noise limit shall be adjusted as follows:

Condition	Adjustment to exterior limit (dBA)
Noise contains a steady, audible tone such as a whine, screech, or hum	-5
Noise is repetitive or impulsive (e.g., hammering, riveting)	-5
Noise consists of speech or music	-5
Noise occurs more than fifteen but less than thirty minutes per hour	+5
Noise occurs more than five but less than fifteen minutes per hour	+10
Noise occurs more than one but less than five minutes per hour	+15
Noise occurs less than one minute per hour	+20

- If the ambient noise level is less than that permitted by Subdivision (A), then the measured ambient noise level plus 5 dBA shall be considered the "exterior noise limit," but in no case shall the noise level exceed the maximum permitted by Subdivision (A).
- If the ambient noise level exceeds that permitted by Subdivision (A), then the measured ambient level shall be considered the "exterior noise limit."
- For the purposes of this ordinance schools, hospitals and convalescent homes shall be considered residential land uses. (Ord. 697 § 1 (part), 1983)

The LMC lists a number of Exemptions from these standards including construction-generated noise occurring between 7 a.m. and 6 p.m. n weekdays and between 9 a.m. and 5 p.m. on Saturdays.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to noise if it would:

1. 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.
2. Generation of excessive groundborne vibration of groundborne noise levels.
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to

excessive noise levels

4. Make a cumulatively considerable contribution to a cumulative noise impact.

The Noise and Land Use Compatibility Guidelines of the proposed General Plan are essentially the same as the guidelines in the existing Larkspur General Plan 1990-2010. The compatibility standards are used by the City when determining whether noise generated by new development would be acceptable at nearby residences or other sensitive receptors and whether new residential or sensitive receptor development would be acceptable given ambient noise levels in the area.

General Plan 2040 Noise and Land Use Compatibility Standards

Land Use Category	**Community Noise Level CNEL or Ldn (dB)**							
	55	60	65	70	75	80	85	
Residential, Hotels, and Motels								
Schools, Library, Church, Hospital, Nursing Home. Museums, Meeting Halls								
Auditoriums, Concert Halls, Amphitheaters, Sports Arenas								
Outdoor Sports and Recreation, Neighborhood Parks and playgrounds, golf courses, riding stables, cemeteries								
Office Buildings, Business Commercial and Professional								
Industrial, Manufacturing, Utilities, Agriculture								
Key:								
Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings are of normal construction without any special noise insulation requirements.								
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.								
Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible								

Impact N-1: Implementation of the proposed project could generate noise that exceeds City noise standards and/or expose new development to noise levels that exceed the City's noise compatibility standards.

Existing and future traffic noise levels in the city were calculated using FHWA's Traffic Noise Model (TNM) and SoundPLAN from traffic volumes provided by the EIR traffic consultants.[64.]

The existing noise exposure in the community due to traffic noise from major roadways is described in the form of noise exposure contours. These contours were prepared utilizing traffic data from the above-mentioned traffic study and SoundPLAN. The noise exposure contours are lines of equal loudness, similar to elevation contours that are lines of equal elevation and are expressed as a distance (in feet) from the roadway centerline. The results for the existing and future build noise contours are shown in Tables N-1 and N-2 respectively, in terms of the L_{dn}.

As many as 1,340 new dwelling units may be developed in Larkspur by 2040. Many of these new units will be located in TRAs and HRAs near Highway 101 and major arterials in the city. Table N-1 shows the distance of the 60, 65, and 70 dBA **L_{dn}** contours at 75 feet from the road centerline, and Table N-2 shows the distance of these contours from 2040 buildout conditions under the proposed General Plan.

The Larkspur General Plan 2040 contains goals, policies, and programs to reduce noise generated by new development and to ensure that new residential development is adequately shielded from unacceptable noise levels. The following goal, policies, and programs address noise issues in the city requiring such studies and mitigation as warranted.

Goal SAF-11: Reduction in the adverse effects of noise upon persons living or working in Larkspur

Policy SAF-11.1: Ensure that all new living and work areas are developed with acceptable noise environments.

Action Program SAF-11.1.a: Maintain the following standards for noise levels in new residential developments.

- *Indoor noise levels should not exceed 45 dBA.*
- *Outdoor noise levels should not exceed 55 dBA.*

Action Program SAF-11.1.b: Require acoustical studies for all projects that would be exposed to noise levels in excess of those deemed normally acceptable, as defined in Table 7-3.

Action Program SAF-11.1.c: Require thorough noise assessments in all environmental analyses of major projects.

[64] "Larkspur Traffic Volume & Turn Movement" – Parisi Transportation Consulting, August 2021

Policy SAF-11.2: For non-residential projects, use the "Land Use Compatibility Standards," Table 7-3, to evaluate their suitability in particular locations.

Policy SAF-11.3: Prevent land uses which increase surrounding noise levels above acceptable standards.

Action Program SAF-11.3.a: Require acoustical studies and mitigation measures for new developments and sensitive receptors such as schools, hospitals, libraries, group care facilities, and convalescent homes.

Action Program SAF-11.3.b: Consider mitigation measures for new projects or land uses that would cause a substantial increase in noise (i.e., cause an increase above 60 dBA Ldn or cause an increase of 5 dBA Ldn or more in the noise ambient noise levels) in adjacent residential areas or in residential areas affected by traffic generated by the proposed project.

Goal SAF-13: No significant escalation of noise levels in areas where noise-sensitive uses exist

Policy SAF-13.1: Analyze in detail the potential noise impacts of any actions the City may take that could significantly alter noise levels in the community.

Action Program SAF-13.1.a: Review all public works projects for potential noise impact. Conduct public outreach to inform neighbors in advance of major construction and roadway improvement projects, particularly where nighttime work is necessary.

Action Program SAF-13.1.b: Consider noise emission when purchasing vehicles, construction equipment, etc. This consideration shall be balanced against the required performance and cost.

Policy SAF-13.2: Encourage creative solutions when potential conflicts arise between noise levels and land use.

Table N-1: Existing Noise Exposure Contours Along Major Roadways

Roadway	**Segment**	**Distance (ft) from Roadway Centerline to Noise Contour**		
		70 dBA L_{dn}	**65 dBA L_{dn}**	**60 dBA L_{dn}**
US Highway 101	North of Sir Francis Drake Boulevard	260	550	1,190
	South of Sir Francis Drake Boulevard	220	470	1,020
Sir Francis Drake Boulevard	West of US Highway 101	60	140	300
	East of US Highway 101	60	140	300
Bon Air Road	Sir Francis Drake Boulevard to Magnolia Avenue	--	--	60
Magnolia Avenue	Estelle Ave to Bon Air Rd	--	--	90
	Bon Air Road to Doherty Drive	--	60	120
	Doherty Drive to Alexander Ave	--	--	90
Doherty Drive	Magnolia Ave to Lucky Drive	--	--	90

Table N-2: Future Plan Buildout (2040) Noise Exposure Contours Along Major Roadways

Roadway	Segment	Distance (ft) from Roadway Centerline to Noise Contour		
		70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}
US Highway 101	North of Sir Francis Drake Boulevard	300	640	1,390
	South of Sir Francis Drake Boulevard	260	550	1,190
Sir Francis Drake Boulevard	West of US Highway 101	75	160	350
	East of US Highway 101	75	160	350
Bon Air Road	Sir Francis Drake Boulevard to Magnolia Avenue	--	--	60
Magnolia Avenue	Estelle Ave to Bon Air Rd	--	--	100
	Bon Air Road to Doherty Drive	--	60	120
	Doherty Drive to Alexander Ave	--	60	120
Doherty Drive	Magnolia Ave to Lucky Drive	--	--	100

Construction of new residential and commercial projects would involve the use of heavy equipment and other tools and equipment that generate noise. As described under Impact N-1, the proposed general plan contains Policy SAF-12.2 to control unnecessary, excessive, and annoying noise. Program SAF-12.2 states that the City will continue to implement the City's Noise Ordinance to minimize noise effects on sensitive receptors. The Noise Ordinance controls periodic, excessive, and annoying noise sources, including noise from construction projects. The Noise Ordinance allows the City Public Works Director and/or Planning Director or their designee the authority to prescribe the means of accomplishing maximum noise attenuation as deemed necessary in the public interest, considering the available technology and economic feasibility. For large construction development applications, the City can require that acoustic studies be submitted as part of the project application or the CEQA study of the project application, if warranted, that addresses construction noise and any additional mitigations warranted given the project size, length of the construction period, and/or the proximity to sensitive receptors.

Requiring all construction projects to abide by the cited policy and program and the City Noise Ordinance will minimize construction and other activities generating periodic, annoying noise. While such noise cannot be avoided if construction of new development is to be permitted, this noise can be reduced to a less-than-significant level by continuing to require that feasible measures to limit the noise are implemented. Therefore, at the programmatic level of analysis, the impact is reduced to a less-than-significant level, and no additional mitigation is required.

Implementing the above-listed policies and programs and the noise standards of the LMC and the California Building Code will ensure that new residents will not be exposed to incompatible noise levels. The impact would be less than significant, and no additional mitigation is required

at the programmatic level of analysis. Future project proposals will be required to conduct the specified noise analyses and, if warranted, to mitigate the noise impacts to an acceptable level.

Impact N-2: Implementation of the proposed project could expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Construction of future projects within the Planning Area could generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of a construction site varies depending on soil type, ground strata, and the type of materials the buildings constructed from. 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. Impact pile driving has the potential of generating the highest ground vibration levels and is of primary concern to structural damage. Other project construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) can generate substantial vibration levels in the immediate vicinity.

The Federal Transit Administration (FTA) Vibration Limits establish vibration limits from construction activities in order for impacts to be less than significant on a project-by-project basis. Vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for architectural damage (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.20 in/sec PPV for non-engineered timber and masonry buildings, and 0.30 in/sec PPV for engineered concrete and masonry).

LMC Chapter 15.20.220 states that grading, filling and excavating operations of a project shall be controlled by the permittee to the satisfaction of the Director of Public Works, so as to prevent nuisances to public and private ownerships because of dust, drainage, removal of natural support, encroachment, noise and vibrations. While the Larkspur General Plan 2040 is silent about regulating vibrations caused by construction, it contains the previously listed goals, policies, and programs to limit significant noise impacts. To ensure that the General Plan 2040 specifically addresses potential vibration impacts, the following mitigation measure is recommended.

It is expected that potential new development applications near the SMART Station at Larkspur Landing will be required to have setbacks to avoid vibration impacts from train operations. A new Action Program is recommended to ensure such setbacks are included in proposed new development near the station.

Mitigation Measures

Mitigation Measure N-1: Revise Health & Safety Policy SAF-11.1 to add the following two new Action Programs to that policy.

Action Program SAF-11.1.d: Revise the Municipal Code to require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. Prior to issuance of any demolition, grading, or building permits (whichever occur first), the project applicant shall provide a vibration construction plan to reduce construction impacts at buildings where vibration level would exceed the vibration limits.

Action Program SAF-11.1.e: Require new development near the SMART Station to provide adequate mitigation to avoid vibration damage from rail operations in Larkspur.

Impact Significance After Mitigation

The potential vibration impacts associated with demolition and construction activities and from rail operations would be mitigated to a less-than-significant level by establishing safe limits to protect structures from potential damage and would minimize vibration impacts on people and businesses. The proposed mitigation measure requires limits on vibration from demolition and construction. At a programmatic level, the impact would therefore be reduced to a less-than-significant level, and no additional mitigation is required.

Impact N-3: Implementation of the proposed project would not expose people residing or working in the project area to excessive noise levels within an airport land use plan, where such a plan has not been adopted, within two miles of a public airport or public use airport, or within the vicinity of a private airstrip.

There are no public airports or private airstrips in or near the city. The nearest public airport is Gnoss Field located approximately 15 away near Novato. The city is not within the airport's land use plan of that public airport. The San Rafael Airport is a private airstrip located approximately seven miles from the city. Aircraft operations at either facility would not generate noise audible to Larkspur residents. There would be no impact, and no mitigation is required.

Impact N-4: Implementation of the proposed project could result in a cumulatively considerable impact to noise impacts.

Noise and vibration impacts are based on factors related to site-specific and project-specific characteristics and conditions, such 's distance to noise and vibration sources and barriers between land uses and noise/vibration sources. Therefore, cumulative impacts related to construction would be similar to impacts discussed above and construction noise and vibration impacts would be less than significant with mitigation. Cumulative development in the County of Marin or City of Corte Madera adjacent to Larkspur in combination with the proposed project may result in increased noise from operation of proposed development. However, the proposed project is not anticipated to substantially increase inter-regional travel. As noted in Impact N-1 the addition of 1,340 new units would not substantially increase traffic noise levels

along Highway 101 or arterials serving the city and neighboring communities. Therefore, traffic noise impacts would remain less than significant.

Implementation of the proposed project would increase density and intensity of existing land uses potentially resulting in increased noise levels in combination with nearby regional development. However, compliance with noise-related policies and programs of General Plan 2040, standards of the Larkspur Municipal Code, and the mitigation measures described above would reduce cumulative noise and vibration impacts to a less-than-significant level so the proposed project would have only an incremental contribution to cumulative impacts associated with noise. Noise impacts would not be cumulatively considerable, and cumulative impacts would be less than significant.

4.12 Population and Housing

1. Setting

Existing Conditions

Population

Historically, growth in Larkspur was gradual until the completion of the Golden Gate Bridge in 1937. Table 4.12-1 shows the rapid increase in growth after 1940. Larkspur's population more than tripled between 1950 and 1980.[65] Population growth slowed considerably in the 1970s and 1980s and dipped briefly in 1990 before resuming an upward trend. By 2021 the population appears to have stabilized at just over 12,000 individuals.

Table 4.12-1: Population Growth

	Population	% Increase
1910	594	-
1920	612	3%
1930	1,241	103%
1940	1,558	26%
1950	2,905	86%
1960	5,710	97%
1970	10,487	84%
1980	11,604	11%
1990	11,070	-5%
2000	12,014	9%
2010	11,926	-1%
2021	12,071	1%

Source: U.S. Census Bureau and E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark
Note: The Transportation Authority of Marin Demand Model (TAMDM) used for quantitative analyses in this EIR uses a current Larkspur population of 12,400 people and this number as the current population for quantitative modeling used in this EIR

Reflecting its past as a summer home retreat and its more recent role as a bedroom community, Larkspur is primarily residential, with 59 percent of developed land devoted to single-family and multi–family residential uses. Commercial and industrial land uses occupy approximately 6 percent of developed land.

Households

A household is defined by the DOF and the U.S. Census as a group of people who occupy a housing unit. A household differs from a dwelling unit because the number of dwelling units includes both occupied and vacant dwelling units. Not all of the population lives in households. In Larkspur in 2021, 123 people lived in group quarters, such as board and care facilities; others are homeless.

Housing

In 2021, the City had 6,487 housing units with a 7.8 percent vacancy rate. Of the occupied housing units, 52 percent are owner occupied and 48 percent are renter occupied. Approximately 41 percent of Larkspur's homes are detached single-family homes while 7 percent are attached. Multi-family homes make up approximately 48 percent of housing units in the city, and mobile homes make up about 4 percent. Average household size was 2.02 people per household. These housing unit types are different from the countywide breakdown, which is approximately 61 percent detached single-family homes, 10 percent attached single-family homes, 27 percent multi-family, and 2 percent mobile homes. The average household size for the county as a whole is 2.38 people per household.[66]

Employment

The Larkspur Housing Element states that in 2010 there were 7,190 jobs in Larkspur, or 1.22 jobs per household. The 2020 projection was for 7,519 jobs or 1.23 jobs per household. The actual number of jobs in 2020 was likely less than the projection due to the pandemic. The *Plan Bay Area 2050* projects a 14% reduction in jobs in Marin County by 2050. Accordingly, Larkspur would not be expected to have any or, at least, not a substantial increase in employment over the next 20 years. The *Plan Bay Area 2050* projects that most new development will occur within areas defined as Growth Geometries. In Larkspur these Growth Geometries around the SMART Station and Ferry Terminal are already developed. New non-residential development would be expected to be redevelopment of existing developed properties in these two areas.

[66] E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, California Department of Finance, 2021

Regulatory Framework

Growth Projections

As described in Section 3.8, 2040 Development Projections and Section 4.0, Cumulative impacts Subsection, *Plan Bay Area 2050* growth forecasts for the Bay Area include 37,000 new households in Marin County by 2050. Using data in the earlier draft of *Plan Bay Area 2050* and the EIR prepared for that plan, it is estimated that Larkspur's share of the forecasted growth would be approximately 1,340 new dwelling units by 2040.

Growth Geographies

As described in Section 3.8, 2040 Development Projections and Section 4.0, Cumulative impacts Subsection, *Plan Bay Area 2050* identifies areas where mass transit and services are available to support new development. These areas are called Growth Geographies and in Larkspur include Transit-Rich Areas (TRAs) and High Resource Areas (HRAs). The Final EIR for the *Plan Bay Area 2050* states that 62% of the new development by 2050 in Marin County will be expected to be built in a Growth Geography.

Regional Housing Needs Allocation

As the San Francisco Bay Area's regional agency, MTC/ABAG calculates the Final Regional Housing Needs Allocation (RHNA) for jurisdictions in Marin County. Table 4.12-1 shows the RHNA for the current planning period, which is the number of housing units the City of Larkspur would need to accommodate by 2023. As shown in Table 4.12-2, 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 median.

Table 4.12-2: 2023-2031 RHNA	
Income Category	**Number of Units**
Very Low Income	291
Low Income	168
Moderate Income	145
Above Moderate Income	375
Total Dwelling Units	979

Source: Final Regional Housing Needs Allocation: San Francisco Bay Area, 2023-2031, December 2021

2. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant population-related impacts if it would:

1. Induce substantial unplanned population growth or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
3. Result in cumulative impact related to population and housing.

Impact POP-1 Implementation of the proposed project could induce substantial unplanned population growth either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

As described in Chapter 3, Project Description, the proposed General Plan 2040 is a policy document that will replace the existing General Plan 1990-2010 as the city's overarching policy document that defines a vision for future change and sets the "ground rules" for growth. The proposed General Plan 2040 considers growth over a 20-year period but does not include specific development proposals. The General Plan is the policy document that projects the amount of reasonably foreseeable growth given State-mandated housing allocations and the ability of existing services and infrastructure to support future growth. Potential future development in the city is projected to occur primarily in TRAs and HRAs in the form of infill and

intensification of development on sites already developed and/or underutilized and in areas with close proximity to public transportation. Given that future growth would occur in areas currently served by public services and infrastructure, implementation of the proposed General Plan 2040 would require less investment in infrastructure than if development was to occur on vacant or undeveloped sites. Therefore, the proposed General Plan 2040 would not induce substantial, unplanned population growth directly or indirectly in any particular location but instead includes policy guidance for projected and required growth through 2040.

The City has a population of approximately 12,340 people and 6,487 housing units as of 2021. The proposed General Plan 2040 estimates an overall increase of 1,340 housing units and 3,082 residents in the population over the 20-year horizon of the proposed General Plan.

Approximately 73 percent of this planned residential growth would come from meeting the City's 2023-2031 RHNA allocation of 979 units, which is growth dictated by the California Housing Law and not by the City. As described in Section 3.8, 2040 Growth Projections, an additional 361 dwelling units would be added to be consistent with the *Plan Bay Area 2050*. Meeting these housing allocations would increase the City population by approximately 23 percent and the number of dwelling units by approximately 21 percent. Marin County as a whole is projected to increase the number of households by 34% between 2015 and 2050, and the Bay Area as a whole will have a 35% increase in population by 2050. The Larkspur share of this forecasted growth is part of the *Plan Bay Area 2050.*

Potential future development would primarily occur as infill development in designated Growth Geographies (TRAs and HRAs), which is consistent with the infill focus of *Plan Bay Area 2050.* Therefore, implementation of General Plan 2040 itself would not introduce a substantial increase of unplanned population in the Planning Area and is instead the overriding policy document that plans for such mandated growth.

The State has proposed building a 250-unit apartment project on surplus land on a parcel adjacent to San Quentin Prison within the City's SOI. The City may apply to LAFCO to annex the parcel in order to provide coordinated urban services to the future residents. The property is owned by the State who has made approximately 8.3 acres of the parcel available for a proposed 250-unit apartment project. As part of this General Plan update, the City is giving this portion of the parcel a land use classification of High Density Residential (up to 21 units/acre) and pre-zoning it as R3 (Third Residential District), There is no current proposal for developing the remaining approximately 40 acres of the parcel. The City it is classifying the remainder of the parcel as Open Residential (allowing up to 0.2 units/acre) and pre-zoning it as Residential Master Plan (RMP).

As described previously, the proposed project on the State property is under the authority of the State and is not assessed for environmental impacts in this EIR. This EIR assesses potential future impacts of development of the remaining 40 acres in each section of Chapter 4.0 in the case that the City annexes the parcel and if future development is not under State authority.

The apartment proposal has been initiated by the State to help meet Bay Area housing needs and is, therefore, considered as planned growth that would help the City and/or County meet their RHNA allocations.

All potential future development would be required to comply with any required site-specific infrastructure improvements and to pay any project-specific impact fees. Therefore, implementation of the proposed General Plan 2040 would not induce substantial unplanned population growth and would not necessitate the construction of additional infrastructure, and the impact is less-than-significant. This finding for this impact is the same made for this population impact in the Final EIR adopted for *Plan Bay Area 2050.*

Impact POP-2 Implementation of the proposed project could displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Potential future development would occur on a very limited number of vacant parcels and as ADUs added to existing residences. As previously described, given that there are very few undeveloped parcels in Larkspur, most new development would occur as redevelopment of existing properties. It is expected that most new residential units will be added to spaces currently developed with commercial or office development. This development would not be expected to displace housing or residents. Because potential future development of housing units could occur through redevelopment activities on sites that may be a mixed-use site with some housing units, it is possible that construction activities could displace an unknown number of existing residents or housing.

Potential future development as a result of implementation of the proposed General Plan 2040 is anticipated to increase density and utilization of infill or underutilized sites in existing urban areas in the Planning Area. Therefore, redevelopment as mentioned above could potentially result in temporary displacement of people. However, displacement in the Planning Area would typically only be considered substantial in cases where a major development such as a freeway or a large-scale redevelopment would result in the displacement of large amounts of existing housing. While the proposed General Plan 2040 does focus on infill development, which may occur as redevelopment, the proposed General Plan does not include any large-scale development that would result in substantial displacement of existing housing. therefore, any potential displacement of persons in the Planning Area would not be substantial in number, and the impact would be less than significant.

Impact POP-3 Implementation of the proposed project could result in a cumulatively considerable impact to population and housing.

The context for the cumulative population and housing impacts would be potential future development under the proposed project combined with development on lands adjacent to the city. As described in Impacts POP-1 and POP-2, 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 growth that could occur under the General Plan 2040 is consistent with the aims and objectives of the *Plan Bay Area 2050*, which is the overarching plan for equitable development of the Bay Area. While the increase in population and housing in Larkspur is considerable, it is consistent with State mandates for additional housing and other improvements needed to house an increasing Bay Area population. The proposed General Plan goals, policies, and programs and implementing Zoning Ordinance regulations and requirements would provide adequate planning to accommodate the proposed new increase in growth in the Planning Area. Therefore, the proposed project would not result in a cumulatively considerable impact to population and housing, and cumulative impacts would be less than significant.

4.13 Public Services and Recreation

1. Fire Protection and Emergency Medical Response Subsection -

a. Environmental Setting

Two primary categories of fire hazard exist in Larkspur: structural fires, which can damage the home or workplace; and wildland fires, which under extreme fire weather conditions can spread to and damage nearby structures. Both involve a considerable life safety risk to Larkspur citizens. See Chapter 4.16, Wildfire, for an assessment of wildfire and the fire department.

The Central Marin Fire Authority serves the communities of the Town of Corte Madera, the City of Larkspur including incorporated Greenbrae and several portions of County Service Area (CSA) 31 inclusive of the Greenbrae Boardwalk, Lucky Drive, and San Quentin.

Fire and paramedic services in the Planning Area are provided by the Central Marin Fire Department (CMFD), which provides fire protection within the city limits of Larkspur and Corte Madera. Preventing and extinguishing structural fires, protecting life and property safety, and reducing fire losses is an essential part of CMFD's mission. The CMFD is staffed by 36 authorized operational personnel. Daily staffing consists of one Battalion Chief, three Type 1 fire engines, and one Advanced Life Support (ALS) paramedic transport ambulance. In addition, the department cross-staffs two Type 3 wildland engines and one Type 1 tactical water tender. The Central Marin Fire Department provides a full range of emergency response services including, but not limited to structural fire suppression, wildland fire suppression, response to hazardous materials incidents, Urban Search and Rescue, water rescue, vehicle extrication, technical rescue as well as basic life support and advanced life support medical services. All engine companies are staffed with at least one Firefighter/Paramedic, and thus have the ability to immediately administer advanced life support (ALS) pre-hospital emergency medical care upon their arrival. The ambulance is staffed with two paramedics and responds along with an engine company to all medical emergencies.

CMFD's Fire Prevention Bureau's activities include inspections of businesses, public facilities, and multi-family housing complexes. Owners of vacant parcels are required to clear their property of excessive vegetation if the Fire Marshal determines a fire hazard exists. The Department also conducts annual inspections of residential properties in hillside areas to require clearance of flammable vegetation and brush piles prior to fire season. In addition, the Fire Department reviews planning and building permit applications to ensure that new development and construction meets applicable State and local Fire Code requirements relating to fire safety.

The Department participates in a Countywide automatic aid system and a statewide mutual aid system and continues to work with other Marin County fire agencies to identify opportunities for regionalization and consolidation of services.

Water Availability

The City's development review process requires consultation with the Marin Water to ensure adequate water supply necessary for a fire emergency. The City maintains local hydrants while the MMWD is responsible for fire flow. Fire flow requirements are met in most of the Planning Area; deficient areas are identified by the MMWD Engineering Department, ranked along with others in the service area, and scheduled for upgrade based on need and funding availability.

Hazardous Materials Services

As described in Chapter 4.8, Hazards and Hazardous Materials, Larkspur's hazardous materials programs are administered and enforced under the Unified Program. The California Environmental Protection Agency has granted Larkspur's hazardous materials responsibilities to the Marin County Department of Public Works Waste Management Division, which includes implementation and enforcement of hazardous material regulations under the Unified Program as a Certified Unified Program Agency.

The CMFD holds responsibility for monitoring the storage and use of hazardous materials, including inspections of businesses. CMFD issues permits for hazardous materials use and requires a written Hazardous Materials Management Plan as part of each development permitting process. Each Hazardous Materials Management Plan must demonstrate the safe storage and handling of hazardous materials during both construction and operation of a development project.

Call Volume

Fire Department emergency response personnel respond to more than 3,400 incidents annually, of which approximately 2,000 or 56% are medical in nature, ranging from motor vehicle accidents and elderly falls to childbirths and heart attacks.

ISO Rating and Response Time

The national Insurance Services Office (ISO) provides a rating system to evaluate fire protection services in over 39,000 fire protection areas in the United States. The ratings are used in the insurance industry to calculate premiums for homes and business properties. The ratings range from 1 to 10, and the CMFD is rated Class 2, representing superior fire protection. Upon station notification, the Fire Department strives to maintain a six-minute response time for at least 90 percent of all emergency calls, although some hillside neighborhoods are up to seven (Madrone Woodlands) and eight minutes (highest part of Sunrise Lane) away. The CMFD currently conforms to the response time goal to be on scene within 5 to 7 minutes following a call for service, 90 percent of the time, established by the National Fire Protection Association Standard 1710.5. New equipment and vehicles are periodically acquired to allow the Department to meet these standards, replace aging equipment, and obtain new technology.

Equipment and Facilities

The CMFD maintains four fire stations in the greater Twin Cities area (numbered according to the Marin County fire station system):

- Station 13 at 5600 Paradise Drive in Corte Madera
- Station 14 at 342 Tamalpais Drive, next to Corte Madera Town Hall
- Station 15 at 420 Magnolia Avenue, next to Larkspur City Hall
- Station 16 at 15 Barry Way in Greenbrae

Station 15 was built in 1939 and houses a Type I Engine and a cross-staffed Tactical Water Tender, as well as the Larkspur Volunteer Firefighters Association historical room (museum). The Station no longer supports administrative and management personnel. It does not meet current seismic safety standards and does not have a sprinkler system, leaving personnel and equipment vulnerable in an emergency situation when they are needed most. Additionally, the dormitory-style sleeping area on the second floor prevents gender integration. The *Larkspur 2050 Capital Expenditure Plan (CEP)* designated seismic retrofit, sprinkler system installation, and second floor remodeling as the fourth capital improvement priority.[67] The CEP recommends that interior work should be delayed until staff can conduct a needs assessment for CMFD's four stations and determine how the agency will make use of the second floor of the station.

Built in 1992, Station 16 was designed to accommodate many of the needs of a modern fire department. The building houses two bays, office space, and living quarters. Station 16 houses a Type 1 Engine, cross-staffed Type 3 Wildland Engine, and a reserve Type 1 Engine. Recent structural evaluations of Station 16 have revealed damage beyond what would be expected for a building its age. City staff is currently consulting with structural engineers and architects to determine whether the City should develop a plan to repair and reinforce the building or replace it in its entirety. While Station 16 remains viable and secure for use, the City must begin preparing to incur the cost to address the issues with the building. The preliminary assessment is that with repair and reinforcement, the building could remain viable for 5-10 years. Early feedback from engineers is that the building should be replaced before 2050. With some investment, the current structure could last long enough for the City to prepare a funding strategy for a new facility. A full assessment is required to make these determinations.[68]

A complete needs assessment is currently underway to determine the current state of the existing facilities and what the needs will be in the near and distant future.

[67] City of Larkspur, *2018 Update – Larkspur 2050 Capital Expenditure Plan.*
[68] Acting Chief Ruben Martin, personal communication, September 20, 2021

Budget

The Larkspur and Corte Madera Municipal General Funds supports essential City services, including fire protection and hazardous materials management. In the proposed fiscal year 2020-2021 budget, fire services accounted for approximately 30% of the City of Larkspur's Municipal General Fund expenditures, which included funding for employee salaries, purchasing of fire suppression equipment, and various other basic funding needs.

2. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to fire protection services if it would:

1. Result in substantial adverse physical impacts associated with the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.
2. Result in significant cumulative impacts with respect to fire protection services.

Impact PF-1: Implementation of the proposed project could result in the need for new or physically altered fire protection facilities.

As described in Section 3.8 of this EIR, it is projected that consistent with the City's Regional Housing Needs Allocation and *Plan Bay Area 2050* that as many as 1,340 new dwelling units will be constructed in Larkspur by 2040. Some of this development will include adding 300 ADUs to existing neighborhoods. These ADUs will not be allowed in areas within the WUI where there is not adequate emergency access and evacuation routes. All new ADUs and Junior ADUs will be required to meet all LFC building and other requirements. As such, the addition of small units to existing residential properties would not be expected to substantially increase calls for fire suppression.

Most of the future development will be located in the two Transit Priority Areas surrounding the Larkspur Landing SMART Train Station and the Larkspur Ferry Terminal and along High Resource Area (HRA) corridors, which include Sir Francis Drake Boulevard, Redwood Highway, and Magnolia Avenue. Developed properties in these areas will be redeveloped to add new units either by reconfiguring development on the site and/or adding units on second or third floors. One major way to reduce impacts on fire department resources is to reduce wildfire hazard, especially in the Wildland-Urban Interface zones in the city. Policies and programs to address wildfire hazard are addressed in the subsequent Section 4.16, Wildfire. The reader is referred to that section for a description of how regulations, including the Larkspur Fire Code, and General Plan 2040 policies and programs reduce impacts resulting from wildfire to a less-than-significant level. The discussion below focuses on the programmatic level of impact on the

CMFD and whether the increase in calls for service would require construction of additional facilities that could adversely affect the physical environment.

It is evident that an increase in population from constructing 1,340 new dwelling units would increase the calls for fire suppression and emergency medical assistance. Additional equipment and staffing may be required. However, replacing equipment, adding additional equipment, and hiring additional staff are addressed by the City's budgetary process. Increases in population, housing, and certain types of occupancies will have an impact on emergency calls for service. There is currently approximately one firefighter on duty each day for every 2,000 persons. Therefore, CMFD would need to add an additional firefighter each day for every 2,000 persons that reside or work within the City limits. However, each fire engine is staffed with 3 firefighters. In order to be able to safely mitigate an emergency incident, CMFD would need a minimum of 3 firefighters per apparatus to respond. Any significant increase in housing and/or population will require CMFD to add additional staffing and equipment, which will require its facilities to expand to house additional equipment and staff.[69] The State-proposed 250-uniy apartment project adjacent to San Quentin Prison will be expected to require purchase of a 100-foot aerial truck that would require CMFD to expand or replace Station 16.[70] The addition of 8 single-family lots on the remaining portion of the State-owned parcel would not require new facilities beyond what may be required for the State-sponsored apartment project. Station 16 in its current state will need to be demolished and replaced within the next 5-10 years. The current location at 15 Barry Way is the most ideal location for the existing and new fire station. Station 16 allows for easy access to the highway 101 North and South corridors, along with access to both east and west Sir Francis Drake Boulevard. Fire personnel will need to be temporarily housed at a different location during the construction of a new Fire Station 16.

Replacement of Station 15 is required to meet existing fire and emergency medical response. The potential need for additional staff and equipment would be addressed at the time final design of the replacement is approved. It is expected that additional space needed to house any staff and equipment additions could be accommodated on the site of the existing station or possible additional land adjacent to the site. Implementing all regulatory requirements for new construction would be expected to reduce construction impacts a less-than-significant level. Operational use of the station would not be expected to result in any significant traffic, noise, air quality, or other impacts.

Preliminary reviews also indicate that Station 15, located at 420 Magnolia, will need to be demolished and rebuilt. The current site does not seem to be adequate in size for a modern fire station. Given the lack of vacant sites in the Downtown area, it is expected that a new fire station would be constructed on an already-developed site. Redevelopment of an existing site near the Downtown area would not be expected to have a significant impact on the

[69] Ruben Martin, Personal communication 9/20/21
[70] CMFD, Response to Letter from First Carbon Solutions providing information on the Oak Hill Apartment Project EIR, September 28, 2022.

environment assuming that construction meets all City, State, and regional requirements for new development and is consistent with the policies and programs of the General Plan and the Larkspur Municipal Code.

The General Plan 2040 contains policies and programs to ensure that the CMFD has ample resources to maintain its response abilities and policies and programs to reduce demands on CMFD resources. As noted previously, policies and programs addressing wildfire hazard and response to wildfire are contained in Section 4.16, Wildfire. Other policies include the following:

Policy LU-14.1: Limit the exposure of existing and proposed development to environmental hazards.

> *Action Program LU-14.1.d: During project review, require use of building materials that reduce exposure to environmental hazards (e.g., fire-resistant roofing material).*

Policy FAC-6.1: Renovate public buildings to conform to seismic safety requirements, space needs, and use of new technology, while respecting the historic value and integrity of existing historic structures.

> *Action Program FAC-6.1.b: Explore the decommissioning and re-use of Fire Station #15 pursuant to consolidation of the Larkspur and Corte Madera Fire Departments and regionalization of fire services in the Ross Valley.*

Policy SAF-6.1: Maintain and, as necessary, upgrade or expand equipment and staffing to provide efficient fire suppression service to Larkspur residents.

> *Action Program SAF-6.1.a: Apply regional and industry established performance standards such as desired response times for police, fire, and other public services.*
>
> *Action Program SAF-6.2.b: Continue to support the Central Marin Fire Department to have sufficient sources needed to purchase equipment and hire staff to provide effective fire response times.*

Policy SAF-7.2: Reduce the risk of loss of life, personal injury and property damage resulting from urban fire hazards through code enforcement to protect residents and businesses from structural fires.

> *Action Program SAF-7.2.a: Continue to inspect businesses, public buildings and multi-family dwelling complexes on a regular basis for fire and safety code violations, as required by the State Fire Marshal's office.*
>
> *Action Program SAF-7.2.b: Continue to implement the most recent updated versions of the California Fire Code, the International Fire Code and Appendix A of the International Wildland Urban Interface Code standards (as amended and adopted by the City of Larkspur) for all new construction and applicable remodeling or additions, as determined by the Fire Chief. Consistent with the Marin County CWPP, promote the use of fire-resistant materials and construction methods.*
>
> *Action Program SAF 7.2.c: Enforce fire safety codes requiring fire suppression, management of combustible materials, fuel and ignition sources in conjunction with construction activities and vegetation management//tree removal.*

The General Plan 2040 policies and programs recognize and support the findings of the CEP regarding the need to continue to assess the conditions of Stations 15 and 16 and plan to repair or replace either or both stations. It is speculative at this time whether a new station on a new site would be needed by 2040. However, even if a new station needs to be constructed by that date, it would be redevelopment of an existing urban property and not development of undeveloped land that has not been assessed under CEQA. As described in other sections of this DEIR, construction on such a site would be subject to all the requirements of the LMC, General Plan 2040 policies, and regulations of other pertinent federal, State, and regional programs regulating new construction. Construction of a new fire department facility in a developed suburban environment would not be expected to be unusual or unique. Conformance with the LMC, General Plan 2040 policies, and regulations of other pertinent federal, State, and regional agencies listed in the Regulatory Framework section of this chapter would be expected to address any environmental concerns or impacts associated with that construction. Therefore, it is expected that construction of a new station would not result in any significant impacts on the physical environment that could not be reduced to a less-than-significant level by site-specific and project-specific mitigation measures. Accordingly, the potential impact of a new fire station or other fire protection-related facility, if warranted, on the physical environment would be less than significant at the program level of analysis.

Impact PF-2: Implementation of the proposed project could result in a cumulatively considerable impact to fire protection services.

The CMFD also provides fire protection and emergency response services to the Town of Corte Madera and several portions of County Service Area (CSA) 31 inclusive of the Greenbrae Boardwalk, Lucky Drive, and San Quentin. The 2023-2031 RHNA for Corte Madera states that the City needs to construct 725 dwelling units by 2031 and more to meet *Plan Bay Area 2050* projections. Therefore, the CMFD would be serving residents of an at least an additional 2,065 (1,340 units in Larkspur and 730 units in Corte Madera) dwelling units by 2040. It is not known where these units might be built in Corte Madera. In addition, there is the State's draft proposal to allow construction of 250 multi-family units on a portion of the San Quentin property.

The existing location for Fire Station 16 at 15 Barry Way is the most appropriate location for a fire station, however the size of the building will need to be increased to incorporate specialized fire apparatus, such as a truck company for proposed construction of mid-rise buildings, a 100-foot aerial truck for proposed apartments on the State-owned parcel adjacent to San Quentin Prison, and water rescue equipment to meet the demand of rising sea levels and increased activity at the Ferry Terminal. As described in the previous impact discussion, reconstruction of the Station 15 site to include additional space required to meet the needs of this cumulative development would not be expected to have significant construction or operational impacts.

As described in the Existing Conditions section, the CMFD and other fire departments in Marin County provide services to each other as needed through joint powers agreements, automatic aid agreements, and mutual aid agreements. The CMFD, along with other county jurisdictions

under the joint powers agreement, would be able to adequately serve future growth under the proposed project by existing and proposed staff, equipment, and facilities. In the event that the CMFD requires new equipment or staffing, the funds for such improvements would be provided through the annual budget process and would rely on the General Fund and other funding opportunities, such as State and federal grants.

As described in Impact Discussion PS-1, implementation of the proposed project would require reconstruction of Station 15 and construction of a new station to replace Station 16. Reconstruction of Station 15 and construction of a replacement station for Station 16 would not be expected to result in significant construction or operational impacts. Compliance with State and local regulations, such as the proposed General Plan 2040 goals, policies, and programs listed in Impact Discussion PS-1, would ensure that fire protection services continue to adequately serve residents and businesses of the Planning Area. Additionally, potential future development that may occur within and adjacent to the Planning Area would occur incrementally over the General Plan's 20-year buildout horizon. Over time, these departments and districts would increase staffing and resources as warranted by the incremental growth through the ongoing budget processes of their governing jurisdictions. Therefore, it is not anticipated that the incremental growth would substantially reduce the ability for fire districts and departments within the county to adequately serve residents. Further, because the proposed project is program level, and because potential future development would be required to undergo project review at the time of project application, each potential future development would be assessed for impacts to fire protection services. Therefore, the proposed project would not result in a cumulatively considerable impact to fire protection services, and cumulative impacts would be less than significant.

1. Police Services Subsection- Environmental Setting

Police services for the City are provided by the Central Marin Police Authority (CMPA), which was formed in 1980 when City of Larkspur and Town of Corte Madera consolidated the two jurisdictions' respective police departments. In 2013, the City of Larkspur, the Town of Corte Madera, and the Town of San Anselmo consolidated polices services, creating the Central Marin Police Authority. Governing policy for the Authority is established by the Central Marin Police Council, comprised of two members from each jurisdiction's City Council. A Management Committee comprised of Larkspur's City Manager and the Town Managers of Corte Madera and San Anselmo oversees the general management of the Authority. The Police Chief oversees the Authority's operational functions. The 2020-2021 budget for the Authority is approximately $12.3 million. The Authority maintains 46 full-time employees (42 sworn officers), and numerous part-time employees including: Reserve Officers, Cadets, and Volunteers. This is a staffing ratio of 1 sworn officer per 833 residents (12 sworn officers per 10,000 people). The national average staffing ratio of sworn officers for a city of 25,000 to 50,000 people is 16.1 sworn officers per

10,000 people.[71] The Authority provides police services and public safety dispatching to the communities of Corte Madera, Larkspur, San Anselmo and portions of Greenbrae, which includes approximately 35,000 residents. In 2020, the CMPA received 32,735 calls for service down 20% from 45,870 calls in 2019.

Larkspur is home to the CMPA police station, which is the CMPA headquarters located at 250 Doherty Drive.Corte Madera and Larkspur co-own the building, which opened in 2012. This state-of-the-art, certified LEED Platinum facility was partially funded by a parcel tax passed by voters in 2008 that covers debt service for bonds issued to pay for construction. The parcel tax also funds ongoing maintenance of the building.

Nearly 18,000 square feet in size, the facility was designed to serve the needs of the community for the foreseeable future. In addition to providing a home to CMPA staff and resources, the building offers a multi-media community room. Demand to use the room is very high, with the facility booked nearly every day.

The Marin County Sheriff's Office provides services to other unincorporated neighborhoods within the Planning Area, and the California Highway Patrol provides traffic enforcement in the unincorporated areas and on State and local freeways, including U.S. Highway 101 (US-101) and Interstate 580 (I-580) in the Planning Area. Mutual-aid agreements between these agencies allow for joint responses to major incidents.

2. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to police protection services if it would:

1. Result in substantial adverse physical impacts associated with the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.
2. Result in significant cumulative impacts with respect to police protection services.

[71] Governing, 2020, Police Employment, Officers Per Capita Rates for U.S. Cities, https://www.governing.com/gov- data/safety-justice/police-officers-per-capita-rates-employment-for-city-departments.html, accessed October 30, 2020.

Impact PS-3 Implementation of the proposed project could result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

New development will occur as infill or redevelopment of sites currently served by the CMPA and is not expected to expand its service area, which could increase response time. As described in the Setting Section, the new police headquarters was designated and built to meet CMPA needs for the foreseeable future.

Buildout of the proposed General Plan 2040 is projected to occur over a 20-year horizon. While an increase in demand for police protection services would be gradual and is generally in line with incremental population growth, it is possible that increased staffing would be needed to provide adequate response times to calls for service.

As previously described, the CMPA is funded by the City's Municipal Fund and the municipal funds of the Town of San Anselmo and the Town of Corte Madera. Potential future development in these municipalities would support through the payment of taxes and development fees, amongst other fees. Future development in Larkspur would be required to pay taxes and development fees, amongst other fees, that would contribute to the Municipal Fund to support the CMPA. Procurement of additional police equipment would occur as needed through the City's annual budgeting process, which financially supports the procurement of needed equipment.

The General Plan 2040 recognizes the authority and mandate of the Central Marin Police Authority and therefore does not establish policies for the provision of law enforcement services in Larkspur. However, there is a policy and a program that address police services, as listed below.

> Policy SAF-6.1: Maintain and, as necessary, upgrade or expand equipment and staffing to provide efficient fire suppression service to Larkspur residents.
>
> > *Action Program SAF-6.1.a: Apply regional and industry established performance standards such as desired response times for police, fire, and other public services.*

Per the cited action program, it is expected that the CMPA will request needed budget augments to ensure adequate response time. It is expected that the City and Towns will fund reasonable augment requests to ensure adequate response time and police resources. To conclude, the increased calls for service from a larger population would not result in the need for construction of a new police station or other police facility that would result in an adverse impact on the physical environment. No mitigation is required.

Impact PF-4: Implementation of the proposed project could result in a cumulatively considerable impact to police protection services.

By 2040, the CMFD will provide service to the residents of 1,340 new dwelling units in Larkspur and at 730 new units in Corte Madera and at 833 new units in San Anselmo by 2031. As was discussed in the previous impact, the residents of these new units will increase the calls for service to the CMPA. This new development would pay taxes and other fees to the three municipalities, which in turn fund the CMPA operations, increased calls for service from a larger population would not result in the need for construction of a new police station or other police facility that would result in an adverse impact on the physical environment. No migration is required.

It is unlikely that approval of the General Plan 2040 would immediately increase the need for police protection services because anticipated growth under the proposed project is projected to occur incrementally throughout the 20-year buildout horizon. It is expected that as the population grows over time that any substantial impacts to response times or police services would be remedied by the City and Towns budgeting for additional resources through their annual budgetary process as funded by taxes and fees paid by residents or occupants of the new development.

Additionally, compliance with the proposed General Plan 2040 goals, policies, and programs listed under Impact Discussion PS-3 would reduce the impact that potential future development could have on CMPA, the Marin County Sheriff Department, and the California Highway Patrol. Additionally, development would occur on a limited number of parcels in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing residential and residential-serving development and which are covered by existing police services. Therefore, the proposed project would not result in a cumulatively considerable impact to police protection services and cumulative impacts would be less than significant.

1. Schools Subsection - Environmental Setting

Schools in the Larkspur-Corte Madera School District provide primary education to students from Larkspur(mainly from residences located south of Corte Madera Creek) and residences in Corte Madera. The two District schools are Neil Cummins Elementary School at 58 Mohawk Avenue, Corte Madera (grades K-5; capacity 845 students) and The Cove School at 330 Golden Hind Passage, Corte Madera (grades K-5) located in Corte Madera, and Henry C. Hall Middle School at 200 Doherty Avenue, Larkspur (grades 6-8; capacity 575 students).

The Kentfield School District serves students from Larkspur residences north of Corte Madera Creek and west of Highway 101 and the Murray Park neighborhood that lies south of the creek as well as residences in the unincorporated community of Kentfield. The two schools in the Kentfield School District include Anthony G. Bacich Elementary School at 659 Sir Francis Drake Boulevard, Kentfield (grades K-4; capacity 700 students) and Kent Middle School at 800 College Avenue, Kentfield (grades 5-8 capacity 700 students).

Primary school students living north of the creek and east of Highway 101 (i.e., the San Quentin Peninsula, including Larkspur Landing) are served by the San Rafael Elementary School and High

School Districts. Larkspur children in the San Rafael City Elementary and High School Districts attend Bahia Vista Elementary School at 125 Bahia Way (grades K-5l capacity 550 students), Davidson Middle School at 280 Woodland Avenue, San Rafael (grades 6-8; capacity 1,110 students), and San Rafael High School at 185 Mission Avenue, San Rafael (grades 9-12; capacity 1,400 students).

High school students in Larkspur living west of Highway 101 attend public high schools in the Tamalpais Union High School District (TUHSD) mainly at Redwood High School at 395 Doherty Drive, Larkspur(grades 9-12; capacity 1,900 students). TUSHD also operates two alternative high schools with facilities adjacent to Redwood High School on Doherty Drive, which are operated by Redwood High School: Tamiscal High School (capacity 108 students), which provides an independent study based high school program and San Andreas High School (capacity 85 students), a Model Continuation School. Students at Tamiscal and San Andreas High Schools come from throughout the district's attendance area, which extends over most of central and southern Marin.

Enrollment Trends

Table 4.13-1 shows enrollment trends at SRCS elementary and high schools and at MCSD schools between 2014 and 2019. The table indicates enrollment has been relatively stable at the elementary and middle school level and has gradually increased at the high school level.

Table 4.13-1: School Enrollment 2014-2021

School/School District	Capacity	2014-2015 Enrollment	2019-2020 Enrollment	2020-2021 Enrollment	2021-2022 Enrollment
Neil Cummins Elementary School	850	498	597	554	505
The Cove School Elementary School	500	356	412	368	364
Henry C. Hall Middle School	675	649	522	508	492
Larkspur-Corte Madera School District[72]	n/a	1,504	1,533	1,434	1,351
Anthony G. Bacich Elementary School	700	699	630	566	640
Adaline E. Kent Middle School	700	523	557	530	587
Kentfield School District	n/a	1,223	1,169	1,097	1,227
Bahia Vista Elementary School	550	572	573	532	587
James B. Davidson Middle School	1,110	1,095	1,191	1,129	1,069
San Rafael City Elementary	n/a	4,635	4,588	4,415	4,341
San Rafael High School	1,400	1,210	1,379	1,298	1,267
San Rafael City High School	n/a	2,365	2,768	2,666	2,575
Redwood High School[73]	1,900	1,661	1,944	1,975	1,948
Tamiscal High School	364	123	158	116	116
San Andreas High School	252	57	77	69	70
Tamalpais Union High School District	9,342	4,165	5,101	5,084	5,093

There was a decrease in enrollment during the pandemic, but enrollment in the 2021-2022 school year is near the enrollment for the 2019-2020 school year. The number of students in the SRCS elementary schools declined by less than one percent over the five-year period, while the number of high school students increased by 11.63 percent.

Two large private schools are located within the city: Marin Primary and Middle School (MPMS), serving students from preschool to eighth grade and Saint Patrick School, a Catholic

[72] Data on Larkspur-Corte Madera School District schools from Nicole Urrea, Assistant to Chief Business Officer of the District, !!/18/21.
[73] Data on Redwood HS, Tamiscal HS, San Andreas High School, and TUHSD from Corbett Elsen TUHSD, 11/12/21.

school open to students from kindergarten to eighth grade. MPMS has leased the former Larkspur-Corte Madera School site since 1980 from the Larkspur-Corte Madera School District, which retains ownership of the site, after declining enrollment led to the closure of the public school in 1979. The school is directly adjacent to Centennial Park, which is owned by the Larkspur-Corte Madera School District and maintained by the City. Saint Patrick's School operates within the Saint Patrick Parish under the Archdiocese of San Francisco.

Enrollment Projections and Potential Expansion Plans

Enrollment projections for schools serving Larkspur students beginning with the 2019-2020 school year are shown in Table 4.13. The State Department of Education has projected Marin County student enrollment would decline from 31,576 students in 2017-2018 to 30,851 by 2026-2027.[74] This is consistent with statewide projected enrollment declines. Redwood High School is projected to decrease from 1.975 students in 2020-2021 to 1,872 in 2025-2026, or a 5.2% decrease. It is projected to decrease from 1,975 students to 1,553 students in 2029-2030, or a 21.4% decrease.[75]

Larkspur-Corte Madera School District is projected to decrease from 1,529 students in 2019-2020 to 1,531 students in 2024-2025.[76] Kentfield School District is projected to decrease from 1.192 students in 2019-2020 to 1,213 students in 2027-2028.[77] San Rafael City Schools are expected to add 710 elementary students and 306 middle school students by 2040. High school students are expected to increase by approximately 243 students.[78]

Facility Plans

Some school districts that educate Larkspur children have expansion plans to add capacity ort other educational amenities to their schools. These are summarized below.

Kentfield

Kentfield voters first approved a Parcel Tax in 1987 and since then Parcel Taxes have been used in this District to keep class sizes low, upgrade technology, expand and maintain music, art, and drama programs, and fund school libraries. Local funding from the Parcel Tax provides 25% of the Kentfield School District's budget. Voters passed a bond issue (Measure D) in November 2015. Measure D dedicates funding for construction and renovation projects to modernize facilities, address enrollment growth, and enhance safety features.

[74] State of California, Department of Finance, California Public K-12 Graded Enrollment and High School Graduate Projections by County, 2017 Series. Sacramento, California, December 2017.
[75] Date from Corbett Elsen, TUHSD Finance Department, 11/12/21
[76] *Annual Enrollment Projection Report*, DecisionInsite, Fall 2020.
[77]
[78] Final EIR for the San Rafael General Plan 2040, p. 4.15-26.

Kentfield School District currently has capacity in its two schools for an additional 162 students. It has no plans for facility expansion. Bacich Elementary School will undergo demolition and replacement of 6 classrooms with Measure D Bond funds.

San Rafael City Schools

Facility conditions in the SRCS schools were assessed in the *SRCS Master Facilities Plan* prepared in 2014. The facility plan evaluated the condition of each school facility, identified needs for replacement and modernization, as well as for administrative and operational space, common spaces, and space for students with special needs.

Additional goals in sustainability, technology, efficiency, and equity were evaluated. An important objective of the two facility plans was to establish parity among schools and recognize that some schools may be in greater need of additional amenities and new facilities than others. The two facility plans provided the foundation for voter-approved bond measures that are now facilitating capital improvements in all the districts.

The *SRCS Master Facilities Plan* found that SRCS has the capacity for 4,755 students in 187 standard classrooms serving grades kindergarten through eighth grade and 2,244 students in 96 classrooms serving grades 9 through 12. Based on 2018 to 2019 school year enrollment numbers, the elementary and middle schools are operating at slightly below capacity, while the high schools are operating above capacity. The *SRCS Master Facilities Plan* explored different options for balancing enrollment and expanding campuses to avoid overcrowding. Such options include reopening closed campuses, expanding existing schools, and shifting students between campuses.

In November 2015, SRCS placed measures on the San Rafael ballot to raise bond money needed to meet the needs identified by the *SRCS Master Facilities Plan*. Voters subsequently approved Measures A and B, which approved the funding. Measure A included $108 million for updates to the SRCS elementary and middle schools, while Measure B included $161 million for the SRCS high schools. Among the funded projects are new high school science labs, updated core academic facilities, new classrooms, dedicated art and music spaces, and upgraded technology infrastructure.

Student Generation Factors

Student generation rates (or “yields”) are used by school districts to estimate the probable number of students in a “typical” single-family or multi-family home. This data is used to estimate the expected impact of new housing units on school enrollment, which in turn helps inform facility planning and fee collection. The rates are typically based on data for student yields from existing homes in each district or based on State standards. Different school districts have different student yields, typically based on older projections.

Among the school districts serving Larkspur students, the SRCS has more detailed and up-to-date (2018) student generation rates. As these are equal or greater than other districts serving

Larkspur students, the SRCS student generation rates are used in this analysis to ensure a conservative (i.e., worst-case) analysis. The student generation factors are:

Table 4.13: Student Generation Factors for Schools

School Age	Single-Family Units (students per new unit)	Multi-Family Units (students per new unit)
Elementary Schools (K–5)	0.1069	0.2273
Middle Schools (6–8)	0.0453	0.0980
High School (9–12)	0.0769	0.1108
Total	0.2291	0.4361

School Impact Fees

Larkspur-Corte Madera School District development fees are $3.36 per square foot of accessible space, and commercial fees are $0.54 per square foot of accessible space. A portion (30 percent) of the fees collected are for the Tamalpais Union High School District.

SRCS collect development impact fees based on forecasts calculated with projected increments of residential growth within the Planning Area. Fees are collected for new residential units and for residential additions of 500 square feet or more, commercial and industrial development, as well as development of new hotels.

The fees collected by SRCS are split into elementary school fees and high school fees. As of 2018, the elementary and middle school fees for SRCS were $2.62 per square foot for residential development and $0.42 per square foot for commercial and industrial development. The SRCS development impact fee is reduced to $0.245 per square foot for hotels and motels, and $0.14 per square foot for self-storage. The high school fees are $1.17 per square foot for residential development, $0.19 per square foot for commercial and industrial development, $0.124 per square foot for hotels and motels, and $0.06 per square foot for self-storage.

2. Regulatory Setting

State Regulations

California Government Code, Section 65995(b), and Education Code Section 17620

Senate Bill (SB) 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. According to California Government Code Section 65995(3)(h), the payment of statutory fees is “deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but

not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization on the provision of adequate school facilities." The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Senate Bill 50

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 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The current maximum allowable fee is $3.79 per square foot for residential development and $0.61 per square foot for commercial and industrial development. 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.

Mitigation Fee Act (California Government Code 66000-66008)

Assembly Bill (AB) 1600, the Mitigation Fee Act, 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.[21] 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 enforceable on January 1, 1989.

Local Regulations

Larkspur General Plan 1990-2010

The City of Larkspur General Plan 1990-2010 goals, policies, and programs that are relevant to schools are primarily in the Community Facilities and Services Chapter. The plan contains policies to preserve school sites for school or other public uses and to encourage cooperation between school districts and the City.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to school services if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or otherperformance objectives for public school services.
2. Result significant cumulative impacts with respect to public school services.

Impact PF-5: Implementation of the proposed project could result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.

This section reviews the need for existing school facilities to accommodate increases in public school enrollment due to implementation of the proposed General Plan 2040. Again, it is noted that the California State Legislature, under SB 50, has determined that payment of school impact fees shall be deemed sufficient to provide full and complete mitigation for construction of new school facilities. All potential future developments proposed as a result of implementation of the proposed General Plan 2040 would be required to pay school impact fees adopted by the relevant school district. Based on SB 50, this requirement would fully mitigate the impacts of the proposed General Plan 2040 on school facilities.

Implementation of the proposed General Plan 2040 is projected to generate approximately 1,340 housing units in the Planning Area. At this time, the type of units that would be built and the location of these units is unknown. To ensure a conservative analysis, it is assumed that 300 of these new units would be ADUs, which would be expected to generate almost no new students. Of the remaining 1,040 units, it is expected that almost all will be multi-family units. As multi-family units have a higher projected student yield than single-family units, it is assumed for purposes of this worst-case analysis that all 1,040 new units would be multi-family units. This number of units would generate at the most 236 elementary school students, 102 middle school students, and 115 high school students.

If all these students were to attend schools in the Kentfield School District, Larkspur-Corte Madera School District, and/or Tamalpais Union High School District, there would be adequate capacity to serve this number of new students. The three elementary schools have unused capacity of approximately 300 students. The two middle schools have unused capacity of approximately 200 students. Redwood High School has unused capacity for an additional 1,270 students. It is projected to be at 58% of capacity in 2025-2026, while TUHSD as a whole is

projected to be at 47% capacity in that school year.[79] Therefore, if all new students were educated at schools educating Larkspur students in Larkspur, Corte Madera, and Kentfield, there would be adequate capacity to serve these new students.

However, much of the new development may occur in the TRAs in the Larkspur Landing Area and on the State-owned parcel adjacent to San Quentin Prison, which are in the San Rafael City School District. The following describes the ability of San Rafael schools to educate students generated by growth under the buildout under its General Plan 2040 as reported in the Final EIR prepared for the San Rafael General Plan 2040. With student enrollment in the San Rafael schools nearing capacity, the additional students would exacerbate the overall capacity pressure on existing SRCS facilities. To accommodate new students, the SRCS would need to either expand existing facilities or construct new schools. Such expansions and considerations for upgrading existing facilities has partly occurred, and continues to occur, as identified in the SRCS Master Facilities Plan. The SRCS Master Facilities Plan explores different options for balancing enrollment and expanding campuses to avoid overcrowding. Such options include reopening closed campuses, expanding existing schools, and shifting students between campuses. Most of the improvements are likely to occur on existing sites. The SRCS would continue to collect development impact fees throughout implementation of the proposed General Plan 2040, meaning potential future development would incrementally pay for any needed facility upgrades and expansions, which would mitigate the impacts from the proposed General Plan 2040 per SB 50. Furthermore, San Rafael Measures A and B have allowed many of the existing schools in the SRCS system to expand or modernize as needed, introducing additional capacity for students to each school. Because potential future development from the proposed San Rafael General Plan 2040 and the Larkspur General Plan 2040, and subsequent population increases would occur incrementally, SRCS schools would have capacity to serve additional students.

However, it is possible that elementary school students may need to attend another elementary school than Bahia Vista School. Bahia Vista currently has 580 students and space for an additional 17 students. If there is inadequate space at this school when new development in the Larkspur Landing area generates new students, these students may need to attend one of the other six SRCS elementary schools.[80] As new development in Larkspur served by SRCS would pay development impact fees to SRCS, it is expected that SRCS would use those fees to expand or modernize schools as needed.

In addition to payment of development fees, the following goals, policies, and programs would serve to reduce impacts to school facilities in the Planning Area:

[79] Elsen Corbett, Ibid
[80] Lilian Perez, Supervisor of Pupil Management, SECS, personal communication 11/

Goal FAC-2: Preserve all existing school sites for future public use, with school use having the highest priority

Policy FAC-2.1: Encourage school districts not to sell school sites, but to preserve them for community and future public-school use. Where the opportunity presents itself, the school districts also should be encouraged to consider the development of affordable housing on surplus properties to serve the needs of teachers, other school employees, and other public employees.

Goal FAC-3:Continue ongoing cooperation between the City and the school districts in sharing resources

Policy FAC-3.3: Continue to share information with the school districts regarding land use planning efforts in the City that will impact school district services, including anticipated residential development, infrastructure projects, and population and demographic trends.

Policy FAC-3.4: Continue to verify the payment of school impact fees with project applicants and the school districts prior to issuing building permits.

To summarize, other than SRCS, school districts serving Larkspur students have adequate capacity to serve the projected increase in students. SRCS elementary schools will continue to be expanded on existing sites or reopening closed campuses per the SRCS Master Facilities Plan With the required payment of developer impact fees for new development pursuant to SB 50 and the implementation of the proposed General Plan 2040 goals, policies, and programs that support school facilities in the Planning Area, impacts to the SRCS would be less than significant.

Impact PF-6: Implementation of the proposed project could result in a cumulatively considerable impact to school services.

As discussed previously, a majority of the schools in San Rafael are close to or exceeding capacity, and additional student enrollment due to the implementation of the proposed project would exacerbate the capacity issue. In San Rafael, according to the SRCS Master Facilities Plan, existing schools are slated to be expanded or renovated if they have not already been in the past several years. These projects would be funded by bond measures discussed in Impact PS-5 and development impact fees from potential future development, which would mitigate the current and future capacity issues per SB 50. It is expected that bond measure funding and development fees generated in that part of SRCS within Larkspur would also mitigate future capacity issues. Again, payment of these development fees is considered adequate mitigation for project and cumulative impacts to schools.

Therefore, the proposed project would not result in a cumulatively considerable impact to school facilities, and cumulative impacts would be less than significant.

1. Library Subsection - Environmental Setting

The Larkspur Library occupies approximately 4,000 square feet on the first floor of City Hall (400 Magnolia Avenue, Larkspur). As the Larkspur 2050 Capital Expenditure Plan reports, the current space is often complimented for its coziness, warmth, and charm, but falls well short of the City's current space needs assessment for offering core library services, as well as the types of programming desired by patrons. The City's most recent space needs assessment puts the Library's core service need at nearly three times the current space and contemplates a library and community center having space needs greater than four times the current space.

Limited to its current location, the Larkspur Library emphasizes circulation of its collection and Internet access and offers programming as best it can. Within the Library itself, attendance at classes and lectures must be limited due to space constraints. Programs often must be scheduled when the Library is not officially open so that the activity does not interfere with general operations and patron comfort. Whenever possible, the Library uses the City Council Chambers on the second floor to allow higher attendance. Demand for seating at the Library is higher than the facility accommodates. In recent years, the Library staff has reduced the size of the collection to create more floor space for seating.

The City recently made improvements to City Hall to address deterioration caused by dry rot and general decay as well as to improve the building's resistance to water intrusion from rain. These improvements have noticeably enhanced the building. However, City Hall has not been seismically retro-fitted and the interior of the building lacks true climate control – two improvements that should be made to a facility frequented by the volumes of people that visit the Library. The historical building has been modified to improve access, but still presents challenges to patrons who have mobility challenges. The electrical system is outdated, which limits the amount of equipment staff can use at any one time.

The primary purpose of the Larkspur 2050 Capital Expenditure Plan is to identify long-term infrastructure needs and potential solutions. Since the 2050 Plan was first adopted in 2001, emphasis has been placed on finding a new home for the Larkspur Library. As a result, investment in the current facility has been limited. In the last few years, the City has made small improvements to the Library's office space and circulation desk to improve service delivery in the current facility.

Community Facilities Parcel

The City owns two parcels on the south side of Doherty Drive on both sides of Rose Lane. The larger parcel (2.43 acres located on the east side of Rose Lane) was officially labeled the "Community Facilities Parcel"(CFP) by the City Council with the adoption of a master plan for the property in July 2013. The smaller parcel (0.22 acres) was included in the master plan for a use or uses related to and supporting the development of the main parcel. The master plan designates the Community Facilities Parcel for the development of a library and community center, a use which would address needs identified in the City's initial 2050 Capital Expenditures Plan.

The CFP Master Plan includes a preliminary assessment of the City's programming needs in a library and community center and recommends a facility with a footprint of 20,000 square feet. The CFP Master Plan examines building footprints ranging from 12,000 to 24,000 feet, noting that at the smaller end of the scale, the City will likely only be able to address core library functions, while a larger building will offer more multi- purpose rooms and gathering spaces.

As part of a subsequent planning process to design a library and community center, the City retained a specialist in library planning to work with the Library Director and Recreation Director on a more detailed evaluation of programming needs. The resulting space and programming needs assessment confirmed the preliminary evaluation of the CFP Master Plan.

In November 2021 the City Council decided to proceed to permanently move Larkspur Library functions to the Rose Lane parcel at the intersection of Rose Lane and Doherty Drive designated as "The Commons." At a later date the City Council would review opportunities for a civic campus at The Commons.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to library services if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or otherperformance objectives for library services.
2. Result in significant cumulative impacts with respect to library service.

Impact PS-7 Implementation of the proposed project could result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.

Implementation of the proposed General Plan 2040 is anticipated to add approximately 2,814 residents to the city by 2040, which would subsequently increase the demand for library services. As noted in the Setting section, the library currently has insufficient space and facilities to serve the existing city population. Constructing a new library has been part of the Larkspur 2050 Capital Expenditure Plan since 2001. The City is currently working to identify funding to develop a new library at The Commons. This planning process would also potentially serve to expand City Offices space at the CFP.

A potential new library at The Commons was assessed as part of the CEQA review of the Rose Lane Subdivision. Previous CEQA documents adopted for the subdivision found that all

development impacts would be reduced to a less-than-significant level.[81] Therefore, construction of a new library, as well as new City offices or other public facilities, at this site would have a less-than-significant impact on the physical environment.

Impact PS-8 Implementation of the proposed project could result in a cumulatively considerable impact to libraries.

A significant cumulative impact would occur if population growth exceeds the ability of the Larkspur Library to adequately serve the Planning Area, thereby requiring construction of new facilities or modification of existing facilities that could have a significant impact on the physical environment. As described in PS-7, existing facilities already do not meet the demands of the city, However, the City is actively pursuing construction of a new library at The Commons. Construction of a library at this site has been assessed in a certified EIR, and possible impacts of development of that site were found to be less than significant. Therefore, the proposed project would not result in a significant cumulative impact to the physical environment, and the City would be able to provide adequate library services to the existing and future population.

1. Parks and Recreation Subsection - Environmental Setting

The City owns 36 acres of developed parkland and open space in Larkspur. Most of this acreage is in one regional park, Piper Park, and 10 neighborhood parks. The City also owns an open space area in Larkspur Landing known as "Miwok Park and Tubb Lake," as well as several undeveloped open space parcels in other parts of Larkspur. Although sometimes associated with Larkspur (and partially within the City limits), the Baltimore Canyon, Blithedale Ridge, and King Mountain Open Space Preserves are part of the open space system managed by Marin Parks.

The City Council has adopted two documents to guide development and maintenance of the City's recreational spaces - the Piper Park Master Plan and the Mini Parks Action Plan. The City has been making steady progress toward realizing the goals of these plans, in large part due to the availability of regional funding sources. In 2012, Marin voters passed Measure A, a countywide ¼-cent sales tax that is restricted for park and open space uses. Fifteen percent of the annual revenue of Measure A is distributed to the local agencies providing park spaces to Marin. Larkspur has annually used its share of this money to replace aging and deteriorated park infrastructure, such as playground equipment. Since Measure A went into effect, the City has received an average of $90,000 annually. This money has been critical to advancing the goals of the City's adopted plans for its parks, particularly the Mini Parks Action Plan. Fiscal Year

[81] [81] *Central Larkspur Specific Plan Final EIR,* EDAW, 2004 and *CLASP Sub-Area 3 (Niven Property/Rose Garden Project) Initial Study*. AECOM, 2009.

2021-22 is the last year covered by Measure A. If voters choose not to renew this measure, the City currently has no revenue source to continue this work.[82]

Recent improvements to Piper Park include a new playground, a rehabilitated volleyball court and new picnic tables. These projects were funded through a combination of regional monies, development fees, and general fund revenue. In the next few years, the City will be investing heavily in Piper Park by relocating and expanding the City's dog park to another location within Piper Park and the marshland on which the current dog park sits will be restored and turned into a passive space. This project is intended to offset impacts to Corte Madera Creek caused by the replacement of the Bon Air Bridge. As such, the project qualifies for federal funding as a mitigation project of the Bridge project. The City's success in improving its park infrastructure underscores Larkspur's dependence on sources other than the General Fund to pay for recreational amenities. [83]

The City has one open space area for which it currently has no development or use planned. Called "Miwok Park and Tubb Lake," (or "Tubb Lake" for short), this 13.2-acre area sits above (north) of the former site of the Ross Valley Sanitary District treatment plant in Larkspur Landing. In its current state, the Tubb Lake property is a liability to the City. The periodic use by homeless encampments requires police and fire resources to remove materials that present a health and safety concern. The City recognizes the need to develop a long-term vision for Tubb Lake and take the necessary steps to implement that vision.

Current City-owned recreational facilities and parks yield a public parkland-to-population ratio of approximately 4.0 acres per thousand residents.[84] An additional 24.4 acres of park and recreation facilities owned by the Larkspur-Corte Madera School District and the Tamalpais Union High School District that are conditionally available for public use yield an overall parkland-to-population ratio of approximately 6.0 acres per thousand residents.

Larkspur residents also have access to numerous open space preserves adjacent to or near the city as well as the nearby MMWD-owned Mt. Tamalpais Watershed, Mt. Tamalpais State Park, GGNRA, and other regional parks and open spaces. Part of Corte Madera Ridge in Larkspur lies within the Blithedale Summit Open Space Preserve, which is one of three open space districts owned and managed by the Marin County Open Space District (MCOSD), that are located in the City's Planning Area. The 108-acre King Mountain Open Space Preserve, encompassing Big and Little King Mountains, provides trail connections to neighboring open space preserves. The Baltimore Canyon Open Space Preserve encompasses 193 acres in the southeast portion of Larkspur's Planning Area. These preserves and parks provide many and varied opportunities for

[82] La*rkspur 2050 Capital Expenditure Plan – 2018 Update*, City of Larkspur, Oct. 17, 2018.
[83] Ibid

[84] Based on a population of 12,071.

hiking, biking, and equestrian recreation as well as passive recreation (e.g., birdwatching, picnicking, nature study, etc.).

The Larkspur Mini Parks Action Plan is the master planning document for City-owned and maintained parks, with the exception of Piper Park, which is governed by the Piper Park Master Plan. The Mini Parks Action Plan lists the recommended improvements needed for the 10 mini parks. At the time the master plan was prepared in 2015, estimated costs for the recommended improvements were approximately $1.8 million.[85]

In addition to recreational facilities and parks, the Larkspur Recreation Department provides numerous year-round recreational activities for residents of all ages and abilities. Ongoing activities include a summer school program, activities for individuals with developmental and physical disabilities, a walking group, senior activities, adult sports, youth sports, after-school enrichment classes, and special events.

Tables 4.13-2 and 4.13-3 list the City-owned parks and School-owned parks, respectively.

[85] *Larkspur Mini Parks Action Plan,* KLA Landscape, Architecture/Planning, January 2-15.

Table 4.13: City of Larkspur Parks and Recreational Facilities

Park	Size (acres)	Available Facilities	Ownership
Bon Air Park	0.75	Public dock, sitting area, and picnic facilities.	City of Larkspur
Corte Madera Creek Waterfront Walk	n/a	Public dock, picnic facilities, sitting and viewing areas	City of Larkspur
Larkspur Landing Waterfront Walk	n/a	Sitting and viewing areas, public art	City of Larkspur
Doherty Park	0.15	Sitting area, historic monument.	City of Larkspur
Dolliver Park	2.5	Play equipment, picnic facilities, and restroom.	City of Larkspur
Greenbrae School Park	1.5	Tot lot, basketball facilities, sitting area, and turf.	City of Larkspur
Hamilton Park	0.33	Sitting area and picnic facilities.	City of Larkspur
Heatherwood Park	0.75	Play equipment, picnic facilities, and basketball facilities.	City of Larkspur
Hillview Park	1.5	Multi-use path.	City of Larkspur
Miwok Park	13.2	Tubb Lake (undeveloped).	City of Larkspur
Neighborhood Park (Larkspur Circle residential neighborhood)	2.0	Picnic facilities, turf, and parcourse.	City of Larkspur
Niven Park	1.5	Sitting area, turf, playground, walkway.	City of Larkspur
Piper Park	22.0	Tennis courts, picnic facilities, softball, soccer, and cricket fields, volleyball facilities, playground equipment, public dock, restrooms, community gardens, dog park, onsite parking.	City of Larkspur
Remillard Park	7.0	Picnic tables, beach, freshwater marsh, wildlife sanctuary, fishing in the Bay.	City of Larkspur
Total	48	Multiple uses	City of Larkspur

Table 4.13-3: School-owned Parks and Recreational Facilities

Park	Size (acres)	Available Facilities	Ownership
Centennial Park	5	Tennis courts, hard court, mini-basketball facilities, picnic facilities, Little League baseball field. Children's playground owned by Marin Primary (tenant). Maintained by the City.	Larkspur-Corte Madera School District (L-CMSD)
Hall Middle School	9	2.4 acres conditionally available for public use: basketball court, asphalt and turf play area	L-CMSD
Redwood High School	60	17 acres conditionally available for public use: baseball field, three softball fields, and a soccer field. Gym, football field, two baseball fields, swimming pool, court games facility, and tennis courts have restricted access.	Tamalpais Union High School District (TUHSD)
Total	74	Multiple uses	L-CMSD TUHSD

In addition, Larkspur residents have the opportunity to learn and participate in rowing through the private Marin Rowing Association. An Agreement between the City and the Association enables the Association to maintain a clubhouse and boat dock on City-owned property (located on Corte Madera Creek behind the Drake's Landing Office Center).

2. Regulatory Framework

State

The Quimby Act

The Quimby Act of 1975 (Government Code Section 66477) authorizes cities and counties to pass ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act sets a standard park space to population ratio of 3 acres of park space per 1,000 persons. Cities with an existing ratio of higher than three acres

per 1,000 persons can set a standard of up to 5 acres per 1,000 persons for new development.[86] 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. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for a recreation facility or park land, and the type of development project upon which the fee is imposed.

Local

Larkspur General Plan 1990-2010

The existing General Plan contains goals, policies, and programs to manage parks and recreational facilities for the future enjoyment of Larkspur residents. These goals, policies, and programs are found primarily in the Community Facilities and Services Chapter.

Larkspur Municipal Code

The LMC provides specific requirements for parkland dedication and/or payment of in-lieu fees to finance park and recreational facilities development. Some of the LMC chapters addressing parkland dedication and in lieu fees include the following.

- Chapter 17.13.030. Park Acreage Standard. It is hereby found and determined that the public interest, convenience, health, welfare, and safety require that five (5) acres of property for each one thousand (1,000) persons residing within this City be devoted to local park and recreational purposes. Such requirements will be satisfied by park land and park dedications pursuant to this article. The acreage of park type per one thousand (1,000) residents shall be determined by the City Council annually by resolution. The adopted park land and park development dedication standard shall reflect the ratio of park land to residents as set forth in Government Code Section 66477.
- Chapter 17.13.040 establishes the formula for determining the amount of parkland required to be dedicated for new dwelling units.
- Chapter 17.13.050 establishes the in-lieu fees in case land is not dedicated for parks and Chapter 17.13.110 requires the payment of these fees.
- Chapter 17.13.060 establishes criteria for cases where both dedication and fees are required.
- Chapter 17.13.130 establishes the credits for providing private open space as part of a planned development.

86 California Government Code Section 66477, California Department of Parks and Recreation website, Quimby Act 101: An Abbreviated Overview, http://www.parks.ca.gov/pages/795/files/quimby101.pdf, accessed on December 7, 2015.

- Chapter 17.13.150 requires park fees to be placed in a trust fund. Money in the fund, including accrued interest, shall be expended solely for acquisition, development or rehabilitation of park land or improvements related thereto.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to parks if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities, need for new or physically altered parks and recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.
2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated.
3. Result in significant cumulative impacts with respect to parks and recreation.

Impact PS-9 **In order to maintain acceptable service ratios, or other performance objectives, implementation of the proposed project could result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts.**

As described in the previous Setting section, there are currently approximately 4.0 acres of City-owned parkland per 1,000 residents, which is less than the City's adopted standard of providing 5.0 acres of parkland per 1,000 residents. However, if recreational facilities at schools in Larkspur that are conditionally allowed for use by Larkspur residents are added, there is approximately 6.0 acres of parkland per 1,000 residents. In addition, there are the hundreds of acres of County, MMWD, State, and federal lands in the immediate area that provide a wide range of recreational uses.

Development that could occur under the Larkspur General Plan 2040 could add up to 2,814 new residents in the city, which would increase the demand for parks and recreational facilities. The parkland ratio of City-owned parks for the projected 2040 population of 15,154 people would be approximately 3.2 acres per 1,000 people. If school owned recreational facilities are added, the ratio would be approximately 5.0 acres per 1,000 people. Probably more important than the lack of parklands is the shortage of athletic fields and venues available for organized sports. If the City is to meet the park and recreational needs of its growing population, it will need to increase parkland availability and the availability of recreational facilities.

The proposed Public Facilities and Services Chapter of the Larkspur General Plan 2040 contains goals, policies, and programs to require local planning and development decisions to consider

and mitigate impacts that potential future development could have on available parkland and the quality of facilities.

The following goal and policies FAC-1.1 and FAC-1.2 would serve to ensure that the City provides parkland needed to serve the projected population growth. Policies FAC-1.3 to FAC-3.1 would serve to provide needed recreational services and programs to serve this future population and measures to coordinate and facilitate development of such programs and partnerships. These policies and programs would also reduce the environmental impacts of future development on parks and recreational facilities

Goal FAC-1: Public facilities and programs for all community members

Policy FAC-1.1: Maintain, upgrade, and improve the City's parks.

Action Program FAC-1.1.a: Require the dedication of parkland or payment of a parks fee, and/or park improvements and maintenance obligations, as a condition of development approval to develop new parks and/or mitigate project impacts on park and recreation facilities.

Action Program FAC-1.1.b: Periodically review and update, as appropriate, the City's various park planning documents, including the Mini-Park Master Plan, Piper Park Master Plan, and any subsequent planning documents.

Action Program FAC-1.1.c: Pursue public-private partnerships, sponsorships, and neighborhood support groups to assist in maintenance and upgrades to local neighborhood parks and undeveloped park areas, such as Miwok Park.

Action Program FAC-1.1.d: Apply user fees for groups and team sports (e.g., soccer, softball, and volleyball teams) to support necessary upgrades and to off-set maintenance costs for recreational facilities.

Policy FAC-1.2: Continue to maintain Piper Park as a recreation area with a balance of organized play facilities and natural areas.

Action Program FAC-1.2.a: Continue to provide administrative support to the many users of at Piper Park (e.g., the Larkspur Community Garden, Canine Commons, sports fields, playground, picnic area, and tennis courts) through the Community Services Department.

Policy FAC-1.3: Provide park and recreation facilities and programs for children in a variety of locations.

Action Program FAC-1.3.a: Provide "tot lots" with imaginative play equipment that meets safety standards established by the U.S. Consumer Protection Commission, where space is available in City parks.

Action Program FAC-1.3.b: Explore providing a teen/preteen center.

Action Program FAC-1.3.c: Continue to allow youth sports teams to use the City's park and recreation facilities, as appropriate and within terms of use established by the City.

Action Program FAC-1.3.d: Continue to provide summer programs and activities for children through the Community Services Department.

Policy FAC-1.4: Provide recreation facilities and programs for seniors.

Action Program FAC-1.4.a: Work with private and public organizations to identify the programs and facilities available for seniors within the City and the County, provide information on available programs to senior residents in Larkspur, and identify ways to augment existing programs or add new programs where appropriate.

Action Program FAC-1.4.b: Recognize seniors as community resources and maximize use of their expertise, talents, and time for benefit of the community through the creation of a civic volunteer program.

Policy FAC-1.5: Ensure that recreation programs and facilities are accessible to community members with disabilities.

Action Program FAC-1.5.a: Update park and recreation facilities and programs to comply with current accessibility standards established by the Americans with Disabilities Act.

Action Program FAC-1.5.b: Provide programs that serve persons with disabilities through inclusive programming that is accessible to members of different abilities through the Community Services Department.

Policy FAC-1.6: If San Quentin Prison closes, support retaining its Bay frontage as open space and parkland.

Action Program FAC-1.6.a: Continue to follow planning for the potential reuse of the San Quentin site to ensure that public access is a priority.

Policy FAC-1.7: Continue to work with the school districts serving Larkspur children to expand community use of their facilities during non-school hours.

Action Program FAC-1.7.a: Encourage the schools to provide access to school buildings for senior citizen educational or recreational opportunities.

Action Program FAC-1.7.b: Investigate agreements that would enable the City to make public use of school sites in return for the City maintaining them, such as the existing agreements between the City and the Larkspur-Corte Madera School District for shared use of Hall Middle School facilities.

Action Program FAC-1.7.c: Work with school districts to see that public use of school playing fields, gymnasiums, meeting halls, and auditoriums is prioritized over private use.

> Policy FAC-1.8: Continue to coordinate park and recreation facility planning with neighboring communities, public agencies, and school districts to identify opportunities for joint-use facilities and programs.

Policy FAC-1 and programs under that policy ensure that new development will pay its share to maintain, upgrade and improve City parks. Policy FAC-1.2 focuses on maintaining and upgrading the City's largest park – Piper Park. Policies FAC-3, FAC-4, and FAC-6 state that the City will continue to provide park and recreation facilities to children, seniors, and people with disabilities, respectively. Several policies emphasize coordinating recreational facilities with the school districts to maximize community use of school-owned recreational facilities.

New residents from development that may occur under the new general plan will increase the demand for recreational opportunities, the new development required to serve these residents will generate substantial park development fees to the City's park trust fund. It is expected that much of the new development will occur in the Larkspur Landing area, it is possible that development fee income could be used to develop the Miwok Park/Tubb Lake site, which is in that TRA.

Policy FAC-1.6 encourages recreational access and use of San Quentin property if not used as a prison. The State is currently exploring possible residential development on a portion of a property it owns that is adjacent to the prison. Consistent with this policy, the City could certainly request that some of that property be developed with active and/or passive recreational access and use for future residents of that property as well as residents of the nearby Larkspur Landing TRA (as well as all Larkspur residents), especially if the property is proposed for annexation to the city.

Dedication of parkland by new subdivisions or, more likely, payment of in-lieu fees would allow the City to develop additional park land on undeveloped parcels that the City owns. These in-lieu fees would allow the City to continue to upgrade its existing parks and recreational facilities per the Mini Park Action Plan and the Piper Park Master Plan.

Consistent with General Plan policies, City efforts to coordinate use of recreational facilities with the school districts are very important in meeting existing and future recreation demands as these schools contain athletic sport fields and venues that are in short supply in the community. Such joint use may become increasingly feasible if school enrollment continues to decline as projected at Redwood High School and other area schools.

As indicated above, new residents from development allowed by the proposed General Plan 2040 would increase the demand for recreational facilities, and recreational facility standards could require the construction of new or expanded recreation facilities. The estimated timing or location of such facilities or the exact nature of these facilities are not known, so project-specific environmental impacts that could occur from their construction and operation cannot be determined at this time. However, depending on the type, size, and location of new parks or facilities, the construction of new parks or facilities would be subject to environmental review and the mitigating polices and mitigation measures described in this EIR to ensure the impacts

from the construction would be less than significant. The construction of project-specific parks or facilities would require permitting and review in accordance with pertinent codes and programs listed in the LMC, including all codes in Title 15, Building Regulations, Chapter 9.11, Runoff Pollution Prevention, and Chapter 9.54, Noise Control Regulations.

Building in conformance with City building and construction codes would ensure that any environmental impacts are disclosed and mitigated to the extent possible. This EIR is a programmatic document and does not evaluate the environmental impacts of future project-specific development. Therefore, at a programmatic level of analysis, the impact is considered less than significant.

Impact PS-10 Implementation of the proposed project could 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.

As described previously, future development allowed by the proposed General Plan could result adding 2,814 new residents, which would increase demands for parks and recreational facilities, and could cause physical deterioration of park facilities. However, the proposed General Plan contains goals, policies, and programs that would support parkland goals, and as described in the previous Setting section, the LMC establishes parkland dedication and/or fee requirements for new development, helping to ensure that individual park and recreation facilities are not overburdened by use.

As discussed in the previous Existing Conditions section, the City has many planned improvements for parks. These include specific projects to replace aging equipment, repaving, restroom repair, updating of ADA resources, and other improvements.

The proposed Public Facilities and Services Chapter contains goals, policies, and programs that require local planning and development decisions to consider and mitigate impacts that potential future development could have on existing parks and the quality of the facilities. Several proposed goals, policies, and programs, as listed in Impact PS-9, ensure that parks, recreational facilities, and open space are adequately maintained.

While potential future development under implementation of the proposed General Plan 2040 would result in an increased population with an increased demand for parks and recreational facilities, buildout would occur incrementally throughout the 20-year horizon, and future development would be subject to the proposed General Plan 2040 goals, policies, and programs listed in Impact PS-9; therefore, impacts would be less than significant.

Impact PS-11 Implementation of the proposed project could result in a cumulatively considerable impact to parks.

As discussed in Chapter 4.0, Environmental Analysis, of this Draft EIR, cumulative impacts are considered in the context of projected growth in the rest of Marin County and the surrounding

region, as forecast by *Plan Bay Area 2050*, and contiguous with the service area boundaries of the service providers evaluated in this section, including park and recreation areas provided by the City, the County of Marin's Park Department and the California Department of Parks and Recreation.

As described under Impacts PS-9 and PS-10, the potential population increase under the proposed project would increase demand for park and recreational facilities. Compliance with the LMC and proposed General Plan 2040 goals, policies, and programs listed in Impact PS-9, would ensure that adequate parklands and recreational facilities are provided, maintained, and funded through in-lieu fees, maintenance fees, or parkland dedication in the Planning Area. This would mitigate potential impacts that future development would have on park and recreation services in the Planning Area. Therefore, the proposed project would not result in a cumulatively considerable impact to park and recreational facilities and cumulative impacts would be less than significant.

4.14 Transportation

This chapter describes the potential impacts to the transportation system associated with the adoption and implementation of the proposed project. The impact discussion examines the vehicular, transit, bicycle, and pedestrian components of the city's overall transportation system in the Planning Area.

1. Existing Conditions

Street System

The existing roadway system is shown in Figure 4.14-1. U.S. 101 (Highway 101) is the only continuous north-south roadway in Marin County, connecting the communities of Marin and Sonoma counties to job centers and major destinations in San Francisco to the south and Contra Costa County to the east. Local access interchanges are provided at Sir Francis Drake Boulevard, Lucky Drive/Fifer Avenue, and Industrial Way. Within Larkspur, the majority of the freeway consists of eight lanes (four lanes in each direction).

Congestion levels on U.S. 101 can cause freeway traffic to detour onto parallel city streets during peak travel periods or when incidents occur on the freeway. As there is not currently a direct connector between northbound U.S. 101 and eastbound I-580, freeway traffic uses East Sir Francis Drake Boulevard as a connector route, which results in significant congestion particularly during peak commute hours. The Transportation Authority of Marin (TAM) in collaboration with Caltrans and the cities of San Rafael and Larkspur is pursuing a study to plan and design a grade-separated connector between northbound U.S. 101 and eastbound I-580 (US-101/I-580 connector project). The U.S. 101/I-580 connector project will provide a direct ramp connection that avoids local streets. A number of alternative alignments are being considered for the new ramp, each with varying environmental impacts and costs. The US-101/I-580 connector project is being coordinated with efforts to reduce bottlenecks on the eastbound I-580 approach to the Richmond-San Rafael Bridge. A third eastbound lane was opened on the Richmond-San Rafael Bridge in 2018 for afternoon commuters.

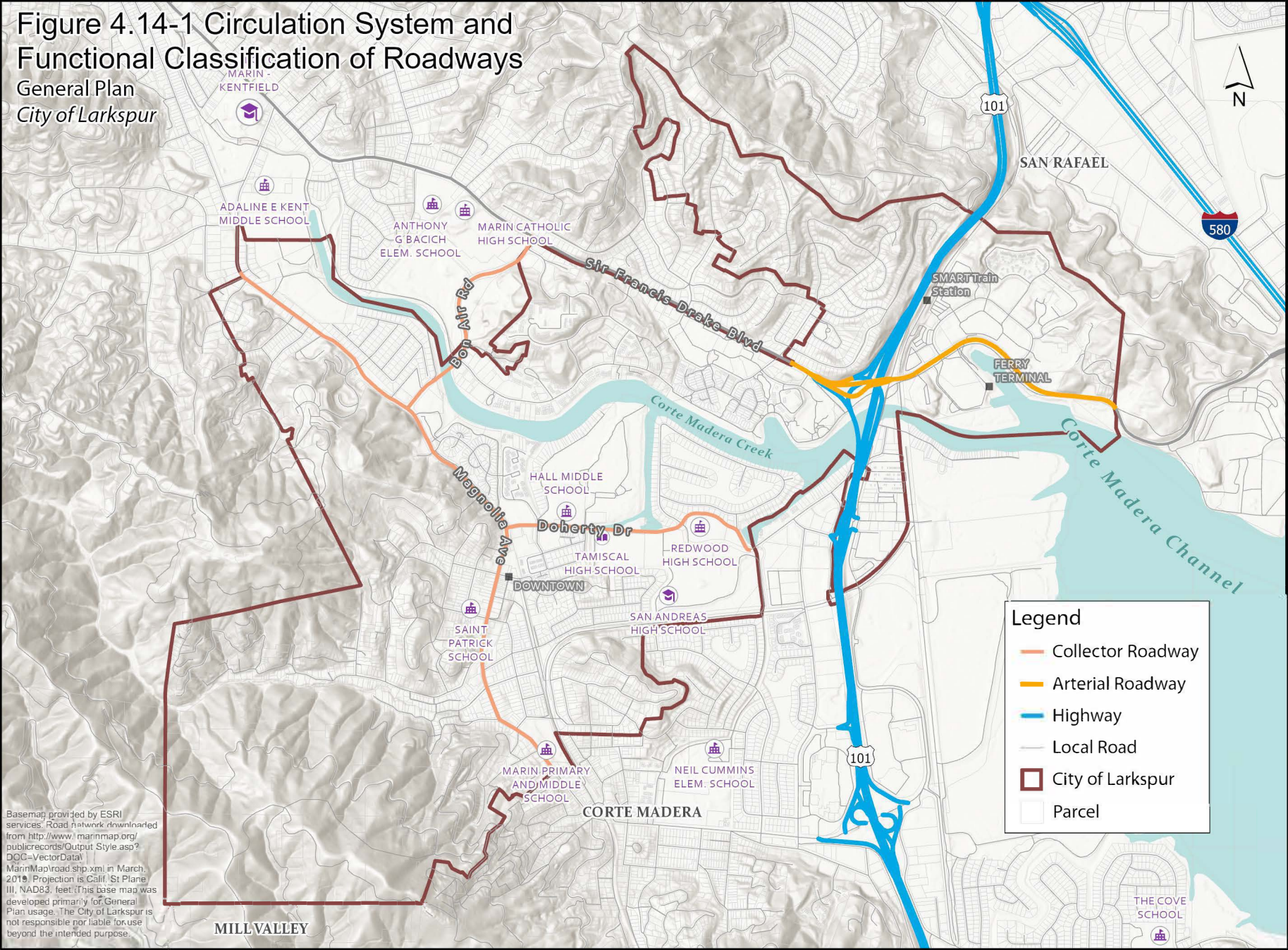
Caltrans is also adding ramp metering along northbound Highway 101 through Marin County, including Larkspur. When completed, the project will result in ramp metering at various on-ramps to northbound Highway 101 and the widening of northbound on-ramps to accommodate High Occupancy Vehicle (HOV) bypass lanes and increase storage capacity. The project should reduce traffic congestion and delay, improve safety, and provide more efficient commuter traffic.

Sir Francis Drake Boulevard is an east-west arterial roadway that runs through Marin County, connecting the rural communities in the west to U.S. 101 and Interstate 580 in the east. Within the City of Larkspur, Sir Francis Drake Boulevard has four through travel lanes separated by a raised median. Left-turn storage lanes are provided at most of the intersections to accommodate the left-turn movements. Access to U.S. 101 is provided at

Figure 4.14-1 Circulation System and Functional Classification of Roadways

General Plan

City of Larkspur



Basemap provided by ESRI services. Road network downloaded from http://www.marinmap.org/publicrecords/Output Style.asp?DQC=VectorData\MarinMap\road.shp.xml in March, 2019. Projection is Calif. St Plane III, NAD83, feet. This base map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

an interchange in the City of Larkspur. The Larkspur Ferry Terminal is located on Sir Francis Drake Boulevard east of U.S. 101 and is a major generator of commuter traffic during peak periods. East of U.S. 101, the roadway is referred to as East Sir Francis Drake Boulevard. Numerous Marin Transit bus routes serve this corridor.

Three roadways within Larkspur are designated as collector roadways: Bon Air Road, Doherty Drive, and Magnolia Avenue.

Bon Air Road is a minor arterial carrying traffic from Magnolia Avenue in Larkspur to Sir Francis Drake Boulevard in Kentfield. It begins at Magnolia Avenue as a two-lane divided roadway. Just north of Marin General Hospital, it becomes a four-lane divided road. It provides access to Marin General Hospital, the residential neighborhoods on Bon Air Hill, and Hal C. Brown Park at Creekside.

Doherty Drive is a collector roadway that provides local access to downtown Larkspur, community facilities (e.g., Henry C. Hall Middle School, Piper Park, the Central Marin Police Authority headquarters, and Redwood High School), and several residential neighborhoods. It also serves as a through-facility between Larkspur and southbound Highway 101. The eastern portion passes through the Town of Corte Madera via Lucky Drive, Fifer Avenue, and Nellen Avenue.

Magnolia Avenue is the City's primary north-south arterial. The roadway begins in the south at the City's limits with the Town of Corte Madera (at Branch Avenue) and terminates at the northern City limit at College Avenue in Kentfield. From Branch Avenue north to Doherty Drive, Magnolia Avenue is designated a collector street, while from Doherty Drive north to College Avenue, it is designated a minor arterial. North of the city, it becomes College Avenue (within Kentfield), extending to its intersection with Sir Francis Drake Boulevard. Magnolia Avenue traverses Larkspur's Old Downtown. At 2.2 miles, Magnolia Avenue is Larkspur's longest street.

All of the local streets throughout Larkspur generally consist of two through travel lanes and provide access to the arterial and collector roadways described above.

Redwood Highway parallels Highway 101 to the east and serves as a Highway access route to and from Highway 101 for central Larkspur. It also provides access to commercial and industrial businesses, three mobile home parks, and the Greenbrae Boardwalk (outside of Larkspur's Planning Area).

Existing Traffic Volumes

Weekday traffic intersection volumes were counted in May 2018 at 24 intersections in the Planning Area. These existing traffic volumes are described in Appendix D, Transportation Background Data. Though no longer pertinent to CEQA Transportation assessments, Appendix D describes the existing and future LOS for these intersections.

Vehicle Miles Traveled

Vehicle Miles Traveled (VMT) is a measure of traffic flow, determined by multiplying the number of automobile trips within a given geography by their average trip length. Unlike level of service, which is a measure of automobile delay, VMT is a measure of automobile travel and the resulting emissions. The use of VMT as a performance measure allows for the evaluation of traffic impacts associated with greenhouse gas (GHG) emissions. VMT can be measured as a total or on a per-capita basis and can be used to estimate fuel consumption by motor vehicles for distances traveled. An increase in VMT for gasoline-powered vehicles would result in an increase in the GHG emissions from vehicles making these trips.

For the purposes of this EIR, VMT is estimated for a typical weekday. The efficacy of this measure is a result of several factors: VMT is measured by counting vehicles on roadways at different locations. It is one of the few measures of transportation performance that has been consistently and comprehensively monitored and documented over time, primarily for the purpose of estimating air quality and GHG emissions.

VMT bears a direct relationship to vehicle emissions, although this relationship is becoming more complex as vehicular technologies evolve. State and federal policies pertaining to vehicle efficiency and formulation of vehicle fuels suggest that on a per capita basis, emissions for most pollutants and GHG emissions will decline relative to today. However, even with emission reductions due to fuel andvehicle technology changes, future reductions in VMT per capita will result in lower air pollutant and GHG emissions.

VMT can be influenced by policy in a number of different ways. Land use projects that are close to high quality transit service, are located in highly walkable or bikeable areas, have higher densities, includea mix of project uses, support a better citywide jobs-housing balance (i.e., provide housing in a job rich area, or vice versa), and/or are close the core of the city (shorter trip distances to services) would generate less VMT than projects that do not have these characteristics.

Rail Service

Sonoma-Marin Area Rail Transit (SMART) provides passenger rail service in Marin and Sonoma counties. SMART's current 45 miles of rail corridor includes 12 stations, from the Larkspur Landing area to the Sonoma County Airport. Extensions to Windsor, Healdsburg, and Cloverdale are planned. Each two-car SMART train has spaces for up to 24 bikes. SMART stations also have bike storage including bike racks and secured bike lockers. SMART also provides rail transit service that is accessible to passengers with disabilities. SMART served about 455,240 passengers from January 1, 2019 to September 30, 2019.[87]

[87] Updated NTB Letter viewed at: https://www.sonomamarintrain.org/RidershipReports

According to SMART Ridership Counts, weekday ridership averaged 1,200-1,600 passengers per day compared to 2,100-2,600 weekday passenger in 2019 before the pandemic.

Efforts to improve connections to SMART stations in Marin County have resulted in a program between TAM, Marin Transit and Uber that launched in 2020 in which Uber users have access to vouchers for up-to $5 off shared-ride trips to and from Sonoma Marin Area Rail Transit (SMART) stations in Marin County, major bus stops, and the Larkspur Ferry Terminal.

Regional Bus Service

The Golden Gate Bridge and Highway Transportation District (GGBHTD) directly operates two fixed-route transit services: Golden Gate Transit regional bus service and Golden Gate Ferry. Regional bus service began in 1972 and is provided on 26 fixed routes. These routes fall into three categories:

Golden Gate Transit provides daily service throughout the day and evening between San Francisco, Marin, Sonoma, and Contra Costa counties via two service levels:

- Commute routes provide weekday service primarily during morning and afternoon peak periods between San Francisco, Marin, and Sonoma Counties.
- Basic routes that stop at the Lucky Drive Bus Pad on U.S. 101 include Routes 30 (San Rafael to San Francisco) and 70 (Novato to San Francisco).

Local Bus Service

Marin Transit provides a total of 29 fixed routes, including nine local routes, six community shuttle routes, eleven supplemental school routes, two rural fixed routes, and one Muir Woods shuttle service within Marin County. Marin Transit also offers Connect; an on-demand service available within Larkspur. Marin Transit also operates Marin Access that provides rides on Marin Transit and Golden Gate Transit buses/shuttles for seniors and people with disabilities.

Local fixed transit routes that serve Larkspur include:

- Route 17 and Route 17X from the San Rafael Transit Center to Sausalito that traverses Larkspur Landing and the Lucky Bus Pad on Highway 101
- Route 22 from the San Rafael Transit Center to Marin City that traverses Magnolia Avenue.
- Route 29 from the Canal District and the San Rafael Transit Center to Marin Health that traverses Larkspur Landing, Sir Francis Drake Boulevard, Bon Air Road, and Magnolia Avenue north of Bon Air Road.
- Route 36 from the Canal District to Marin City stops at the Lucky Bus Pad on Highway 101.

- Route 71 from Novato to Marin City stops at the Lucky Bus Pad on Highway 101.
- Route 228 from the San Rafael Transit Center to Fairfax Manor traverses Larkspur Landing, Sir Francis Drake Boulevard, S. Eliseo, Bon Air Road, and North Magnolia Avenue.
- Route 613 is a supplemental bus route that runs from Paradise Cay to Redwood High School traverses Doherty Drive and Magnolia Avenue to Redwood High School.
- Route 619 is a supplemental bus route that runs from Tiburon to Redwood High School traverses Doherty Drive, Lucky Drive and Tamal Vista Boulevard to the high school.

Marin Transit also offers Connect2Transit service that is entirely on-demand, and it operates anywhere in the service area. The service area is anywhere within 2.5 miles of a SMART train station.

The Marin Airporter is a privately operated bus that offers service between Marin County and the San Francisco International Airport seven days a week, 365 days a year. There is scheduled bus service from six locations in Marin County. Within Larkspur the bus has a stop at the Larkspur Landing area on East Sir Francis Drive Boulevard.

Transit Centers

Golden Gate Transit's Larkspur Ferry Terminal is a heavily used passenger ferry terminal that provides commuter service between Larkspur and the San Francisco Ferry Terminal. Ferries currently operate on weekdays between 6:35 AM and 7:35 PM. This represents a reduced pandemic schedule. Ferry service is provided approximately every 30-40 minutes in the peak direction during the peak periods and approximately hourly for the remainder of the ferry service. Ferry service on weekends and holidays includes six southbound and five northbound trips between 8:10 AM and 8:45 PM. Average annual ridership in Larkspur was 2,470,204 in 2019 and 1,148,981 in fiscal year 2020. https://www.goldengate.org/ferry/history-research/statistics-ridership/

The Larkspur SMART Station, located at 600 Larkspur Landing Circle and adjacent to the Larkspur Ferry Terminal, is the southernmost station in the SMART system. Riders have access to Marin Transit buses with access to Golden Gate transit buses and the Larkspur Ferry at the nearby Ferry Terminal.

Mobility Services and Programs

According to the Shared-Use Mobility Center, shared mobility is defined as transportation services and resources that are shared among users, either concurrently or one after another. The services are grouped into five different shared mobility typologies:

- Bikesharing/Scooter-sharing
- Carsharing
- Ridesharing/Ridehailing
- Public Transit

- Microtransit (e.g., shared scooters)/Shuttle

Traditional ridesharing includes carpooling, vanpooling, and real-time matching of drivers and passengers through mobile apps in which the passenger pays a share of the trip cost. Ridehailing providers such as Uber and Lyft use online platforms to connect passengers with drivers who use personal, non-commercial, vehicles. UberPOOL and Lyft Line are ridesharing options that allow drivers to carry multiple passengers who split the cost of a trip. Taxis and limos are regulated for-hire vehicles. Numerous companies provide these services in Larkspur.

Safe Route to School (SR2S) Program

The Transportation Authority of Marin (TAM) administers a Safe Routes to School (SR2S) Program, which works to relieve traffic congestion around schools by promoting alternatives to single vehicle use commuting to school, such as walking, biking, public transit and carpooling. In addition, the program helps to improve the safety of the roadways around schools, promote a healthy lifestyle for youth, and enhance a sense of community in neighborhoods. It does this through the provision of classroom education and special events, and by funding infrastructure improvements, a crossing guard program, and other strategies.

To address the unique needs of each school district, a Task Force is formed to bring together staff, parent leaders, elected officials and staff from the local jurisdiction, traffic engineers, school district representatives, law enforcement personnel and neighborhood leaders.

The TAM SR2S program has been in operation since 2000 and involves 58 schools and more than 26,500 students in Marin County.

Transportation Demand Management

The Larkspur Municipal Code (LMC) Chapter 18.13 details the City's Trip Reduction Ordinance, including trip reduction and travel demand requirements. The trip reduction requirements are imposed upon employers within the City with more than 100 employees at an individual work site. The ordinance requires these employers to disseminate trip reduction information to encourage commutes via alternative modes of travel (e.g., carpools, vanpools, transit, bicycling, telecommuting, flexible work hours, etc.), conduct an annual employee trip survey to be submitted to the City, and designate an employee transportation coordinator to be responsible for administering the requirements of the Trip Reduction Ordinance. Should another agency (such as the BAAQMD) impose more stringent requirements on employers with the City, then any employer within the city that meets those requirements is deemed in compliance with this ordinance.

Transportation Safety

The 2018 Marin Travel Safety Plan was a collaborative effort between all 11 incorporated cities and towns in Marin County and unincorporated Marin County to conduct a systemic safety analysis for motorists, motorcyclists, bicyclists, and pedestrians on all non-state arterial and collector roadways within these jurisdictions. The project resulted in the development of a comprehensive collision database, a review and analysis of local collision data, identification of High Collision Networks for each jurisdiction, development of collision profiles, identification of safety countermeasures, and the prioritization of safety projects. The Plan was funded through a Systemic Safety Program grant provided by Caltrans.

As a result of the Plan, Marin County received $2.8 million in Highway Safety Improvement Program grant funds from Caltrans in its recent funding cycle to implement safety countermeasures identified in the plan at 51 signalized intersections in unincorporated Marin County and within 11 incorporated cities.

During the five-year period in which crashes were evaluated, 3.2 percent of all crashes in the county occurred in the City of Larkspur, less than the city's 4.7 percent share of the total county population. In the 2012-2016 safety evaluation period, a total of 89 total collisions were reported on Larkspur roadways, and 4 percent of which resulted in severe injury. Approximately 52 percent of all collisions within Larkspur involved pedestrians or bicyclists. Further, 43 percent of all collisions in Larkspur involved bicyclists, which is about 2.5 times higher than the countywide average. Additionally, over one-third of all collisions in Larkspur involved a senior citizen, which is about 60 percent higher than the countywide average.

Many of the collisions in Larkspur were the result of high speeds. Thirty-seven percent of all collisions involved unsafe speed violations, about 30 percent higher than the countywide average.

The Marin Travel Safety Plan identified safety countermeasures for five (5) corridors and four (4) intersections in the City of Larkspur with disproportionately high rates of collisions. The corridors include Magnolia Avenue from Doherty Drive to Madrone Avenue, Magnolia Avenue from Frances Avenue to Bon Air Road, Sir Francis Drake Boulevard from Larkspur Landing Circle (East) to Ahrens Lane, Doherty Drive from Magnolia Avenue to Lucky Drive, and South Eliseo Drive from Bon Air Road to Lower Via Casitas. High collision intersections identified in the Plan include Sir Francis Drake Boulevard/Larkspur Landing (West), Magnolia Avenue/William Avenue, Magnolia Avenue/Bon Air Road, and Doherty Drive/Riviera Circle.

2. Regulatory Framework

State Regulations

California Department of Transportation (Caltrans)

Caltrans is charged with managing and maintaining the State's highway system. Caltrans directly manages more than 50,000 lane miles of State and federal highways, as well as over 12,000 highway bridges; permits more than 400 public-use airports; and operates three of the top five Amtrak intercity rail services.[88] Caltrans' 2020-2024 Strategic Management Plan defines six primary goals: Safety First; Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency; Lead Climate Action, Advance Equity and Livability in All Communities. Within the Larkspur Planning Area, Caltrans maintains Highway 101.

Caltrans Deputy Directive 64-R1: Complete Streets – Integrating the Transportation System

In 2001, Caltrans adopted Deputy Directive 64: a policy directive related to non-motorized travel throughout the state. In October 2008, Deputy Directive 64 was strengthened to reflect changing priorities and challenges. Deputy Directive 64-R1 states:

"The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility across California."

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."

This directive was strengthened and emphasized in December 2021 with the adoption of a policy for all new transportation projects that Caltrans funds or oversees to include "complete street" features that provide safe and accessible options for people walking, biking and taking transit. The policy is expected to expand the availability of sustainable transportation options to help meet the State's climate, health and equity goals.

As part of this new policy, Caltrans has committed to removing administrative barriers and partner with communities and local agencies to ensure that more projects on State and local transportation systems improve the connectivity to pedestrian, bicycle and transit

[88] California Department of Transportation (Caltrans). Website: https://dot.ca.gov/about-caltrans

facilities, and accessibility to destinations. Further, if not appropriate to the context or community of the project, local agencies must receive approval from Caltrans before complete street features are excluded from projects.

Caltrans Director's Policy 22: Director's Policy on Context Sensitive Solutions

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

"The Department uses "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.

The context of all projects and activities is a key factor in reaching decisions. Context is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed."

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

Complete Streets Act (AB 1358)

On September 30, 2008, Governor Schwarzenegger signed into law Assembly Bill (AB) 1358, the California Complete Streets Act of 2008. As of January 2011, AB 1358 requires any substantive revision of the circulation element of a city or county's general plan to identify how it will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists.

Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law, which changes the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Governor's Office of Planning and Research to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts.

Particularly within areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Public Resources Code § 21099(b)(1)).

The Office of Planning and Research identified Vehicle Miles Traveled (VMT) per capita, VMT per employee, and net VMT as the new metric to analyze transportation related impacts. In December 2018 OPR released a revised Technical Advisory, which provides advice and recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures. Although originally scheduled to be fully implemented in guidelines by January 1, 2016, an extension has allowed cities more time to establish an analysis methodology. Under the latest guidelines, all cities and jurisdictions in California were supposed to adopt new VMT guidelines by July 1, 2020.

In addition, SB 743 adds Public Resources Code Section 21099, which provides that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." A transit priority area is defined as an area within 0.5 miles of an existing or planned major transit stop. Public Resources Code Section 21064.3 defines a major transit stop as a "site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon commute periods."

Regional

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including Marin County. It also functions as the federally mandated Metropolitan Planning Organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

California State Bill (SB) 375 was adopted as the means for achieving regional transportation-related GHG targets. Among the requirements of SB 375 is the creation of a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the RTP must be consistent with one other, including action items and financing decisions. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission. The current RTP for the Bay Area, developed by the MTC, *Plan Bay Area 2050,* is described in a subsequent subsection.

The MTC has established its policy on Complete Streets in the Bay Area. The policy states that projects funded all, or in part, with regional funds (e.g., federal, State Transportation

Improvement Program, and bridge tolls) must consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64. These recommendations do not replace locally adopted policies regarding transportation planning, design, and construction. Instead, these recommendations facilitate the accommodation of pedestrians, including wheelchair users, and bicyclists into all projects where bicycle and pedestrian travel is consistent with current adopted regional and local plans.

Transportation Authority of Marin

The MTC requires the local transportation authority, in this case TAM, to establish transportation plans that are incorporated into the larger RTP. In Marin County, the TAM is also the Congestion Management Agency tasked with preparing a comprehensive transportation improvement program among local jurisdictions that describes the strategies to reduce traffic congestion and improve land use decision-making.

Plan Bay Area 2050

As discussed in Chapter 4, Environmental Analysis, of this Draft EIR, *Plan Bay Area 2050* is the Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS), as mandated by the Sustainable Communities and Climate Protection Act (Senate Bill 375). *Plan Bay Area 2050* lays out a development scenario for the nine-county Bay Area that works to align transportation and land use planning in order to reduce VMT through modified land use patterns. *Plan Bay Area 2050* projects growth and development patterns through 2050.

As described in Chapter 4, Environmental Analysis, part of the implementing framework for Plan Bay Area identifies Priority Development Areas (PDAs), Transit Rich Areas (TRAs), and High Resource Areas (HRAs) to focus growth. PDAs are areas along transportation corridors which 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 one-half mile around a major transit stop such as a transit center or rail line. The Planning Area has TPAs and three roadway corridors that are HRAs. General Plan 2040 is anticipating that these areas will absorb most of the City's future growth.

Bay Area Clean Air Plan

As described in Chapter 4.2, Air Quality, of this Draft EIR, the Bay Area Air Quality Management District (BAAQMD) adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate (Clean Air Plan) on April 19, 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 also includes a vision for the Bay Area in a post-carbon year 2050.

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 emissions of ozone, particulate matter, toxic air contaminants, and GHG from a full range of emission sources. These control measures cover eight sectors that contribute to GHG emissions, including transportation. The control strategy includes the following relevant priorities related to the transportation sector:

- 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.
- Electrify the transportation and building sectors.

Local

Larkspur General Plan 1990-2010

The goals, policies, and programs that are relevant to transportation are primarily in the Circulation Chapter of the Larkspur General Plan 1990-2010. These goals, policies and programs have been updated as part of the new General Plan with a horizon year of 2040 to reflect changes in transportation modes and patterns and changes in laws and regulations relevant to transportation.

Larkspur Municipal Code

The Larkspur Municipal Code (LMC) includes various directives pertaining to transportation. Most provisions related to transportation impacts are in Title 18, Zoning. The more pertinent directives are in the following chapters.

- Chapter 18.13, Trip Reduction and Travel Demand Requirements. Requires the City to implement its trip reduction and travel demand ordinance.
- Chapter 18.14, Circulation Assessment Permit. Requires a permit as a prerequisite of any building project to assess traffic impacts of new development and establishes mitigations for impacts to the circulation system.
- Chapter 18.15, Traffic Impact Fee. Establishes the regulations for imposing a Traffic Impact Fee on new development, which would secure some of the revenues necessary to fund the construction and implementation of improvements to the City-wide transportation system sufficient to accommodate the traffic volumes generated by new development.
- Chapter 11.04, Encroachments in the Public Right-of-Way. Requires any persons encroaching in the public right-of-way that involves temporary closures for construction or other purposes to obtain a permit that describes how traffic will be safely managed during the closure.

Larkspur Bicycle and Pedestrian Master Plan

The City owns or maintains over 10 miles of bikeways and multi-use paths that convey non-motorized traffic within the City and connect to neighboring communities. The City's 2017 Bicycle and Pedestrian Master Plan[89] (BPMP) contains detailed information about existing bicycle and pedestrian facilities in the City and proposes needed improvements and additions to the system; This plan is adopted as part of this Larkspur General Plan 2040. It must be revised every five years. Accordingly, it will be revised approximately one to two years after this General Plan Update is adopted. Many improvements identified in the Bicycle and Pedestrian Master Plan have been completed or will be completed during the lifetime of this General Plan. Refer to the most recent BPMP for additional background information on the classifications of bikeways, the existing bikeway and pedestrian system, and proposed bikeway and pedestrian improvements.

Unlike motorized travel, system capacity is rarely a problem for bicyclists and pedestrians. Rather, constraints are frequently posed by inadequate or missing links in the existing multi-use paths, bikeways, and trails system, missing or unclear signage, and inconsistent design standards.

Safety is the first and major consideration when planning for pedestrian and bicyclist circulation. Bicyclists should be safe and feel comfortable traveling on the same roads as cars. Similarly, where there are no sidewalks, pedestrians should be safe sharing the road with cars and bicycles. When conditions are not favorable to smooth circulation of bicycle and pedestrian traffic, a "constraint" is said to exist. The Bicycle and Pedestrian Master Plan identifies the constraints to bicycle and pedestrian traffic that exist in Larkspur and prioritizes projects to eliminate or mitigate those constraints.

The 2017 BPMP identifies the constraints to bicycle and pedestrian traffic that exist in Larkspur and prioritizes projects to eliminate or mitigate those constraints. The BPMP states that Improving the bicycle-transit link is an important part of making bicycling a part of daily life in Larkspur. Linking bicycles with public transportation (bus and ferry) overcomes such barriers as lengthy trips, personal security concerns, and riding at night, in poor weather, or up hills. Additionally, bicycling to transit instead of driving benefits communities by reducing air pollution, demand for park and ride land, energy consumption, and traffic congestion with relatively low-cost investments.

[89] The Bicycle and Pedestrian Master Plan is incorporated into the General Plan by reference only. It retains its legal standing as a separately adopted document.

Larkspur Climate Action Plan 2030

As discussed in Chapter 4.7, Greenhouse Gas Emissions, of this Draft EIR, the current Larkspur Climate Change Action Plan 2030 focuses on mitigation measures aiming to reduce GHG emissions and establishes targets similar to the State's GHG emission goals, to reduce emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. Actions provided in the 2019 CCAP to meet the City's reduction targets involve initiatives focused on zero emission vehicles and equipment, amongst others.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant transportation-related impacts if it would:

1. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
2. Conflict with program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.
5. Result in a cumulatively considerable impact to citywide VMT.

Vehicle Miles Traveled (VMT) Methodology & Significance Threshold

CEQA Guidelines Section 15064.3, subdivision (b) requires an evaluation of a project's transportation impacts based on Vehicle Miles Traveled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project. State CEQA Guidelines Section 15064.3 was added to address the requirements of SB 743 and is intended to change the focus of transportation analysis from congestion to reduction in greenhouse gas emissions, encouraging mixed use development, and other factors.

VMT Methodology

CEQA gives the lead agency discretion in selecting an appropriate methodology and significance threshold for VMT impacts. A lead agency may conduct either a qualitative or quantitative analysis of VMT impacts. CEQA Guidelines and further guidance set by the Governor's Office of Planning and Research (OPR) recommend that, if possible, lead agencies should conduct a quantitative analysis based on transportation models. However, where existing models or methods are not available, the lead agency may instead prepare a qualitative analysis.

Guidance from the OPR states that using a travel forecasting model is the preferred method to conduct VMT analysis because a travel model would account for both 'project-generated VMT' and the 'project effect on VMT', which would include the effect of the project on operating speeds that would further influence VMT. Several forecasting models exist to assess travel behavior in Marin County and are described below.

The Transportation Authority of Marin Demand Model (TAMDM) is a tour-based assessment of travel behavior that produces VMT estimates for cities through Marin County, including Larkspur. A tour-based assessment counts the entire home-back-to-home tour that includes the project and is a more complete characterization of a project's effect on VMT than a trip-based assessment, which counts VMT from individual trips to and from the project. This is because in many cases, a project affects travel behavior beyond the first destination.

While both Caltrans and the Metropolitan Transportation Commission (MTC) have also produced forecasting models to estimate VMT for the region, these regional models may not contain a level of accuracy and sensitivity for local area applications and should include a sub-area validation process to calibrate and validate the model within the study area. This process was conducted for Marin County as part of the TAMDM development process. Further, the TAMDM was developed to be consistent with the MTC regional travel model while providing additional detail, estimation, calibration and validation within Marin County.

VMT Significance Threshold

In support of CEQA Guidelines Section 15064.3, OPR issued a Technical Advisory on Evaluating Transportation Impacts in CEQA[90]. The Technical Advisory notes by way of background that there are three primary ways of reducing GHG emissions for the transportation sector: increasing vehicle efficiency, reducing fuel carbon content, and reducing the amount of vehicle travel. Local jurisdictions are not able to influence or control the first two methods, but through careful land use planning local governments can influence reductions in vehicle travel. The Technical Advisory highlights the relationship between reduction of VMT and reduction of GHG emissions, which is a key component of SB 743. The Technical Advisory contains recommended procedures and methods for evaluating transportation impacts for residential, office, and retail projects. For residential projects, the Technical Advisory recommends a CEQA significance threshold of 15 percent below that of existing development as a potential indication of a significant impact. According to OPR guidance, "existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita. Proposed development referencing a threshold based on city VMT per capita (rather than regional VMT per capita) should not

[90] Technical Advisory on Evaluating Transportation Impacts in CEQA, State of California Governor's Office of Planning and Research, December 2018.

cumulatively exceed the number of units specified in the Sustainable Community Strategy (SCS) for that city and should be consistent with the SCS."[91] *Plan Bay Area 2050* represents the SCS for the Bay Area.

Another approach is for the lead agency to develop its own jurisdiction-specific VMT thresholds. Larkspur has not set significance thresholds for acceptable versus unacceptable levels of VMT for CEQA analysis.

The significance threshold defines what constitutes an acceptable level of VMT and what requires mitigation measures to reduce VMT. Thresholds should be consistent with key transportation planning documents such as *Plan Bay Area 2050*, which contains regional and local projections of VMT growth associated with expected changes in population, employment, and the regional transportation network. Additional VMT reduction may be achieved at the project level through transportation demand management (TDM) strategies and active transportation network expansion that are not fully accounted for in regional level travel forecasting models.

Larkspur General Plan VMT Analysis

CEQA Guidelines Section 15064.3, subdivision (b), gives the local agency discretion to select the most appropriate methodology and significance thresholds for evaluating VMT. At this time, no models exist to accurately quantify VMT for land use plans in Marin County, and no significance thresholds have been formally adopted for land use plans. Therefore, and as explained below, the City has developed a methodology to estimate operational VMT, based on substantial evidence and professional judgment. The following analysis that addresses the VMT impacts of General Plan Buildout conditions is based on the recommendation by the OPR that a per capita VMT that is fifteen percent below that of existing development may be a reasonable threshold. [92] The fifteen percent reduction is consistent with the intent of SB 743, which is to select a threshold that will help California achieve its climate goals.

Additionally, and as described above, the best available transportation model for the Planning Area is the Transportation Authority of Marin Demand Model (TAMDM), which has been developed by the Transportation Authority of Marin (TAM) and is a tour-based assessment of travel behavior that produces VMT estimates for cities throughout Marin County, including Larkspur.

The TAMDM assesses VMT impacts using a location-based VMT approach recommended by OPR. This model draws on a number of geographic data to identify per capita VMT

[91] Technical Advisory on Evaluating Transportation Impacts in CEQA, State of California Governor's Office of Planning and Research, December 2018, page 15.
[92] Technical Advisory on Evaluating Transportation Impacts in CEQA, State of California Governor's Office of Planning and Research, December 2018, page 10.

within each Transportation Analysis Zone (TAZ) in Marin County for residents as well as employees. Therefore, for CEQA analysis purposes, a project's transportation impact will be analyzed (CEQA Guidelines Section 15064.3, subdivision (b). as a function of the existing and cumulative VMT of the TAZ(s) where the project is located.

Level of Service Assessment

As described previously, CEQA no longer considers traffic congestion per se to be an impact on the environment and therefore no longer requires an assessment of project impacts on traffic congestion. Accordingly, calculation of project impacts on the Level of Service of a roadway or intersection is not required for a CEQA study. However, if a jurisdiction chooses, it can provide information about effects on LOS as part of the CEQA study. The City elected to provide this information in this EIR. The projections describing existing and future LOS at 24 study intersections in the city are provided in the traffic data contained in Appendix D.

Impact TRAN-1 Implementation of the proposed project could generate an increase in Vehicle Miles Traveled that may have a significant impact on the environment and conflict with CEQA Guidelines Section 15064.3, subdivision (b).

To provide a quantitative VMT evaluation, the TAMDM was used to estimate the VMT generated by land uses under existing conditions, calibrated to observed data for 2015. This analysis is based on a per capita VMT that captures all vehicle trips taken by all people who live in Larkspur. The TAMDM, however, was not designed to quantify VMT from land use plans and it cannot accurately estimate the operational VMT that will be generated by the General Plan Buildout. Therefore, and as authorized by the Guidelines, adjustments have been made to the model outputs to project VMT as part of General Plan Buildout conditions based on professional judgment of the traffic engineers who prepared the transportation impact assessment and substantial evidence to estimate VMT under future conditions. VMT estimates for each of Larkspur's Transportation Analysis Zones (TAZ) were updated for the 2040 with General Plan Buildout Conditions scenario from the TAMDM baseline (2015) and horizon year (2040) scenarios to reflect the residential densities and mixed land uses within Larkspur's TAZs, adjacency of new residential units proposed as part of the General Plan to high-quality transit, as well as the quality of active transportation facilities. These factors that affect vehicle travel are important in meeting the state's goals to achieve reductions in VMT.

Because General Plan Buildout is expected to result only in a change in residential land uses, VMT analysis was conducted per capita for home-based trips. In this form, the VMT per capita represents the VMT generated by household residents only for trips with one trip end at the household.

Consistent with OPR guidance, the analysis compares the VMT per capita projections for the 2040 with General Plan Buildout Conditions scenario to the existing VMT per capita

estimate for the City of Larkspur. This comparison of VMT per capita for the General Plan Buildout scenario to existing VMT for Larkspur will demonstrate the impacts on VMT for the city of the proposed locations of new residential units envisioned as part of the General Plan.

Table 14.4-1 provides a comparison of the change in VMT per capita for the City between the baseline year (2015) and horizon year (2040) No Project (that is the TAM Demand Model projection of population and VMT growth without the growth projected for the proposed project) and General Plan Buildout conditions. For comparative purposes, Table 4.14-1 also provides the existing (2015) VMT for Marin County as estimated by the TAMDM, with the final column reporting the percentage reduction in VMT per capita for the 2040 General Plan Buildout condition versus the existing (2015) VMT per capita for Marin County.

VMT forecasts associated with Existing and the 2040 horizon year (No Project) scenarios were produced using the TAMDM. For this CEQA analysis, the base year is 2015, consistent with the data provided in this model. The 2040 No Project scenario was forecasted using modifications to the TAM model's 2015 roadway network, transit network, and land use inputs. Residential and non-residential land use growth projections were reviewed by local jurisdiction staff during the development of the TAMDM that provided a range of household and total job forecasts in Marin County. VMT estimates for the horizon year were then developed based on forecasts of traffic volume increases, vehicle origin-destination information, and transit boarding, among other inputs.

The VMT forecasts for the proposed 2040 General Plan Buildout scenario have been extracted from the latest version of the TAMDM with planned General Plan residential land use growth. The analysis uses 2015 and 2040 (No Project) data from the TAMDM as a basis for the 2040 with General Plan Buildout Conditions scenario to reflect projected land use changes and transportation improvements throughout Marin County. As described above, adjustments were made to 2040 VMT per capita estimates from the TAMDM to reflect the expected change in VMT based on the proposed location of the proposed 2040 residential units. For this analysis, updates to the number of residential units per TAZ in 2040 were made to the TAMDM 2015 data to reflect General Plan Buildout conditions. Additional population per TAZ was estimated based on the new housing unit types and existing resident per unit rates. Changes in VMT per capita per TAZ were then projected from 2015 data given knowledge of public transit networks, internal capture, public transit, resident commuting by active transportation, and other qualitative and quantitative factors that would influence VMT.

As an example of factors that influence VMT, OPR guidance suggests that lead agencies presume that residential, retail, and office projects that are proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT. OPR defines a major transit stop as a site containing an existing rail transit station, a ferry terminal served by either bus or rail

transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning or evening commute periods. Further, a high-quality transit corridor is defined as a corridor with fixed route bus service with intervals no longer than 15 minutes during peak commute hours. VMT estimates associated with the 2040 with General Plan Buildout Conditions scenario reflects the General Plan assumptions that over 40 percent of new residential units will be developed in TAZ 3, which is located within ½ mile of the Larkspur Ferry Terminal and SMART rail station.

The total Larkspur VMT per capita is forecast to decline from the 2015 baseline to 2040 No Project scenario, from 15.63 to 13.60, as projected by the TAMDM. These 2040 estimates reflect the tour-based approach of the TAMDM, and as recommended by OPR, that includes assumptions about future land uses, demographic information, journey to work patterns, and transportation improvements projected for Marin County, including Larkspur.

Larkspur VMT per capita is forecasted to decline to 13.26 under the General Plan 2040 Buildout Conditions scenario. This represents a VMT per capita reduction of 15.1 percent over existing VMT per capita for Larkspur, exceeding the significance threshold of 15 percent below that of existing development. This per capita reduction in VMT is due, in part, to the high percentage of new development projected to occur in Transit Priority Areas and High-Resource Areas that have access to various mass transit travel alternatives, in addition to proximity of residential land uses to job as well as retail/commercial sites within Larkspur and the region.

General Plan 2040 Policies

The TAMDM, however, is not designed to quantify VMT generated by a land use plan. This is because the modeling outputs only account for the built environment variables to which the model is sensitive, including, for example, the numbers and proximity of housing units to commercial and employment land uses. It is not sensitive to policies and programs, including TDM measures that would reduce VMT.

In addition to the forecasted VMT reduction measures that are factors in the TAMDM, the proposed General Plan 2040 includes goals, policies and programs that are also expected to further reduce VMT.

Table 4.14-1: Daily Vehicle Miles Traveled (VMT) for City of Larkspur

Scenario	Population	VMT	VMT Per Capita	% Change Versus Baseline (Larkspur)
Larkspur (2015)	12,400	193,775	15.63	N/A
Larkspur2040 No Project[93]	13,604	185,010	13.60	N/A
Larkspur2040 General Plan	15,154	201,130	13.26	-15.1%
Regional Baseline - Marin County (2015)	259,376	4,091,984	15.78	-15.9%

Sources: Transportation Authority of Marin (TAM) Demand Model (https://www.arcgis.com/home/item.html?id=38418dfdfb80466d80d1a24dd6a93989), November 2021; 2015 & 2040 TAMDM Marin County VMT Estimates, Fehr & Peers, November 2, 2020.

In particular, the Circulation Chapter of the General Plan proposes a number of goals, policies and programs that would directly and indirectly result in the reduction of VMT by incentivizing alternate modes of transportation, creating safe environments for pedestrians and bicyclists, reducing the length of trips, and focusing on urban design that makes walking, bicycling and public transit more viable for short trips. A summary of some of these goals, policies and programs follows.

Goal CIR-1: A multi-modal transportation system that is safe, efficient and incorporates the needs of all circulation system users

Policy CIR-1.1: Develop a coordinated system of roadways, bikeways, multi-use paths, public transit, and TDM programs. Provide 'Complete Streets' that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel

[93] This scenario is the current TAM modeling for 2040 that used the population projections included in *Plan Bay Area 2040* and ABAG's 2015-2023 RHNA.

as part of daily activities, reduce pollution, and meet the needs of all users of the streets for safe and convenient travel, consistent with the other goals, objectives, and policies of this plan and the City's Complete Streets Policy (Resolution No. 6/13). Street users include pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, emergency vehicles and personnel, seniors, children, youth, and families.

Action Program CIR-1.1b: Implement and update, as needed, the City's Bicycle and Pedestrian Master Plan. Roadways, bikeways, and multi-use paths shall be designed, planned, constructed, maintained, improved, and operated to accommodate and encourage travel by pedestrians and bicyclists.

Action Program CIR-1.1c: Consider all circulation system users when installing traffic control devices.

Goal CIR-3: Reduced impact of traffic congestion on Larkspur's quality of life

Policy CIR-3.1: Consistent with the Complete Streets policy, create a street and roadway system that provides safe access to all users between activity centers within the Planning Area and to destinations across the region, including places of employment, shopping, recreation, and residences. As such, the City shall strive to balance the needs for congestion relief, personal travel, goods movement, parking, social activities, business activities, and revenue generation, when planning, operating, maintaining, and expanding the roadway network.

Action Program CIR-3.1a: Implement the roadway improvements described and regularly updated in the City's five-year Capital Improvement Program and pedestrian and bicycle improvements described in the City's latest Bicycle and Pedestrian Master Plan.

Policy CIR-3.3: Development of high intensity uses such as commerce, professional offices, public services, and multi-family residential should be located in near proximity to transit routes and transportation facilities.

Action Program CIR-3.3a: In reviewing new development and redevelopment proposals, the City will weigh the benefits of new commercial development that addresses local resident's shopping and employment needs and multi-family housing that meets the City's needs to provide adequate housing in the City against possible impacts on intersection congestion.

Goal CIR-4: Mitigation of traffic and parking impacts of new development and major redevelopment projects

Policy CIR-4.1: Develop a policy to define significance thresholds to achieve a minimum percentage reduction in Vehicle Miles Traveled (VMT) for new development and/or redevelopment projects.

Action Program CIR-4.2a: Update the zoning ordinance to identify appropriate trip generation significance thresholds for new development and redevelopment projects and require such projects to contribute to enhancement of pedestrian and bicycle facilities, regional transit services, and/or implement TDM programs to off-set the impact of projected trip generation.

Policy CIR-4.5: Establish parking requirements for vehicles and bicycles and for parking programs that enhance local economic vitality and manage parking demand and capacity and avoid, where possible, impacts on surrounding residential neighborhoods.

Action Program CIR-4.5.a: Particularly in areas served by nearby transit and alternative transportation facilities, study appropriate parking management strategies (e.g. shared or reciprocal parking, "unbundled" parking in commercial and multi-family residential projects, maximum parking requirements, on-site car sharing …etc.) to ensure adequate parking for customers, patrons, or employees during peak demand periods and community activities and events and to prevent "spillover" parking into adjacent residential areas adjacent to commercial areas.

Action Program CIR-4.5.e: Per the City of Larkspur Bicycle and Pedestrian Master Plan, ensure provision of secure bicycle parking downtown and near popular citywide destinations, including public facilities, schools, commercial and business centers, transit stops, and recreational areas.

Action Program CIR-4.5.f: Require new multi-family, mixed-use, and commercial redevelopment projects to include secure bicycle parking and facilities.

Action Program CIR-4.5.h: Continue to work with public and private schools within Larkspur to identify incentives to reduce student driving and encourage carpooling (thereby reducing emissions, parking demand, and traffic congestion at pick-up and drop-off).

Policy CIR-4.6: Strive to reduce the amount of land and infrastructure devoted to parking through such measures as development of consolidated parking facilities, the application of shared parking for mixed-use developments, car share programs, alternative investment in bike and pedestrian facilities, and the implementation of Transportation Demand Management programs to reduce parking demand.

Goal CIR-6: Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles travelled, and transportation-related sources of air pollution and energy consumption.

Policy CIR-6.1: Maintain and update the City's Bicycle & Pedestrian Master Plan to encourage bicycling and walking to reduce the Vehicle Miles Travelled in the City of Larkspur, while ensuring the City's ability to accommodate changing demand for bicycle and pedestrian facilities and plan for increasing volumes of pedestrians, bicyclists and other pathway users.

Action Program CIR-6.1.a: Maintain and update the City's Bicycle & Pedestrian Master Plan at least every five (5) years to identify Recommended Active Transportation Facilities and Recommended Active Transportation Policies and Programs address the following goals:

- Develop a more pedestrian- and bicycle-friendly community.
- Provide a safe walking and bicycling environment along city streets and pathways, employing best practices in design to minimize conflicts between user groups.
- Expand safe routes to school
- Identify and close regional and multi-jurisdictional gaps in pedestrian and bicycle connectivity.
- Improve access to transit.

Action Program CIR-6.1.b: Require new development, including City-owned parks and recreation areas, schools, public buildings, and private development, to provide safe and convenient bicycle parking and pedestrian and bicycle access consistent with the Bicycle & Pedestrian Master Plan.

Action Program CIR-6.1.e: Implement the Bicycle and Pedestrian Master Plan, and regularly update the Plan to accurately reflect completed and planned projects and maintain eligibility from funding sources.

Policy CIR-6.4: Encourage increased transit service and ridership, and other innovative programs and alternative transportation solutions to reduce single-occupancy vehicle use.

Action Program CIR-6.4.a: Collaborate with TAM and/or County of Marin to study and implement TDM incentive programs as a means for employers to participate in reducing automobile traffic by providing information on available transit services, sample employee incentive programs including shared-ride programs, transit passes, and bike-to-work programs, and maps of nearby pedestrian and bicycle routes.

Action Program 6.4.b: Consistent with Policy CIR-3.2, require developers of projects that generate traffic above what is considered an acceptable LOS to implement and/or fund transportation improvements and/or TDM programs to reduce vehicle use.

Action Program CIR-6.4.d: Cooperate with Golden Gate Transit, Marin Transit, and private transit providers to consider the transit needs of all residents, workers, students and visitors, including seniors, low-income, disabled, and transit-dependent persons in making decisions regarding transit services.

Policy CIR-6.11: Encourage neighborhood and local consumer services that can be reached safely and conveniently by pedestrians and bicyclists.

Action Program CIR-6.11.b: Review and update the zoning ordinance to encourage a mix of local resident-serving uses (food stores, groceries, personal services …etc.) over destination retail, in all commercial areas, utilizing shared parking models and/or a unified parking standard for those uses.

Goal CIR-7: Safe and convenient connections between Larkspur, neighboring communities, and the region for all modes of transportation.

Policy CIR-7.1: As improvement programs are developed for freeway interchange redesign, take advantage of the improvements to provide links between parts of Larkspur.

Action Program CIR-7.1.a: Support the completion of the Central Marin Ferry Connection Project to provide safe, accessible, and convenient access for pedestrians and bicyclists over Corte Madera Creek.

Policy CIR-7.2: Develop and maintain paths, trails, and on-street bicycle lanes and routes between Larkspur neighborhoods and linking Larkspur to neighboring communities and open space areas in Marin County.

Action Program CIR-7.2.a: Continue to maintain and regularly update the BPMP to identify and implement important linkages with adjacent communities of Corte Madera, San Rafael, and the County of Marin.

Goal CIR-8: Enhancement of the Downtown and North Magnolia commercial areas as destinations, rather than corridors

Policy CIR-8.1: Do not make vehicular capacity improvements to Magnolia Avenue that would encourage additional through traffic.

Policy CIR-8.2: Provide adequate, safe, and convenient bicycle parking in the Downtown and North Magnolia areas.

Policy CIR-8.4: Invest in pedestrian and bicycle infrastructure on Magnolia Avenue per the direction of the Bicycle and Pedestrian Master Plan to encourage alternate forms of transportation along the corridor.

Goal CIR-9: Reduction in the number and severity of transportation related accidents

Policy CIR-9.2: Place higher priority on safety of all circulation system users as opposed to efficient vehicular traffic flow and speed.

Action Program CIR-9.2a: Install pedestrian safety related improvements such as stop signs, pedestrian cross walks, warning lights and others as warranted.

Policy CIR-9.3: Maintain and implement the Bicycle and Pedestrian Master Plan to provide pedestrians and bicyclists with safe facilities for circulation.

The City recognizes that VMT reductions may be achieved through the implementation of projects in the future and has included General Plan Policies CIR-4.1 and CIR-4.2 to address the analysis of future development and major redevelopment projects that would be anticipated as a result of the update to the City's General Plan. Specifically, Policy CIR-4.1 directs the City to develop significance thresholds for VMT that would apply to future development and redevelopment projects in the city. Policy CIR-4.2 requires applicants of larger projects to complete a traffic impact analysis that would include a VMT analysis that would ensure that VMT will be reduced below the numeric level of significance.

Implementation of these goals, policies and programs in the proposed General Plan 2040 would support VMT per capita reduction in addition to the forecasted 15.1 percent reduction over baseline VMT per capita for the city. Per Section 15064.3(b)(2) Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. As such, the project impact on Total VMT Per Population is considered less than significant, and no additional mitigation is required at the program level of analysis.

Impact TRAN-2 Implementation of the proposed project could result in potential conflicts with adopted policies, plans, or programs regarding bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, that may have a significant impact on the environment.

Future potential development under the proposed General Plan 2040 would contribute to and increase use of bicycle and pedestrian facilities in the Planning Area. The purpose of the City's adopted BPMP, updated in 2017, is to improve safety, act on community needs, and improve mobility options for Larkspur residents, workers and visitors. The BPMP,

which provides a prioritized list of 30 projects, is consistent with other relevant plans and planning efforts completed in Larkspur, including the current Larkspur General Plan, the Larkspur SMART Station Area Plan, and MTC's Regional Bicycle and Pedestrian Plan, among others.

While growth within the Planning Area would contribute to and increase use of bicycle and pedestrian facilities, the proposed Circulation Chapter includes goals, policies, and programs that require local planning and development decisions to consider impacts to bicycle and pedestrian facilities. The following General Plan goals, policies, and programs would directly and indirectly result in improving the bicycle and pedestrian network and supporting programs such as Safe Routes to School to increase bicycle and pedestrian travel.

Policy CIR-6.1: Maintain and update the City's Bicycle & Pedestrian Master Plan to encourage bicycling and walking to reduce the Vehicle Miles Travelled in the City of Larkspur, while ensuring the City's ability to accommodate changing demand for bicycle and pedestrian facilities and plan for increasing volumes of pedestrians, bicyclists and other pathway users.

Action Program CIR-6.1.a: Maintain and update the City's Bicycle & Pedestrian Master Plan at least every five (5) years to identify Recommended Active Transportation Facilities and Recommended Active Transportation Policies and Programs address the following goals:

- *Develop a more pedestrian- and bicycle-friendly community.*
- *Provide a safe walking and bicycling environment along city streets and pathways, employing best practices in design to minimize conflicts between user groups.*
- *Expand safe routes to school*
- *Identify and close regional and multi-jurisdictional gaps in pedestrian and bicycle connectivity.*
- *Improve access to transit.*

Action Program CIR-6.1.b: Require new development, including City-owned parks and recreation areas, schools, public buildings, and private development, to provide safe and convenient bicycle parking and pedestrian and bicycle access consistent with the Bicycle & Pedestrian Master Plan.

Action Program CIR-6.1.c: When developing multi-use paths and trails, consider the access needs of all users.

Action Program CIR-6.1.d: Identify and pursue grants and other available funding sources to support implementation of the Bicycle Pedestrian Master Plan.

Action Program CIR-6.1.e: Implement the Bicycle and Pedestrian Master Plan, and regularly update the Plan to accurately reflect completed and planned projects and maintain eligibility from funding sources.

Policy CIR-6.2: Inventory, maintain, and improve the City's historic hillside stairways. and develop new stairs and pathways where they may serve public convenience and safety.

Action Program CIR-6.2.a: Survey unimproved rights-of-way to evaluate their usefulness in the trail and path system and preserve those identified as useful for trails or paths.

Action Program CIR-6.2.b: When appropriate and financially feasible, upgrade and improve unimproved rights-of-way for use by the public as trails or paths, including potential use as evacuation routes.

Action Program CIR-6.2.c: Maintain accurate and clear signage for public trails or paths that serve as connections through neighborhoods.

Policy 6.3: Coordinate with Caltrans and other agencies to ensure that freeway improvements include protected crossings for pedestrians and bicyclists.

Action Program CIR-6.3.a: Support the retention of a pedestrian overpass connecting Lucky Drive and Redwood Highway as a key component of any project improving the Highway 101 interchanges in the Greenbrae/Twin Cities corridor, or otherwise assure safe and convenient pedestrian and bicycle access across Highway 101 to both north and southbound transit stops in the Redwood Highway and Lucky Drive areas.

Action Program CIR-6.3.b: Support improved pedestrian and bicycle access between the Larkspur Landing area, the Redwood Highway area, Lucky Drive, and the Bon Air Shopping Center.

Policy CIR-9.1: Identify and remove hazards from the circulation system.

Action Program CIR-9.1.a: Perform an annual review of the circulation plan with respect to changing conditions and needed safety and maintenance improvements. The City's response to collisions should be data-driven and based on analysis of high-risk locations, collision patterns and lists of systemic low-cost and longer-term countermeasures within the City of Larkspur. The City will update the Capital Improvement Program (CIP) annually based upon a priority list of capital improvements, maintenance, and programs.

These goals, policies, and programs as well as the programs in the BPMP that are incorporated into the general plan will ensure that adequate bicycle and pedestrian facilities are provided for existing and future residents and employees in the city and that new development includes safe bicycle and pedestrian facilities. Pedestrian and bicycle facilities are available along Sir Francis Drake Boulevard for future residents of development on the State-owned property north of San Quentin Prison. The project would not conflict with adopted policies, plans, or programs in the BPMP regarding bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The impact would be less than significant, and no additional mitigation is required.

Impact TRAN-3 Implementation of the proposed project could result in potential conflicts with adopted policies, plans, or programs regarding public transit, or otherwise decrease the performance or safety of such facilities, that may have a significant impact on the environment.

As most new development projected by 2040 would be in areas with many mass transit alternatives (i.e., in Transit Priority areas and High Resource Areas), future potential development under the proposed General Plan 2040 would contribute to and increase use of transit in the Planning Area. The City's 2021 CAP includes actions or measures meant to reduce GHG emissions by 40 percent below 1990 levels by 2030. Since 57 percent of GHG emissions originate from the transportation sector, the largest share of reductions from local mitigation measures in Larkspur would occur from transportation-related measures including supporting and promoting the increased use of public transit. By focusing new development in areas with convenient access to mass transit alternatives, the proposed General Plan 2040 would be consistent with the CAP and with State aims to increase the use of mass transit.

While growth within the Planning Area would increase use of transit, the Circulation Chapter contains goals, policies and programs that require local planning and development decisions to consider impacts to transit. The following General Plan goals, policies and programs would directly and indirectly result in improving the transit network and supporting an increase in transit use.

Goal CIR-6: Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles travelled, and transportation-related sources of air pollution and energy consumption

Policy CIR-6.4: Encourage increased transit service and ridership, and other innovative programs and alternative transportation solutions to reduce single-occupancy vehicle use.

Action Program CIR-6.4.a: Collaborate with TAM and/or County of Marin to study and implement Traffic Demand Management (TDM) incentive programs as a means for employers to participate in reducing automobile traffic by providing information on available transit services, sample employee incentive programs including shared-ride programs, transit passes, and bike-to-work programs, and maps of nearby pedestrian and bicycle routes.

Action Program 6.4.b: Consistent with Policy CIR-3.2, require developers of projects that generate traffic above what is considered an acceptable LOS to implement and/or fund transportation improvements and/or TDM programs to reduce vehicle use.

Action Program CIR-6.4.c: Encourage Marin Transit to operate a shuttle service to and between retail centers in and around Larkspur, including Downtown Larkspur, the North Magnolia area, the Bon Air Shopping Center, Larkspur Landing, the Village at Corte Madera, and the Corte Madera Town Center.

Action Program CIR-6.4.d: Cooperate with Golden Gate Transit, Marin Transit, and private transit providers to consider the transit needs of all residents, workers, students and visitors, including seniors, low-income, disabled, and transit-dependent persons in making decisions regarding transit services.

Action Program CIR-6.4.e: Cooperate with the transit agencies to provide amenities at transit stops, such as benches, shelters, lights, maps, and bicycle parking.

Action Program CIR-6.4.f: During review of all new development, redevelopment, and public improvement projects, consider and require improvements to adjacent or nearby transit stops such as benches, shelters, lights, maps, and bicycle parking.

Action Program CIR-6.4.g: Encourage shared-ride and jitney services to and from transportation terminals.

Action Program CIR-6.4.h: Cooperate with transit agencies to promote and educate the public about available transit routes and stops in Larkspur, by providing information, incentives, contests, and other promotional strategies.

Policy CIR-6.5: Cooperate with TAM, SMART, the County of Marin, and any other agencies to support the development of a rail transit corridor and associated multi-use path to Larkspur Landing and ensure impacts on Larkspur are appropriately studied and mitigated.

Policy CIR-6.7: Encourage continuation of the Larkspur Ferry terminal at its present site.

Action Program CIR-6.7.a: Support improvement of bicycle and pedestrian connectivity between the planned Larkspur SMART station and the ferry terminal.

Policy CIR-6.8: Support the development of park and ride facilities in Larkspur along transit routes.

Action Program CIR-6.8.a: Coordinate with Caltrans, Marin County, and the transit agencies to expand opportunities for park and ride, shared-ride, and bicycle parking areas in or around Larkspur, particularly in conjunction with any reconfiguration of interchanges and on- and off-ramps.

Action Program CIR-6.8.b: Work with transit operators to resolve parking difficulties through designation of parking facilities controls as needed.

Policy CIR-6.9: Support the retention of airport transit service in Larkspur.

Policy CIR-6.10: Expedite the installation of infrastructure to support alternative-fuel vehicles, particularly charging for electric and plug-in hybrid vehicles, throughout Larkspur.

Policy CIR-6.11: Encourage neighborhood and local consumer services that can be reached safely and conveniently by pedestrians and bicyclists.

Action Program CIR-6.11.a: Review and update the zoning ordinance as necessary to accommodate mobile consumer services, such as food trucks, in public gathering places where appropriate and in a manner that is not disruptive to traffic and surrounding residential neighborhoods and other commercial uses.

Action Program CIR-6.11.b: Review and update the zoning ordinance to encourage a mix of local resident-serving uses (food stores, groceries, personal services …etc.) over destination retail, in all commercial areas, utilizing shared parking models and/or a unified parking standard for those uses.

Implementation of these goals, policies and programs of the proposed General Plan 2040 would support programs to increase travel by transit. Implementation of General Plan 2040 would not result in conflicts with adopted policies, plans, or programs or otherwise decrease the performance or safety of transit facilities or services and impacts would be less than significant.

Impact TRAN-4 Implementation of the proposed project could substantially increase hazards due to a design feature that may have a significant impact on the environment.

The proposed General Plan 2040 does not identify or recommend any major new roadways or intersections. At most, future potential development under the proposed General Plan 2040 could require minor modifications to intersections or roadway width. The City requires the modification of existing public facilities or the construction of new facilities comply with the applicable design standards contained in the California Manual on Uniform Traffic Control Devices and the California Highway Design Manual, which have been developed to minimize the potential for conflicts or collisions. Therefore, the modifications would not result in a significant increase in roadway hazards.

In addition, the proposed Circulation Chapter contains goals, policies and programs that require local planning and development decisions to consider impacts to transportation. The following General Plan goals, policies and programs would support the design of a transportation system that is safe for all modes of travel.

Goal CIR-7: Safe and convenient connections between Larkspur, neighboring communities, and the region for all modes of transportation

Policy CIR-7.1: As improvement programs are developed for freeway interchange redesign, take advantage of the improvements to provide links between parts of Larkspur.

Action Program CIR-7.1.a: Support the completion of the Central Marin Ferry Connection Project to provide safe, accessible, and convenient access for pedestrians and bicyclists over Corte Madera Creek.

Action Program CIR-7.1.b: Implement connector road and bicycle and pedestrian facilities linking Drake's Cove residential neighborhood to Larkspur Landing Circle as element of any development of the vacated Ross Valley Sanitary District site in Larkspur Landing.

Policy CIR-7.3: Coordinate with other agencies and local jurisdictions in the design and implementation of City and regional circulation plans to ensure that Larkspur's needs and concerns are recognized.

Action Program CIR-7.3.c: Encourage the redesign and reconstruction of Highway 101 interchanges to take into account seasonal flooding hazards and future sea level rise.

Goal CIR-9: Reduction in the number and severity of transportation related- accidents

Policy CIR-9.1: Identify and remove hazards from the circulation system.

Action Program CIR-9.1.a: Perform an annual review of the circulation plan with respect to changing conditions and needed safety and maintenance improvements. The City's response to collisions should be data-driven and based on analysis of high-risk locations, collision patterns and lists of systemic low-cost and longer-term countermeasures within the City of Larkspur. The City will update the Capital Improvement Program (CIP) annually based upon a priority list of capital improvements, maintenance, and programs.

Action Program CIR-9.1.b: Actively work with the Marin Public Works Association and TAM to ensure that collision data is updated annually based on the most accurate and comprehensive data from CMPA, CHP, County of Marin, and Marin General Hospital.

Action Program CIR-9.1.c: Provide an accessible reporting tool on the City website that the public can use to report hazardous conditions to the Department of Public Works, and actively promote its use.

Policy CIR-9.2: Place higher priority on safety of all circulation system users as opposed to efficient vehicular traffic flow and speed.

Action Program CIR-9.2.a: Install pedestrian safety related- improvements such as stop signs, pedestrian cross walks, warning lights and others as warranted.

Policy CIR-9.3: Maintain and implement the Bicycle and Pedestrian Master Plan to provide pedestrians and bicyclists with safe facilities for circulation.

Action Program CIR-9.3.a: Continue bicycle education programs in schools and support the Safe Routes to School Program or other successor programs addressing safe non-motorized access to schools.

Action Program CIR-9.3.b: Selectively install bicycle/pedestrian safety messages along paths to advise of rules of the road, need for courtesy, and spot hazards.

Action Program CIR-9.3.c: By ordinance, prohibit motorcycles and automobiles (except for public safety vehicles) on paths and trails, and develop specific regulations to address use of personal electric vehicles (e.g., electric bicycles, scooters, skateboards…etc.) on paths and trails.

Action Program CIR-9.3.d: When designing pedestrian and bike paths, design them to be separate from street and vehicular traffic when possible. On-street bike lanes may be provided when separate facilities are not possible, or in addition to off-street facilities.

Action Program CIR-9.3.e: Ensure that pedestrian and bike paths are appropriately lighted to safely accommodate nighttime use.

Implementation of these goals, policies and programs would promote the design of improvements to the transportation network that are safe for all modes of travel. As described above, the City of Larkspur also requires the modification of existing public

facilities or the construction of new facilities comply with the applicable design standards contained in the California Manual on Uniform Traffic Control Devices and the California Highway Design Manual, which have been developed to minimize the potential for conflicts or collisions. This standard practice would minimize this impact. Implementation of General Plan 2040 would not result in conflicts with adopted policies, plans, or programs or otherwise increase hazards due to a design feature that may have a significant impact on the environment and impacts would be less than significant.

Impact TRAN-5 Implementation of the proposed project could result in inadequate emergency access that may have a significant impact on the environment.

Future potential development under the proposed General Plan 2040 would increase travel demand on the transportation network that may influence emergency access, particularly on major arterials and collectors that provide access to the Marin Health Medical Center.

While growth within the Planning Area would result in changes to land use and the existing transportation network, the proposed Circulation Chapter contains goals, policies and programs that require local planning and development decisions to consider improvements to transportation efficiency, mobility, and access including developing and updating emergency response plans. The following describes the goals, policies and programs that directly and indirectly result in providing adequate emergency access.

Goal SAF-2: Planned, coordinated response to all disasters

Policy SAF-2.1: Maintain an updated emergency response plan and evacuation plan.

Action Program SAF-2.1.a: Regularly review and update, as necessary, the City's Emergency Management Plan to coordinate with emergency plans of other governmental agencies and respond to changing conditions. Incorporate the likelihood of sea level rise and extreme heat and storm events.

Policy SAF-2.2: Prepare and maintain a comprehensive multi-modal evacuation plan.

Action Program SAF-2.2.a: Maintain and expand the network of anticipated emergency response routes and regularly exercise evacuation protocols and procedures.

Action Program SAF-2.2.b: Support measures to designate, create, *maintain, resurrect, and enhance those steps, lanes, paper streets, and paths that could serve as evacuation routes.*

Action Program SAF-2.2.c: Continue to maintain and clearly identify those facilities and networks that serve as emergency response and evacuation routes.

Policy SAF-2.3: Collaborate with other local, regional, state, and/or federal jurisdictions and private entities to plan and promote the integration and improvement of regional response capabilities.

Action Program SAF-2.3.a: Meet periodically with other public agencies and jurisdictions (including but not limited to FIRESafe Marin, school districts, neighboring municipalities, and the County) to discuss and plan emergency operations.

Goal CIR-10: Adequate emergency vehicle access in neighborhoods

Policy CIR-10.1: Maintain fire access roads and roadsides.

Action Program CIR-10.1.a: Identify streets that are subject to constrained ingress/egress for emergency vehicles and/or create potential bottlenecks for resident evacuation.

Action Program CIR-10.1.b: Implement street parking regulations (to include signing and enforcement) and roadway improvements where needed assure minimum roadway widths to accommodate emergency vehicles.

Action Program CIR-02.1.c: For new development served by streets that are subject constrained ingress/egress; apply standards and mitigation measures, such as minimum driveway widths, frontage improvements, shoulder widening, and other measures to maintain or improve emergency ingress/egress and resident evacuation.

Implementation of these goals, policies and programs of the proposed General Plan 2040, as well as goals, policies, and programs in the Safety Chapter, would address emergency access by considering new access routes for limited access neighborhoods, developing and updating emergency response plans, and incorporating emergency access considerations in the design of future street improvements. Implementation of General Plan 2040 would not result in inadequate emergency access that could have a significant impact on the environment and impacts would be less than significant.

Impact TRAN-6 Implementation of the proposed project could result in a cumulatively considerable impact to citywide VMT.

Buildout of the proposed General Plan 2040 is assumed over a 20-year project horizon. Implementation of the proposed General Plan 2040 by the horizon year of 2040 would result in a net increase of approximately 2,800 people in the Planning Area. As discussed under Impact TRAN-1, implementation of the proposed project would result in a decrease in citywide VMT per service population in horizon year 2040 from existing baseline and a decrease of 15.1 percent below the county regional baseline. Therefore, the impact on VMT would be less than cumulatively considerable. In addition, as described in Impact TRAN-1 the Larkspur General Plan 2040 contains goals, policies, and programs to support and further reduce future VMT. The State-proposed Oak Hill Apartments project located on a State-owned parcel north of San Quentin Prison would require a new signalized intersection with Sir Francis Drake Boulevard. The design and impacts of this project and intersection will be addressed in the EIR that the State is preparing on this proposed project. The crosswalk at the intersection would provide pedestrian and bicyclist access to the Class 1 multi-use path on the east side of Sir Francis Drake boulevard. Therefore, no additional mitigation is required.

4.15 Utilities and Service Systems

1. Wastewater Collection, Treatment, and Disposal Setting

Wastewater in the Planning Area is collected by the Ross Valley Sanitary District (RVSD) and pumped to the Central Marin Sanitary Agency (CMSA) facility for treatment and ultimately deep-water disposal to the bay.

Ross Valley Sanitary District

The Ross Valley Sanitary District (District) was established in 1899 and is believed to be California's oldest sanitary district. The District is located in Marin County, approximately 15 miles north of San Francisco and directly south of the City of San Rafael. The service area is bounded on the east by the San Francisco Bay, and on the west by the coastal hills. Numerous seasonal and perennial waterways traverse the service area and terminate in Corte Madera Creek, which is the main drainage from the District's service area to the San Francisco Bay.

The District serves the communities of Sleepy Hollow, Fairfax, San Anselmo, Ross, Larkspur, Kentfield, and Greenbrae and serves Murray Park by contract. The District maintains approximately 196 miles of mainline and trunk line sewers and 7.9 miles of force main pipe. In addition, the District owns and operates five major pump stations and 14 minor pump stations and lift stations. The major pump stations collect and pump flow from the minor stations and trunk lines to the CMSA treatment plant. Laterals, both lower and upper laterals, are owned and maintained by the individual private property owners.

Current (2021) average dry weather flow is approximately 3.6 million gallons per day (mgd). The District's flows are ultimately conveyed to the Central Marin Sanitation Agency (CMSA) wastewater treatment plant, which is located at 1301 Anderson Drive in San Rafael, CA. CMSA was established in 1979 as a joint powers agency comprised of RVSD, the San Rafael Sanitation District, and Sanitary District No. 2 of Marin County serving the Town of Corte Madera and some surrounding areas. The City of Larkspur's flows are conveyed to the CMSA treatment plant through RVSD.

The District operates its facilities per an adopted *Sewer System Management Plan* in compliance with Waste Discharge Requirements for sanitary sewer systems established by the State Water Resources Control Board (SWRCB). This plan contains the required eleven elements: goals; organization; legal authority; operations and maintenance program; design and performance provisions; sanitary system overflow emergency response plan; fats, oil and grease (FOG) control program; system evaluation and capacity assurance plan; monitoring, measurement and program modifications; program audits; and communication program.[94]

[94] Ross Valley Sanitary District, *Sewer System Management Plan*, Revised September 2019.

The District also has an adopted *2016 Ross Valley Sanitary District (RVSD) Strategic Plan* (Strategic Plan). The Strategic Plan was developed to provide a single, comprehensive set of policy-level goals and objectives which support RVSD's strategic priorities. The Strategic Plan is used to guide allocation of financial and other resources, inform annual staff level work plans, and influence the annual budget plans. The Strategic Plan also presents RVSD's updated Mission Statement and its Core Values, which the Strategic Plan is intended to reflect and support.

The Strategic Plan describes how in 2013, in cooperation with the RWQCB, RVSD adopted its Infrastructure Asset Management Plan (IAMP), which applied best practices of asset management to develop a long-term asset management program. The IAMP integrates risk reduction, targeted Level of Service objectives, and preventative O&M practices to support the fundamental objective of maintaining the RVSD infrastructure at the lowest sustainable life cycle cost. The progress made by RVSD, based in the IAMP, has been well received by the RWQCB and has resulted in meeting or exceeding 100% of the 2013 CDO enforcement requirements. The current primary challenge is how to efficiently implement the capital projects in balance with RVSD's limited staff and financial resources.

The District's Capital Improvement Program (CIP) consists of construction projects to replace outdated system infrastructure and enhance local wastewater system reliability and efficiency, Current projects include Butterfield/Arroyo-Kendrick Gravity Sewer Improvements Project; Ross Creek Sewer Removal Project (Ross); Larkspur Pump Stations 14, 24, and 25 Improvements Projects; and Gravity Sewer Improvement Projects in Ross, Larkspur, Kentfield, and San Anselmo.[95]

Infrastructure Asset Management Plan (IAMP)

Average wastewater flows from RVSD range from 102 million gallons (mg) in June to 166 mg in January. The increase in flow is due to infiltration and inflow into the collection system during the rainy season. Flows from RVSD range from 42% of total inflow to the CMSA facility in June to 47% from December through April.[96]

As mentioned previously, RVSD began addressing this Infiltration/Inflow (I/I) problem with development of an IAMP in 2013. This IAMP was updated in 2021. In 2018 the San Francisco Regional Water Quality Control Board issued a NPDES permit (Order No. R2-2018-0003, NPDES No. CA0038628) to CMSA and other dischargers, including the District, specifying wastewater treatment and discharge requirements. One of the key mandates that impacts the District is the requirement to "…take all feasible actions to rehabilitate portions of their collection systems to reduce inflow and infiltration." The IAMP update incorporates activities to address this requirement, including an evaluation of the impact of the District's efforts to mitigate inflow and infiltration (I&I) into the collection system, provide additional insight about the dynamics of

[95] Data regarding facilities and operations of the RVSD provided in this section of the EIR were provided by Phillip Benedetti, P.E., Associate Engineer, RVSD, November 4, 2021
[96] *Year-End Metrics Report FY 2020/21*, Patrick Filipelli, RVSD, October 2021

I&I in the system, and provide recommendations and strategies to reduce I&I and measure the effectiveness of mitigative actions.[97] The 10-year CIP included in the plan identifies recommended improvements to stream crossings, gravity mains, manholes, lift stations, and force mains that would cost approximately $26,000,000 over 19 years (to 2031).

Central Marin Sanitation Agency Wastewater Treatment Plant (Sleepy Hollow and San Anselmo);

The Central Marin Sanitation Agency Wastewater Treatment Plant (CMSA WWTP) is at 1301 Andersen Drive in San Rafael. The WWTP has a two-mile outfall through which treated wastewater is discharged into Central San Francisco Bay. The CMSA WWTP serves an area of approximately 43.5 square miles and includes the residents, businesses, and institutions in the city of Larkspur; the towns of Corte Madera, Fairfax, Ross, and San Anselmo; portions of the city of San Rafael south of Puerto Suello Hill; the unincorporated areas of Ross Valley and San Quentin Village; and San Quentin State Prison.

The NPDES permit for the WWTP was issued by the San Francisco Bay RWQCB as Order No. R2-2018-0003 (NPDES No. CA0038628), which became effective in March 2018 and expires in February 2023. This order establishes a maximum average dry weather effluent flow of 10 million gallons per day (mgd). CMSA has a peak wet weather design flow of 125 mgd. The WWTP includes preliminary treatment (headworks with screening and grit removal), primary treatment, secondary treatment (biotowers, activated sludge, and secondary clarification), disinfection, and dechlorination. Solids handling includes waste-activated sludge thickening, anaerobic digestion, biosolids dewatering, and cogeneration fueled by biogas. During wet weather periods, primary-treated wastewater greater than 30 mgd is routed around the secondary treatment processes and blended with the secondary-treated wastewater prior to disinfection, dichlorination, and discharge to San Francisco Bay via a gravity outfall and/or effluent pump station. Such discharges are approved under the bypass conditions of the NPDES permit if the blended discharge complies with the effluent and receiving water limitations in the order. CMSA discharges blended effluent about 19 times per year.

According to Mr. Jason Dow, General Manager of CMSA, the WWTP typically receives and treats:

- Average dry weather flow of 8.3 mgd
- Average annual flow of 9.5 mgd
- Average wet weather flow of 13.3 mgd
- Peak wet weather flow of 129 mgd[98]

[97] *IAMP Summary Report*, September 2021, RVSD.
[98] Data for the CMSA cited in this EIR section was provided by Jason Dow, General Manager of the CMSA, November 15, 2021.

The current (2017) *CMSA Facilities Master Plan* focuses on the condition of the facilities and impacts associated with potential regulatory changes, reduction in energy usage and greenhouse gas emissions,operational improvements, and climate change. The *CMSA Facilities Master Plan* identified 26 projects that were recommended for completion within the next 15 years and identifies facility and/or equipmentimprovements to address sea level rise and potential regulatory changes. Many of the condition assessment-related projects have been completed, as well as installation of a new cogeneration system.

2. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant wastewater related impacts if it would:

1. Require or result in the relocation or construction of new or expanded wastewater treatment or facilities, the construction or relocation of which could cause significant environmental effects.
2. 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.
3. Result in significant cumulative impacts related to wastewater facilities.

Impact UTIL-1: Implementation of the proposed project could require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

Implementation of the proposed project would have a significant impact if it would result in the construction of a new WWTP or the expansion of the existing CSMA WWTP, the construction of which would have a significant effect on the environment. As discussed below, future demands from the increased population and land use changes from implementation of the proposed General Plan 2040 would not exceed the design or permitted capacity of the CSMA'S WWTP that serves the Planning Area.

Under the proposed project, wastewater discharge would increase throughout the Planning Area due to increases in population. As described previously in Table 3-3, the proposed increase in population by 2040 for the Planning Area is 2,814 people. Based on information provided in the MMWD 2020 UWMP, it is assumed that 64 percent of the 76 GPCD (gallons per capita per day) water demand in 2040 would be indoor water use. It also is assumed that wastewater discharge would be 90 percent of the indoor water demand. Table 4.15-1 shows the increase in wastewater discharge for the Planning Area.

Table 4.15-1: Increase in Wastewater Discharge at Buildout in 2040				
Area	Increase in Water Demand at Buildout (gal/day)	Increase in Indoor Water Demand[a] (gal/day)	Increase in Wastewater Discharge[b] (gal/day	Increase in Wastewater Discharge (mgd)
Total Planning Area in 2040	213,864	137,886	124,097	0.12

Notes:

[a.] Indoor water demand is estimated at 70 percent of water demand.

[b.] Wastewater discharge is estimated at 90 percent of indoor water demand.

Source: Marin Municipal Water District, 2020 Urban Water Management Plan

Implementation of the proposed project would generate an additional 0.12 mgd within the Planning Area. According to Mr. Jason Dow of CMSA, the CMSA WWTP treats an average of 8.3 mgd during dry weather flows, and the CMSA WWTP has a permitted dry weather effluent flow of 10 mgd. New development in the Planning Area would contribute an additional 0.12 mgd of wastewater at buildout, which represents about 1.2 percent of the permitted dry weather flow. Therefore, the CMSA WWTP can accommodate the wastewater increase from the Planning Area during dry weather conditions.

All potential future development would be required to pay a sewer connection fee prior to the issuance of building permits. Any sewer utility infrastructure improvement would be designed, constructed, and operated in accordance with the RVSD and CMSA ordinance codes and the LMC. The sewer connection fee and wastewater capacity charges are used by RVSD and CMSA to continually upgrade components of the wastewater collection, transmission, treatment, and disposal systems through their CIP programs. The CIP improvements include collection system capacity upgrades, correction of structural problems, and modifications to pump stations and treatment facilities. The construction-related and site-related impacts of these ongoing upgrades and improvements would be assessed at the time the improvement is designed and proposed. It is expected that the design and construction would be required to comply with all geologic, soil, drainage, water quality, biological, and other LMC, County, regional, and State regulations and ordinances that guide new construction. Therefore, it is expected that the environmental impacts from these upgrades, repairs, and improvement projects would be reduced to a less-than-significant level.

Potential future development in the Planning Area would not require the construction or expansion of a WWTP. Therefore, with adherence to and implementation of the NPDES permits and the City's regulatory requirements, impacts associated with the WWTP's capacities would be less than significant. No mitigation is required at this program level of analysis.

Impact UTIL-2 Implementation of the proposed project could result in the determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As described under Impact UTIL-1, dry weather flows at the CSMA WTTP during recent years have averaged 8.3 mgd. Therefore, the residual dry weather flow capacity is 1.7 mgd for the CSMA WWTP. The project would generate approximately 0.12 MGD of wastewater directed to the CSMA WWTP. The increased wastewater demand would represent about 7 percent of the CSMA WWTP's excess capacity. The CSMA WWTP has excess capacity to treat future wastewater generated in the Planning Area.

In addition, new projects and redevelopment projects within the Planning Area would be required to comply with CALGreen plumbing codes and implement active and passive water conservation measures. The reduction in water demand would also result in a reduction in the amount of wastewater generated.

With continued compliance with applicable regulations, wastewater generated by the proposed project would not exceed the capacity of the CMSA WWTP or the permitted capacities specified in the RWQCB's NPDES permit. Therefore, the proposed project would not result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the Planning Area's projected demand in addition to their existing and future commitments, and impacts would be less than significant. No mitigation is required.

Impact UTIL-3 Implementation of the proposed project could result in a cumulatively considerable impact to wastewater service

This section analyzes potential impacts related to wastewater treatment that could occur from the proposed project in combination with reasonably foreseeable growth within the service areas of RVSD and CMSA.

Buildout of the Planning Area would generate an increase in the volume of wastewater delivered for treatment at the CMSA WWTP. The total increased wastewater flow represents approximately 7 percent of the CMSA WWTP's available permitted dry weather flow.

As described in the introduction in Section 4.0 of this EIR, the 2023-2031 RHNAs for the cities of Larkspur, Fairfax, Ross, Corte Madera, and San Rafael is 6,424 new dwelling units or approximately 15,000 new residents. Wastewater from these new units in addition to some new development in unincorporated neighborhoods in the Ross Valley and the San Quentin Peninsula would generate wastewater that would be treated at the CSMA WTTP, though development north of Puerto Suello Hill in San Rafael would be treated at the Las Gallinas Valley Sanitary District WWTP. These new dwelling units would add approximately 0.7 mgd effluent flow to the CMSA WWTP by 2031.[99] It would be expected that additional new units would be allocated to these jurisdictions in the subsequent 2032-2040 RHNA cycle in order to comply with *Plan Bay Area 2050* area-wide projected 2050 population growth. The CMSA WWTP has capacity to treat and dispose of the effluent from this projected cumulative growth

[99] The 2020 UWMO projects an indoor water demand in 2030 of 50 GCPD.

to 2031, and it is expected that the facility would also be capable of treating and disposing of district-wide growth to 2040.

Also, future development within the service area would be required to comply with all applicable regulations and ordinances issued by RVSD, SRSD, and CSMA. The sanitation districts and WWTP plan for increased demand with future development. Therefore, with continued compliance with applicable regulations, cumulative development combined with the proposed project would not exceed wastewater collection or treatment capacities. Therefore, the proposed project would not result in a cumulatively considerable impact related to wastewater, and cumulative impacts would be less than significant.

1. Water Section Setting

Existing Conditions [100]

Larkspur residents and residents of the Planning Area receive water from the Marin Municipal Water District (Marin Water). MMWD serves roughly 191,000 customers within approximately 147 square miles along the eastern corridor of Marin County from the Golden Gate Bridge northward. Marin Water serves ten incorporated cities and towns, including San Rafael, Mill Valley, Fairfax, San Anselmo, Ross, Larkspur, Corte Madera, Tiburon, Belvedere, and Sausalito. Marin Water's water supplies presently come from a combination of local surface water supplies, imported water from the Sonoma County Water Agency (SCWA), and recycled water.

Groundwater

There are no groundwater basins identified in DWR Bulletin 118 that are within the Planning Area. Existing groundwater resources in the Ross Valley and Planning Area are very limited due to a lack of substantial underlying groundwater aquifers and poor groundwater quality. Because of these limitations, Marin Water does not use groundwater as a supply source.

Groundwater use within Marin Water's service area is limited to small, domestic private groundwater wells. Marin Water has studied the potential for municipal groundwater use since the 1970s, and the results of these studies have shown that the potential for municipal groundwater use within the boundaries of the Marin Water service area is very limited due to limited production capabilities, water quality constraints, and potential water rights issues. As a result of these studies, groundwater is not currently used as a municipal water supply source by Marin Water, though private groundwater wells are used in the Planning Area.

Because the District does not directly pump groundwater, it does not coordinate with any GSAs. However, as noted above, the SCWA is a member of Santa Rosa Plain GSA and Marin Water has coordinated with SCWA on its demand projections through 2045.

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[100] Data in this section was taken from the *2020 Urban Water Management Plan for Marin Municipal Water District* unless otherwise cited, EKI Environment & Water. June 2021

The Santa Rosa Plain GSA was formed in June 2017 through a Joint Powers Agreement entered into by the SCWA, City of Cotati, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, Town of Windsor, County of Sonoma, Gold Ridge Resource Conservation District, Sonoma Resource Conservation District, Branger Mutual Water Company, California American Water, Willowside Mutual Water Company, and Penngrove Water Company, and covers the entire subbasin

One of the potential sources of additional water supply being studied by the Sonoma County Water Agency (SCWA) and Marin Water is injecting water into wells on the Santa Rosa Plain during periods of high runoff where it can be stored for use when needed to supplement other water supplies. The Santa Rosa Plain Groundwater Basin is managed by the Santa Rosa Plain Groundwater Sustainability Agency to ensure the sustainability of the basin.

Surface Water

Marin Water's primary water supply is local surface water from a network of seven local, rain-fed reservoirs. Five of the seven Marin Water reservoirs (Alpine, Bon Tempe, Kent, Lagunitas, and Phoenix Lake) are on the north slope of Mt. Tamalpais. The remaining two MMWD reservoirs (Nicasio and Soulajule) are outside Marin Water's service area in western Marin County. The total reservoir storage operated by Marin Water is 25.9 billion gallons (79,566 AFY).

Surface water from Kent Lake, Bon Tempe Lake, Alpine Lake, Phoenix Lake, and Lagunitas Lake is aerated seasonally to maintain adequate dissolved oxygen concentrations. From the reservoirs, the water is conveyed to either the Bon Tempe Treatment Plant near Ross or the San Geronimo Treatment Plant in Woodacre. According to Marin Water's 2020 Urban Water Management Plan (UWMP), Marin Water estimates the reasonable available amount of its surface water sources is 84,852 AFY. The reasonably available volume is a historical average of water available to Marin Water based on beginning year reservoir storage, estimated inflow runoff, and imported water from SCWA.

Purchased Water

Since 1975, Marin Water has contracted with SCWA for a supplemental supply of water provided from the Russian River. The agreement for water supply allows Marin Water to take deliveries of up to 14,300 AFY. The agreement will remain in force through June 30, 2025 and includes a renewal provision that will extend the agreement through June 30, 2040. In addition to contractual delivery limits, Russian River water deliveries to Marin Water are subject to available pipeline capacity in facilities owned by SCWA and the North NMWD District. Approximately 6,800 AFY were delivered to Marin Water in 2020, and this amount is assumed to vary each year depending on supply and demand conditions. Water imported from SCWA is naturally filtered in the deep sand and gravel below the riverbed and requires no further clarification. This water enters NMWD's system at the Ignacio Water Quality and Pumping Station, where water quality is monitored continually and adjusted as needed.

Water Supply Infrastructure

Marin Water's water supply pipelines range from 0.75-inch pipes connecting customers' water meters to 42-inch transmission main. The pipes are constructed of various materials including welded steel, cast iron, polyvinyl chloride, and asbestos cement, depending on the date and location of installation. Marin Water implements an ongoing Pipeline Replacement Program to replace pipelines that have reached the end of their useful life. Water distribution pipelines within the EIR Study Area range from 1- to 30-inch-diameter pipes.

Marin Water's potable water distribution system includes approximately 886 miles of water mains, 94 pump stations, and 121 treated water storage tanks with a total storage capacity of 74.9 million gallons (mg). To treat the Marin Wastewater supply, Marin Water operates three water treatment plants, including the Bon Tempe Treatment Plant, the San Geronimo Treatment Plant, and the Ignacio Treatment Facility.[16] The San Geronimo and Bon Tempe Plants, with maximum capacities of 35 million gallons per day (mgd) and 20 mgd, respectively, treat water from Marin Water reservoirs. The Ignacio Pump Station, with a maximum capacity of 16 mgd, performs chemical treatment in a "polishing" operation on water received from SCWA via the North Marin Intertie Pipeline. Together, these facilities have a combined design capacity of 71 mgd. Although maximum treatment rates have reached 45 mgd, the average daily maximum rate is approximately 25 mgd. In 2015, the total production of the three plants averaged 22.4 mgd over the past 10 years.

Marin Municipal Water District Water Supply and Demand

According to the 2020 MMWD UWMP, single- and multi-family residential homes make up 78 percent of Marin Water's total water demand for its service area. Commercial, institutional, and landscape uses represent about 10 percent, 6 percent, and 6 percent of the remaining water demand, respectively. The service area has historically had a relatively low growth rate. The 2020 MMWD UWMP based future growth on the 2018 ABAG Population Projections which calculated an annual growth rate of 0.34%. ABAG Population Projections have been consistently used by Marin Water to develop population growth. Due to the timing of the publication of the UWMP, the 2020 ABAG Population Projections contained in the 2023-2031 RHNAs were not available to be incorporated into the 2020 UWMP.

The new *Plan Bay Area 2050* forecasts substantial growth in the county over the next 30 years. *Plan Bay Area 2050* projects the addition of 37,000 new households in the county by 2050. As described in the introduction to Chapter 4.0 of this EIR, the jurisdictions served by Marin Water have Regional Housing Needs Allocations (RHNA) of approximately 12,000 new households by 2033 and likely 4,000 additional new households by 2040 if the *Plan Bay Area 2050* forecasts remain accurate. The 2050 service area population is projected to be approximately 280,000 people (calculated at a ratio of 2.4 people per new household), which is approximately a 47% increase from the 2021 population of approximately 191,000 people. Adjusting this forecast for the horizon year 2040 (since *Plan Bay Area 2050* does not provide explicit projections for each jurisdiction nor for the year 2040), it is estimated that the number of households would

increase by approximately 16,000 new households, and the population in the Marin Water service area would increase by approximately 38,400 people by 2040.

The adjusted 2020 water demand (does not include recycled water use) was 26,703 AF or 125 gallons per capita per day (gpcd). This demand is projected in the 2020 UWMP to increase to approximately 26,758 AFY by 2040 given the projected increase in population. Water losses and passive conservation measures are included in the water demand. Passive conservative measures are those that do not depend on financial assistance or educational programs but result from the natural replacement of existing plumbing fixtures with water-efficient models and the installation of water-efficient fixtures in new buildings and retrofits, as required under the CALGreen standards.

Tables 4.15-2 to 4.15-4 taken from the 2020 UWMP provide the projected water demand and water supply comparisons for the Marin Water service area for normal, single-dry, and multiple-dry years. These tables show that the UWMP states that Marin Water would have sufficient supplies to meet the demand of normal, single-dry, and multiple dry scenarios. The UWMP also includes a Five-Year Drought Risk Assessment, and that assessment shows that Marin Water would have adequate supplies to provide water to its service area for the projected five-year drought scenario.

Table 4.15-2: Normal Year Supply and Demand Comparison (DWR Table 7-2)

	2025	2030	2035	2040	2045
Supply totals *From DWR Table 6-9*	84,761	85,017	84,751	84,784	84,852
Demand totals *From DWR Table 4-3*	38,019	38,046	37,974	38,051	38,207
Difference	46,742	46,972	46,777	46,733	46,645
NOTES: (a) Volumes are in units of AF.					

Table 14.5-3: Single Dry Year Supply and Demand Comparison (DWR Table 7-3) [(1)]

	2025	2030	2035	2040	2045
Supply totals	52,132	52,137	52,135	52,139	52,149
Demand totals	38,019	38,046	37,974	38,051	38,207
Difference	14,113	14,091	14,161	14,088	13,942

NOTES:
(a) Volumes are in units of AF.

Table 14.5-4: Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4)

		2025	2030	2035	2040	2045
First year	Supply totals	79,556	79,560	79,560	79,562	79,567
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	**41,537**	**41,514**	**41,586**	**41,511**	**41,360**
Second year	Supply totals	84,321	84,313	84,342	84,314	84,262
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	**46,302**	**46,267**	**46,368**	**46,263**	**46,055**
Third year	Supply totals	86,430	86,448	86,419	86,453	86,530
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	**48,411**	**48,402**	**48,445**	**48,402**	**48,323**
Fourth year	Supply totals	72,700	72,695	72,728	72,696	72,627
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	**34,681**	**34,649**	**34,754**	**34,645**	**34,420**
Fifth year	Supply totals	69,441	69,432	69,471	69,432	69,328
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	**31,422**	**31,386**	**31,497**	**31,381**	**31,121**

NOTES:
(a) Volumes are in units of AF.

Based on this analysis, the UWMP concludes that the available supplies are sufficient to meet projected demands in all hydrologic conditions, including a five-year drought period, and

considering the impacts of climate change. The Drought Risk Assessment included in the 2020 UWMP concluded that Marin Water could meet project demand for the single dry year and the 5-year drought scenarios without requiring additional measures. However, as described this conclusion is based on earlier ABAG population projections for the service area and may no longer be accurate given the substantial increase in new housing to meet the 2023-2031 RHNAs for jurisdictions in the Marin Water service area. and additional new development to be consistent with *Plan Bay Area 2050.*

Water Conservation

The UWMP catalogues Marin Water's extensive water conservation program. The Water Conservation Act of 2009 (SB X7-7) requires urban water suppliers to report in the UWMP a baseline water use calculation and specific water use targets to meet the 2020 goal of 20 percent water use reduction. All water suppliers were required to submit the SB X7-7 Verification Form to DWR, which is typically an appendix of the UWMP. The Regional Alliance that Marin Water is part of has a 2020 weighted average target of 129 gpcd; Marin Water's 2020 water use target was 124 gallons per capita per day (gpcd). As a member of a regional water alliance, Marin Water met its 2020 water use targets. There is new legislation "Making Conservation a California Way of Life" that builds on SBX7-7 to establish additional long-term goals to reduce water demands using water use objectives, which are currently under development.

Recycled Water

The majority of recycled water used within the District's service area is distributed by the District. The Sewage Agency of Southern Marin (SASM) produces approximately 30 AFY of tertiary-treated recycled water that is used to irrigate playing fields situated adjacent to the SASM treatment plant. SASM treats and distributes this water.

Recycled water production also occurs at the Las Gallinas Valley Sanitary District (LGVSD) Recycled Water Treatment Facility (RWTF) in San Rafael. The wastewater originates from within the LGVSD service area, which is also within the District's service area. The collected wastewater is treated to secondary levels at LGVSD's wastewater treatment plant and then receives further treatment at the RWTF before being distributed to customers. In 2014 the LGVSD began supplying approximately 150 AFY of tertiary-treated recycled water produced at the newly constructed Las Gallinas Valley RWTF to NMWD. In April 2021 LGVSD completed construction on a major expansion and upgrade to the RWTF, which expanded the facility's capacity from 1.4 mgd to over 5 mgd.

Water Shortage Consistency Planning

The UWMP includes the State-mandated Water Shortage Consistency plan (WSCP). The plan identifies what actions Marin Water would initiate depending on the level of drought. As mentioned above, these measures were not projected to be needed based on the Drought Risk Assessment augmented conservation or supply augmentation. However, as described below,

the drought conditions of 2019-2021 have reached a level where WSCP actions have been instituted by the District.

Beginning in January 2020, the normal rainfall patterns in California changed, and drought conditions began and worsened over the next year and a half. Marin County was as adversely affected as anywhere in the state. The 2019-2020 water year was the second driest in California recorded history. Governor Newsom declared a drought emergency on July 8, 2021, which expedites water transfers and relaxes release requirements from reservoirs required for environmental mitigation, among other measures. The Marin County Board of Supervisors declared a Local Emergency on May 18, 2021.

Rainfall at Lake Lagunitas in fiscal year 2019-2020 was 34.99 inches, 67% of the 52.56 inches of rainfall received on average annually. Rainfall in fiscal year 2020-2021 was 20.66 inches or about 40% of average rainfall. Over the 21-month period from January 1, 2020 through mid-October 2021, a total of 32 inches of rain was recorded at Lake Lagunitas as compared to the average of over 88 inches for that length of time. Reservoir levels dropped to 32.32% of capacity by October 19, 2021. Rain beginning on October 17, 2021 including an atmospheric river event on October 24-25, 2021 and extending to November 19, 2021 increased the reservoir storage to 57.62% by December 1, 2021.

In response to back-to-back dry years and declining reservoir storage levels, on April 20, 2021, Marin Water declared a water shortage emergency and acknowledged an imminent threat of disaster. Since that time Marin Water has been instituting demand reduction actions to achieve the District-wide 40% reduction target established on April 20, 2021. These actions included prohibitions on:

- Installing landscaping on new connections that requires potable water
- Use of potable water for landscaping, beginning with voluntary requests that became mandatory limitations on the timing to conserve 40% which was eventually met in November 2021
- Operation of sprinkler or drip irrigation systems from December 1, 2020 to May 30, 2022
- Uncovered pools and spas
- Washing vehicles at home
- Power washing homes or businesses.
- Washing driveways or sidewalks.
- Flooding gutters.
- Irrigating golf course irrigation except for greens and tees.
- Watering grass on public medians.
- An allocation of 65 gallons per person per day for single-family water customers and a prohibition on use for dedicated irrigation meter customers.
- Filling of completely drained swimming pools and the filing of newly constructed pools using District water supplies

An allocation of 65 gallons per person per day for single-family water customers and a prohibition on use for dedicated irrigation meter customers.

Water Supply Augmentation

Marin Water is considering pursuing augmented water supply as summarized below. Coincident with Marin Water actions to reduce demand, the district began pursuing projects to augment current water supplies to enhance supplies available for use. As of early December 2021, the District had budgeted funds to design and purchase materials for an 8-mile pipeline intertie across the Richmond-San Rafael Bridge that would connect the Marin Water distribution network with an East Bay Municipal Utilities District (EBMUD) pipeline system. Water transfers would be purchased, and the water wheeled through the partner agencies in the Bay Area Regional Reliability partnership, across the bridge intertie pipeline to Marin County. In light of the sudden and substantial increase in reservoir storage from above average rainfall received in late 2021, Marin Water shifted development of the Emergency Intertie Project to a traditional environmental review process, extending the overall planning timeline for the proposed project and plans to continue to pursue the project as a longer-term climate resiliency measure. In January 2022 the Marin Water Board approved a contract to conduct a CEQA review of this proposed project. It is expected the study will take 12 to 14 months to complete. It also approved a second contract to review the costs and benefits of a variety of new water supply sources that the district could pursue. Some of the options included desalination, raising dams, the pipeline extension, groundwater banking, and expanding the recycled water system. This study is expected to be completed in late June or early July 2022.

Marin Water is funding the rehabilitation of the Kastania Pump Station that will allow Marin Water to increase its ability to pump water from the SCWA to meet its contractual maximum. MMWD has contractual rights to 14,300 AFY of SCWA water. However, limitations along the transmission line and at Kastania Pump Station currently limit volume of water available throughout the year. Preliminary studies indicate that rehabilitation of this pump station could increase the available water to MMWD from 4 mgd to 10.5 mgd. This would allow MMWD to pump water that it is already contracted to use. It is expected that the rehabilitated station would be on line in February 2022.

Consistent with Governor Newsom's drought emergency declaration, the water district was approved for a Temporary Urgency Change Petition (TUCP) emergency reduction of the State-mandated releases for the fishery from Kent Lake. The TUCP was approved in October 2021 and can result in retention of an additional 2,000 AF in critically dry years. The TUCP is in effect for up to 180 days. However, due to the rains at the end of 2021, Marin Water is operating under normal year operating requirements.

North Bay water suppliers are partnering to create what would essentially be a water banking system to draw from during times of drought – and replenish when supplies are ample. Sonoma Water has begun the work to bring three existing wells in the Santa Rosa Plain online to supply

another source of water to their water customers, including Marin Water in response to the drought. Sonoma Water has reactivated these wells for every drought since 1977, but now plans to upgrade them for the first time to allow water to be injected back into them. Working with SCWA to bank groundwater on the Santa Rosa Plain during wet years and withdraw it for use in dry years. This would not increase the amount of water that Marin Water could take from Sonoma County, but it should make water still available if the State curtails or reduces Russian River imports in future droughts.

2. Regulatory Framework

Federal Regulations

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 then. It 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 water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Water Resources Control Board (SWRCB) conducts most enforcement activities. 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.[1] 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 America's Water Infrastructure Act.

State Regulations

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).

Urban Water Management Planning Act (Senate Bills 610 and 221)

The California Urban Water Management Planning Act and Section 10620 of the Water Code require that all urban water suppliers in California that provide water to more than 3,000 customers or supply more than 3,000 acre-feet per year (AFY)[2] to prepare and adopt an urban water management plan (UWMP) and update it every five years. The act is intended to support efficient use of urban water supplies. The act requires the UWMP to compare water supply and demand over the next 20 years for normal years, single dry years, and multiple dry years and to determine current and potential recycled water uses. Senate Bill (SB) 610 and SB 221 were enacted to 1) ensure better coordination between local water supply and land use decisions and 2) confirm that there is an adequate water supply for new development. Both statutes require city and county decision makers to review detailed information regarding water availability prior to the approval of large development projects. SB 610 requires the preparation of a Water Supply Assessment (WSA) for certain types of projects subject to the California Environmental Quality Act (CEQA).

SB 221 requires written verification that there is sufficient water supply available for new residential subdivisions that include more than 500 dwelling units. The water supplier must provide written verification that sufficient water is available before construction begins.

Water Conservation Act of 2009 (Senate Bill X7-7)

The Water Conservation Act of 2009 (SB X7-7) requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water use by 20 percent by 2020. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for State water grants or loans. SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards. It also requires that agricultural water suppliers prepare plans and implement efficient water management practices.

2018 Water Conservation Legislation (Senate Bill 606 and Assembly Bill 1668)

A subsequent substantial revision to the UWMP Act was made in 2018 through a pair of bills (i.e., Assembly Bill 1668 and Senate Bill 606), referred to as “Making Water Conservation a California Way of Life” or the “2018 Water Conservation Legislation.” These changes include, among other things, additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, establishment of annual drought risk assessment procedures and reporting, and establishes new conservation targets referred to as “annual water use objectives,” which limit residential use to 55 gpcd before 2025 and 50 gpcd by 2030 requiring retailers to continue to reduce water

use beyond the 2020 SB X7-7 targets. By 2026, the legislation calls for DWR to update MWELO (Water Conservation in Landscaping Act of 2006).

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) required the State Department of Water Resources to update the State of California's Model Water Efficient Landscape Ordinance (MWELO) by 2009. Under AB 1881, cities and counties were required to adopt the MWELO by January 31, 20 10, or to adopt a different ordinance that is at least as effective in conserving water as the MWELO.

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, on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

The City of Larkspur adopts the Marin Municipal Water District (Marin Water) Ordinance (Water Conservation), as specified in Section 15.48.020, Water-Efficient Landscape, of the Larkspur Municipal Code (LMC). The City defers to Marin Water to enforce the ordinance and review the required landscape and irrigation plans for applicable projects. New construction projects with an aggregate landscape area of 500 square feet or greater are subject to the Marin Water landscape plan requirements. In addition, rehabilitated landscape projects with an aggregate landscape area of 1,000 square feet or greater are also covered under this ordinance. The Marin Water landscape plan review process requires submittal of the maximum applied water allowance and estimated total water use worksheets as well as grading plans, landscape planting plans, and irrigation design plans.

Larkspur signed the Memorandum of Understanding (MOU) Between Marin Municipal Water District and Local Land Use, Development, Planning and Permitting Jurisdictions Regarding Collaboration and Enforcement of Regional Conservation Programs on August 19, 2021. The MOU clarifies roles and responsibilities for the local land use planning jurisdictions and Marin Water.

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 (California Code of Regulations [CCR], Part 11, Title 24), also known as CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California, unless otherwise indicated in the Code. CALGreen establishes planning and design standards for sustainable site development, including water conservation measures and requirements that new buildings reduce water consumption by 20 percent below a specified baseline. CALGreen is updated every three years to allow for consideration and possible incorporation of new efficiency technologies and methods. The mandatory provisions

of CALGreen became effective January 1, 2011, and the latest version, the 2019 California Green Building Standards Code, became effective on January 1, 2020. The building efficiency standards are enforced through the local building permit process. The City has regularly adopted each new CALGreen update under the LMC Chapter 15.17.

California Plumbing Code

The latest version of the California Plumbing Code (CCR, Part 5, Title 24) was issued in 2019 and is updated on a three-year cycle. It includes new standards for plumbing fixtures, new provisions for storm drain systems, and design criteria for potable and recycled water systems. The City adopts the California Plumbing Code and latest updates under LMC Chapter 15.17, California Plumbing Code.

Recycled Water Regulations

Two State agencies have primary responsibility for regulating the application and use of recycled water: the California Division of Drinking Water 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 CCR, Title 22, 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 a water recycling operation. As part of the permit application process, applicants are required to demonstrate that the proposed recycled water operation will not exceed the ground and surface water quality objectives in the basin management plan and that the operation is compliant with Title 22 requirements.

Regional Regulations

2020 Marin Water Urban Water Management Plan

Incompliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, Marin Water adopted its current 2020 UWMP in June 2021. All urban water suppliers are required to prepare, adopt, and file a UWMP with DWR every five years. The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for average 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.

Marin Municipal Water District Water Resources Plan 2040

Marin Water prepared the 2040 Water Resources Plan to evaluate resiliency and the ability to meet future water demands, considering both chronic events (such as prolonged drought and climate change impacts on water supply) and acute events (such as earthquakes, water quality events, wildfires, etc.). The plan identifies 40 resiliency options to meet demands in times of potential supply shortages caused by variable hydrological conditions or system disruption.

Marin Municipal Water District Code

The Marin Water Code includes various regulations to manage water infrastructure and services within the Planning Area. Most provisions related to water services are found in Title 11, Water Service Rules and Regulations, and Title 13, Water Service Conditions and Water Conservation Measures, as follows:

- Title 11, Water Service Rules and Regulations. This section details the adopted rules and regulations that establish uniform practices governing water service and to define the obligations of Marin Water to consumers and the obligations of consumers to Marin Water. Title 11 includes requirements governing the application for water service, installation of new service connections, cross- connections, water main extensions, and fire taps. Title 11 also includes service charges and connection fees. Consumers are advised to obtain information from Marin Water on the availability of water, water facilities to provide service, pressure conditions, and other pertinent data before undertaking any development or construction.
- Title 13, Chapter 13.02, Water Conservation and Dry Year Water Use Reduction Program. This chapter provides a water conservation plan to minimize the effect of a water shortage on Marin Water's consumers and to adopt provisions that will significantly reduce the consumption of water during an extended dry weather period (drought).
- Title 13, Chapter 13.03, Water Budgets and Related Conservation Measures. This chapter specifies the terms and conditions under which water budgets will be required and when consumers will be required to retrofit water fixtures with low flow or ultra-low flow fixtures to reduce the per capita consumption of water by Marin Water's customers.

Local Regulations

Larkspur General Plan 1990-2010

The Larkspur General Plan 1990-2010 goals, policies, and programs that are relevant to water infrastructure and services are primarily in the Environmental Resources Chapter.

Larkspur Municipal Code

Several chapters of the LMC address water conservation and adequate water supply to new development. These include:

- Chapter 18.16 and Chapter 15.48 require new landscaping to comply with the latest adopted Marin Water water conservation ordinance.
- Chapter 17.28 requires subdivision proposals to show proof that Marin Water has an adequate water supply to serve the subdivision.
- Chapter 15.12 adopts the most recent California Plumbing Code, including provisions for water conserving devices.

Larkspur Climate Action Plan 2030

The Larkspur Climate Action Plan (CAP) 2030 includes a variety of strategies to reduce greenhouse gas emissions from both existing and future development in Larkspur. The CAP focuses on mitigation efforts such as renewable energy, low-carbon transportation, composting, and water conservation. Larkspur has responded to the need to conserve water by reducing its per capita water use by about 25 percent in the last ten years. Residents and businesses are installing low-flow fixtures (showerheads, faucets, and toilets); planting native, drought-tolerant species; and replacing lawns with low-water-use gardens. The CCAP has the following goals for community and municipal water use:

- WC-C1: Community Water Use. Reduce indoor and outdoor water use in residential and commercial buildings and landscaping.
    - a. Work with MMWD and other organizations to promote water conservation programs and incentives.
    - b. Educate residents and businesses about local and State laws requiring retrofit of non-compliant plumbing fixtures during remodeling and at resale.
    - c. Ensure all projects requiring building permits, plan check, or design review use water-efficient landscaping in compliance with State and MMWD regulations.
    - d. Encourage the installation of greywater and rainwater collection systems and the use of recycled water where available through ordinance or engagement campaigns.
- WC-M1: Municipal Water Use. Reduce indoor and outdoor water use in municipal facilities and operations.
    - a. Replace high water use plants and inefficient irrigation systems with water-efficient landscaping.
    - b. Replace inefficient plumbing fixtures with high-efficiency fixtures.
    - c. Use recycled water as available and practicable for parks and outdoor landscaping

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant water related impacts if it would:

1. Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
2. Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
3. Result in significant cumulative impacts related to water supply and facilities.

Impact UTIL-4: Implementation of the proposed project could require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

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 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. Future projects under the General Plan 2040 that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA.

MMWD's 2020 Urban Water Management Plan (UWMP)serves as the basis for the analysis in the Draft EIR. The UWMP describes water demands, water supply sources, and supply reliability for its service areas in five-year increments for average years, single dry years, and multiple dry years, water contingency planning in cases of shortage emergencies, demand management measures to increase water use efficiency, and current and planned water conservation efforts.

Per capita potable and raw water use in 2020 was 128 GPCD and adjusted potable water use (excluding recycled water system backup) was 125 GPCD. This number was obtained by dividing total production by the service area population. Future water demands for the District were estimated by:

- Applying an estimated growth rate to accounts within each water use sector based on projected population and employment growth rates,
- Identifying known planned developments within the District to verify that account growth projections consider all anticipated growth,
- Evaluating and selecting water demand factors for each water use sector based on review of recent average per account water use representing three scenarios,
- Estimating future passive savings using the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool (AWE model), and

- Calculating estimated future water demand that incorporates the anticipated account growth, water demand factors, and estimated future passive water savings.
- As shown previously in Table 4.15-4, in the year 2040, it is projected that Marin Water would have a residual water supply capacity of 46,733 AF for a normal year, 14,088 AF at the end of a single-dry year, and 31,381 AF at the end of a five-year drought. The residual supply at the end of the 2020-2021 water year was 34.14% or approximately 27,000 AF.

As noted previously, Marin Water has installed measures to reduce water demand during the recent drought as well as to seek water supply augmentation and diversification of its available water supply through water transfers, water banking, increasing pumping capacity, and other measures.

The three Marin Water water treatment plants (Bon Tempe Treatment Plant, San Geronimo Treatment Plant, and Ignacio Treatment Facility) have a total capacity of 71 mgd, which equates to 79,530 AFY. This substantially exceeds the water demand for the Marin Water service area of 38,051 in 2040. Therefore, no new water facilities or expansion of existing facilities would be required.

New development or redevelopment within the Planning Area would be required to implement the water-efficient requirements for new construction in accordance with the LMC, CALGreen, and the California Plumbing Code. In addition, all new landscapes associated with new development would be required to comply with the water-efficient-landscaping measures specified in the MMWD's Water Conservation Ordinance, the LMC, and restrictions on using potable water for landscaping adopted by the Marin Water Board during drought conditions. Water infrastructure improvements must be designed, constructed, and operated in accordance with the applicable regulations in the Marin Water Code. Service charges and connection fees will assist in funding Marin Water's CIP, which includes treatment plant seismic and reliability upgrades, ongoing pipeline replacement, replacement and upgrades of aging pump stations, storage tank replacement and upgrades, and improvements to fire flow. These measures ensure that Marin Water would have adequate capacity for the proposed increases in water flows within the Planning Area with implementation of the proposed General Plan 2040.

In addition, the proposed Natural Environment and Resources Chapter contain goals, policies, and programs that require local planning and development decisions to consider impacts to water supply. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts to water supply:

> Policy ENV-6.2: Apply water conservation development standards for residential, commercial, and civic development, reconstructions, and remodels.
>
> > *Action Program ENV-6.2.a: Include and implement Water and Wastewater programs in the City's Climate Action Plan to promote efficiency in water use, consumer conservation, graywater use, rainwater catchment systems, and other applicable actions.*

Action Program ENV-6.2.b: Through the permitting process, require new and replacement public and private landscaping to use drought tolerant plantings and water conserving landscape techniques consistent with State (e.g., CALGreen code), regional (MMWD), and local (local CALGreen code implementation) regulations.

Action Program ENV-6.2.c: Through the permitting process, require the installation of water-conserving plumbing fixtures in new buildings and when existing fixtures are replaced consistent with state (e.g., CALGreen code), regional (MMWD), and local (local CALGreen code implementation) regulations.

The 2020 MMWD UWMP states that there would be a residual surplus water supply even during a single-dry year and multiple-dry year scenarios, and water demand from potential future development from implementation of the proposed General Plan 2040 would not exceed the available supply.

However, these conclusions are based on a lower growth rate than projected in the current RHNAs and *Plan Bay Area 2050*. In addition, the analyses contained in the 2020 UWMP may not be adequate given climate change as evidenced by the current drought. Recognizing this, Marin Water is investigating additional water supplies. As noted previously, in February 2022 Marin Water approved two contracts – one to conduct a CEQA review of the proposed Emergency Intertie Project and a second contract to review the costs and benefits of developing a variety of new water sources the district could pursue. Some of the options include desalination, raising dams, the pipeline extension, groundwater banking, and expanding the recycled water system.

The second contract resulted in the Strategic Water Supply Assessment. As of October 2022, draft assessments of the costs and environmental and regulatory constraints of the alternative additional sources of water were discussed and reviewed at three community workshops and ten meetings or special meetings of the Marin Water Board. It is expected that the Strategic Water Supply Assessment l will result in additional measures to provide sufficient water for Marin Water to serve the Larkspur General Plan 2040 buildout. Even if no additional water supplies are approved, Marin Water would only approve water connections to new development if it can provide adequate water. The Larkspur Municipal Code requires proof of water availability prior to approving new subdivisions.

However, this water availability to meet the buildout demand is not proven. Plus, as described under Impact UTIL-3 below, Marin Water may need to develop other sources to meet the buildout demand of Larkspur plus the buildout of the other jurisdictions served by Marin Water. At this time, the actual new source(s) of supply is unknown, and the impacts of developing the source(s) are unknown. It is possible that development of one or more of these sources would result in significant impacts to the environment. It is unknown whether these impacts could be reduced to a less-than-significant level.

Therefore, new water facilities or expansion of existing facilities may be required. In the absence of a decision about what facilities may be developed and what the impacts of that

development would be, it is concluded that the impact of developing or expanding these facilities could have a significant and unavoidable impact.

Impact UTIL-5 Implementation of the proposed project could have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

As shown on Table 3-3 in Chapter 3, Project Description, of this Draft EIR, the existing (2020) population within Larkspur is 12,071, and it is projected to grow with implementation of the proposed project to 14,885 in 2040, for a net increase of 2,814 residents.

The District's current water demand of 125 gpcd was used in this evaluation, pursuant to the Marin Water 2020 UWMP. The water demand rate of 125 gpcd is conservative because it does not consider passive and active conservation measures that will reduce the water demand rate over time. The result is a water demand increase within the Planning Area of 351,750 gpd on 394 AFY by 2040. This projected net increase in water demand at buildout would be approximately one percent of the total 2040 water demand within the Marin Water service area.

As shown previously in Table 4.15-4, per its UWMP, in 2040 Marin Water would have a residual water supply capacity of 46,733 AF for a normal year, 14,088 AF at the end of a single-dry year, and 31,381 AF at the end of a five-year drought. Therefore, on this basis, Marin Water would have sufficient water supply to meet the potable water demand of the Planning Area at buildout. However, as described in the previous impact discussion, this conclusion may no longer be accurate given the increased buildout demand from meeting the 2023-2031 RHNA targets and additional development pursuant to *Plan Bay Area 2050.*

Additionally, potential future development pursuant to the proposed General Plan 2040 would be required to implement the water-efficient requirements specified in the LMC's and Marin Water's Water Conservation Ordinance. Any new water infrastructure or improvements must be designed, constructed, and operated in accordance with the applicable regulations in the Marin Water Code. In addition, potential future development pursuant to the proposed General Plan 2040 and the City would be required to comply with and implement the General Plan goals, policies, and programs listed under Impact UTIL-4,

In summary, buildout associated with the proposed General Plan 2040 may result in a shortage of water supplies available to Marin Water. Development of additional water supply sources may result in significant and unavoidable impacts.

Impact UTIL-6 Implementation of the proposed project could result in a cumulatively considerable impact to water service.

This section analyzes potential impacts to water supply that could occur from the proposed project in combination with other reasonably foreseeable projects in the surrounding area. The geographic scope of this cumulative analysis is the Marin Water service area.

Plan Bay Area 2050 projects 113,600 households will be served by Marin Water in 2050. As described in the Setting section, the 2040 service area population is projected to be approximately 280,000, which is approximately a 47% increase from the 2021 service area population of approximately 191,000 people. As described in the previous two impact discussions, Marin Water may need to develop additional water supply sources to meet the cumulative 2040 water demand. Development of one or more of these new sources could have a significant adverse impact on the environment. Therefore, the project could have a cumulatively considerable contribution to a significant and unavoidable cumulative impact.

1. Solid Waste Subsection Setting

Existing Conditions

The Marin Hazardous and Solid Waste Management JPA, now known as Zero Waste Marin, consists of member agencies that collectively implement programs to comply with AB 939 requirements to divert from landfills 50 percent of all the solid waste that is generated. Zero Waste Marin, which includes 11 cities and towns as well as unincorporated areas in the county, has the goal of 94 percent waste diversion from landfills by 2025. The JPA's disposal rate in 2019 was approximately 5.0 pounds of waste per day (ppd) per resident and 11.8 ppd per employee, which is well below the CalRecycle targets of 7.6 ppd per resident and 17.3 ppd per employee.[101]

Marin Sanitary Service provides residential, multi-family, and commercial garbage, recycling, and compostable collection services in the city and the unincorporated areas that are in the Planning Area. Marin Sanitary Service also provides the Food 2 Energy program for large generators of food waste, such as restaurants and grocery stores. The program collects organic food waste, diverts it from the landfill, and delivers it to the CSMA Wastewater Treatment Plant (WWTP) where it is converted into biogas to power the WWTP.

The Marin Recycling Center (MRC), located at 565 Jacoby Street in San Rafael, is the processing facility for all residential and commercial curbside recyclable materials. These materials are collected by Marin Sanitary Service in dual-sort carts at the curbside throughout the Planning Area. In addition to processing all curbside recyclables, the Buy Back center inside the MRC pays for certain recyclable items. The Marin Resource Recovery Center (MRRC) located at this same site accepts and processes nonhazardous materials that are not picked up curbside. Each month, the MRRC processes approximately 3,000 tons of recyclables. The Marin Household Hazardous Waste Facility also located at the same site, accepts hazardous materials from Marin County residents and businesses.

[101] CalRecycle, 2020*, Jurisdiction Review Reports*.
https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports/PerCapitaDisposalTrends

There are currently two landfills that accept most of the solid waste from the county. Redwood Landfill currently accepts approximately 54 percent of the solid waste generated in the county. The landfill is operated by Waste Management and is located on a 420-acre site at 8950 Redwood Highway north of Novato and east of US-101. Approximately 220 acres are dedicated to landfill operations, and the remaining 200 acres support composting, recycling, and reuse services as well as open space and a freshwater lagoon for migratory waterfowl. A plant was constructed in 2017 that converts landfill gas to clean, renewable electricity for use by Marin Clean Energy customers. Waste Management also operates the largest composting facility in Marin County and offers recycled compost and mulch as WM EarthCare products. The landfill is licensed as a Class III nonhazardous disposal facility. It has a maximum permitted throughput of 2,300 tons/day and a remaining capacity of 26 million tons. The estimated closure date is July 1, 2024.[102]

Potrero Hills Landfill accepts approximately 41 percent of the waste generated by the county. The landfill is operated by Waste Connections Company and is located on a 526-acre site at 3675 Potrero Hills Lane, a few miles south of Suisun City in the hills of Suisun Marsh in Solano County. A compost facility and a landfill-gas-to-energy plant is also operated at this site. The landfill has a maximum permitted throughput of 4,330 tons/day and a remaining capacity of 13,872,000 tons. The closure date is estimated to be February 14, 2048. Twelve other landfills in the region accept approximately 5 percent of the waste from the county.

According to the latest available data (2020) from CalRecycle, 95 percent of solid waste collected from the county was taken to the Redwood and Potrero Hills landfills. Table 4.15-5 describes these two facilities in addition to the other three landfills that received the remaining majority of the solid waste in 2020. Comparing the maximum permitted daily throughput to the average disposal amounts in 2020, the five landfills in Table 4.15-5 collectively have an excess capacity of 7,156 tons/day. In 2018, the excess capacity of these landfills was 5,888 tons/day, so the 2020 figure is likely less due to the pandemic. Although the Redwood Landfill is scheduled to close in 2024, the other four landfills will be opened to accept waste from 2048 to 2107.

Table 4.15-5: Landfills Serving Zero Waste Marin Recovery

Landfill	Redwood Landfill	Potrero Hills Landfill	Keller Canyon Landfill	Monterey Peninsula Landfill	Recology Hay Road Landfill
Total Waste received in 2020 (tons)	222,643	890,201	761,490	639,739	642,300
Maximum permitted throughput (tons/day)	2,300	4,330	3,500	3,500	2,400
Remaining capacity (tons)	26,000,000	13,872,000	63,408,410	48,560,000	30,433,000
Estimated closing date	7/1/2024	2/14/2048	12/31/2050	2/28/2107	1/1/2077

Source: CalRecycle SWIS Landfill Tonnage Reports accessed on 11/20/21 at https://www2.calrecycle.ca.gov/LandfillTipFees

[102] CalRecycle accessed on 11/20/21 h ttps://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/3054?siteID=1727

The estimated closing day for Redwood Landfill is based on a worst-case, and dated, scenario. Recent projections by Zero Waste Marin indicate that it is likely the landfill has capacity for at least 15 more years.[103] Zero Waste Marin has set a goal of 94 percent diversion from landfills by 2025, which would greatly reduce the need for landfill disposal and likely extend the closure date for the Redwood Landfill even further. However, as of 2019, the diversion rate was 67 percent, meaning it is unlikely Zero Waste Marin will meet its 2025 target.

2. Regulatory Framework

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 their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

State

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties throughout California to divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. To help achieve this, the act requires that each city and county prepare a source reduction and recycling element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle). AB 939 also established a goal for all California counties to provide at least 15 years of ongoing landfill capacity.

Mandatory Commercial Recycling Requirements (Assembly Bill 341)

Assembly Bill (AB) 341 (Chapter 476) 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 in the Planning Area must separate recyclables from trash and either subscribe to recycling services, self-haul their recyclables, or contract with a permitted private recycler.

[103] Marin County Hazardous and Solid Waste Management JPA, Material Flow and Capacity Analysis Report and Presentation. 2018 at https://zerowastemarin.org/who-we-are/studi

CALGreen Building Code

CALGreen establishes building standards for sustainable site development. Sections 4.408 and 5.408, Construction Waste Reduction Disposal and Recycling, mandate that, in the absence of a more stringent local ordinance, 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 waste management plan for on-site sorting of construction debris, which is submitted to the City for approval, or use a waste management company with verifiable documentation.

Local Regulations

Zero Waste Marin

Zero Waste Marin is the formal name for the Marin County Hazardous and Solid Waste Management Joint Powers Authority (JPA), which was formed in 1997 and consists of city and town managers from Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, Tiburon, and Marin County. The goal of Zero Waste Marin is to help residents and businesses in Marin County meet the County's goal of 94 percent diversion from landfills by 2025 by reducing and recycling their solid waste and safely disposing of hazardous wastes. Zero Waste Marin ensures the County's compliance with State recycling mandates and provides information on household hazardous waste collection, recycling, composting, and waste disposal. The Marin County Department of Public Works/Waste Management administers Zero Waste Marin, and the AB 939 Local Task Force provides citizen and industry review. The City of Larkspur adopted Resolution 15/12 to divert solid waste by 94 percent by 2025. As noted previously, Zero Waste Marin reported the 2019 diversion rate was 67 percent. The City may wish to revisit its target diversion rate.

Marin Countywide Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 935) requires each county to prepare and adopt a Countywide Integrated Waste Management Plan (CIWMP). The CIWMP is a State-mandated plan prepared by Zero Waste Marin. The plan identifies solid waste facilities within Marin County and describes the countywide plan for reaching the State-mandated 50 percent recycling goal. Waste reduction and disposal facilities in the county that require solid waste facility permits must conform to policies and siting criteria in the CIWMP. The CIWMP includes, by reference, source reduction and recycling elements, household hazardous waste elements, and non-disposal facility elements as well as a plan that describes countywide diversion programs and landfill disposal needs. The elements must be reviewed every five years and revised if necessary. The latest five-year review report for the CIWMP was submitted by Zero Waste Marin in March 2018.

Larkspur General Plan 1990-2010

The City of Larkspur General Plan 1990-2010 goals, policies, and programs that are relevant to solid waste are primarily in the Environmental Resources Chapter. The plan contains policies and programs to reduce the amount of solid waste diverted to landfills.

Larkspur Climate Action Plan 2030

The Larkspur Climate Action Plan 2030 contains seven strategies to reduce solid waste and thereby reduce community GHG emissions. A list of actions or measures are recommended, including the following.

- Diverting commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs;
- Working with Zero Waste Marin, Marin Sanitary Service, and other organizations to educate and motivate residents to utilize curbside collection services and home composting for food waste;
- Requiring all loads of construction & demolition debris and self-haul waste to be processed for recovery of materials as feasible;
- Adopting an ordinance requiring mandatory subscription to and participation in waste diversion activities, including recycling and organics collection provided by Marin Sanitary Service;
- Reviewing and revising the City's franchise agreement with Marin Sanitary Service to ensure waste reduction and diversion targets are met;
- Encouraging the State to regulate the production and packaging of consumer goods and take-back programs;
- Encouraging on-demand product and food delivery services to reduce packaging waste and investigating requirements and incentives for same through ordinance and/or engagement campaigns; and
- Promoting reuse, repair, and recycling of inorganic materials, and encouraging reduced use of packaging and single use items through engagement campaigns.

Larkspur Municipal Code Chapter 15.26 requires construction and demolition debris to be recycled. It requires 90% diversion now and 94% to be recycled by December 31, 2025. The City may wish to revisit this target given current diversion rates.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would have a significant impact related to solid waste disposal if it would:

1. Generate solid waste in excess of State and local standards, or in excess of the capacity of

local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
2. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.
3. Result in significant cumulative impacts related to solid wastes.

Impact UTIL-7 Implementation of the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Zero Waste Marin does not differentiate the amount of solid waste generated by each city or town within its jurisdiction. Therefore, the total amount of solid waste sent to landfills in 2020 (the latest year of record) for the service area was determined. A reported three-year average disposal rate (from 2017 to 2019) for Zero Waste Marin showed that it collected approximately 239,421 tons of waste per year for landfill disposal.[104] This equals approximately 5 pounds per day per person, which is approximately 60,355 pounds per day for the residents of Larkspur or approximately 11,015 tons/year.

The population in the city is projected to increase by 23 percent by the year 2040, which would result in an annual increase of 13,548 tons/year being sent to landfills for disposal. This estimate is conservative because it assumes that there is no change in the current diversion rate of approximately 66 percent. With implementation of the Zero Waste Marin's Integrated Waste Management Program, the diversion and recycling rate should increase over time.

A total of 13,548 tons/year would equate to about 45 tons/day (assuming 300 disposal days/year). Assuming that half of the solid waste is sent to Redwood Landfill and half to Potrero Hills Landfill, this would be less than 4 percent of the excess capacity at these landfills. In addition, there is additional excess capacity at the other landfills listed in Table 4.15-5. The goal for Zero Waste Marin is a diversion rate of 94 percent by 2025.

Furthermore, potential future development pursuant to the proposed General Plan 2040 would comply with Section 4.408 of the 2019 CALGreen, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. Development would also comply with AB 341, which mandates recycling for commercial and multifamily residential land uses as well as schools and school districts. Additionally, potential future businesses pursuant to the proposed General Plan 2040 that generate organic waste in amounts over a certain threshold would be mandated to recycle organic matter in accordance with AB 1826. Therefore, solid waste facilities would be able to accommodate project-generated solid waste.

[104] Zero Waste Plan Update

With continued compliance with applicable regulations, leading to increased recycling and waste diversion and adherence to and implementation of the Larkspur Climate Action Plan recommendations, anticipated rates of solid waste disposal from the potential future development pursuant to the proposed project would be less than significant with respect to permitted landfill capacity.

Impact UTIL-8 Implementation of the proposed project would comply with federal, State, and local statutes and regulations related to solid waste

As discussed above, Zero Waste Marin complies with State requirements to reduce the volume of solid waste through recycling and organic waste diversion. Its per capita disposal rates of approximately 5.0 pounds per day (ppd) per resident and 11.8 ppd per employee are well below the CalRecycle targets of 7.6 ppd per resident and 17.3 ppd per employee. In addition, all potential future development pursuant to the proposed General Plan 2040 would comply with CALGreen, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse (Section 4.408 of the 2019 CALGreen). Potential future development would also comply with AB 341, which mandates recycling for commercial and multifamily residential land uses as well as schools and school districts. Additionally, potential future businesses pursuant to the proposed General Plan 2040 that generate organic waste in amounts over a certain threshold would be mandated to recycle organic matter in accordance with AB 1826. Therefore, the City and waste service providers would comply with all applicable federal, State, and local solid waste regulations, and impacts would be less than significant.

Impact UTIL-9 Implementation of the proposed project could result in a cumulatively considerable impact to solid waste.

The area considered for cumulative impacts to solid waste disposal facilities is Marin County. *Plan Bay Area 2050* projects an increase of 37,000 households in Marin County by 2050, or approximately 88,000 additional people (at 2.4 people per household). The increase by 2040 is not separated out in *Plan Bay Area 2050*. Reducing the 2050 projection by one-third (to the 2040 horizon year instead of 2050) would result in 59,576 additional people by 2040, or approximately a 25 percent increase in the existing County population of approximately 252,000 people. Since the county generated 235,070 tons of solid waste in 2019, it is assumed that in 2040 it would generate approximately 293,838, or 980 tons per day (at 300 disposal days a year). The five landfills that receive the majority of that solid waste have an excess capacity of 7,156 tons/day and could easily provide for the projected growth. In addition, 15 other landfills received solid waste from Marin County in 2018. If one or more of the landfills that currently receive solid waste from the county were unavailable in the future, it is likely that the solid waste volume could be increased at one or more of the other landfills. Therefore, with continued compliance with the applicable regulations, in combination with past, present, and reasonably foreseeable development, solid waste cumulative impacts would be less than significant.

1. Stormwater Drainage Subsection Setting

The City of Larkspur Department of Public Works (DPW) owns and maintains the storm drain system that is located throughout the city. The DPW is responsible for maintaining the storm drains in City easements, and property owners are responsible for storm drains on their properties. Similarly, DPW maintains certain waterways that have easements, and waterways without easements are maintained by private property owners. Corte Madera Creek is maintained by the USACE because it is classified a navigable waterway.

Capital Improvement Initiatives

As described in Section 4.9, Hydrology and Waiter Quality, in 2019 the City approved the *Larkspur Storm Drain Master Plan*. The Plan identifies known and expected deficiencies of the storm drain system. For each of the areas identified to have a potential deficiency, a possible capital improvement plan (CIP) was developed and verified using hydraulic modeling.

Ten high priority projects are aimed at reducing significant 10-year flooding in problematic areas and at carrying out short term improvements at selected pump stations. Six moderate priority projects aim to reduce most flooding at the 10-year level of service and perform long-term improvements at selected pump stations. The City may need to progressively re-prioritize moderate priority projects based on funding, other utility improvements, land use changes, and condition assessments. Four low priority projects are recommended to alleviate minor 10-year flooding. These projects are not likely to be constructed before the next storm drain master plan update. The master plan includes cost estimates.

Construction of new stormwater facilities and maintenance of existing facilities are managed through the City's Capital Improvement Program (CIP), which is a five-year plan updated on an annual basis. The list of CIP projects and funding priorities changes in response to the amount of funds available. Funding for CIP projects typically comes from a variety of sources, including local, regional, state, and federal revenue streams. Some funds are allocated to the City by formula, some are derived from adopted fees, and some are obtained through competitive grant applications.

The City's latest CIP (FY2021-2022) has specified funding to address current storm drain issues within the City. Fully funded projects include: 1) replace the damaged storm drainage system that runs from Via La Paz to Corte Alejo; 2) storm water treatment along Magnolia Avenue; and 3) reconfiguration of the Hillview Gardens Neighborhood system that will reroute drainage through the storm water Pump Station on Bon Air Road, circumventing the neighborhood and alleviating the flooding issue.

2. Regulatory Framework

The regulatory framework for stormwater is described in detail in Chapter 4.9, Hydrology and Water Quality, of this Draft EIR. The regulatory requirements that pertain solely to storm drain systems are repeated below.

Federal

Federal Clean Water Act

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 a state water quality certification indicating the proposed activity will comply with State water quality standards. Certifications are issued in conjunction with US Army Corps of Engineers (USACE) Section 404 permits for dredge and fill discharges. In addition, a water quality certification must be sought for any activity that would result in the placement of structures in waters of the United States 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 grant water quality certification or waive the requirement is delegated by the SWRCB to its nine RWQCBs.

National Pollutant Discharge Elimination System

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. As previously described, the EIR Study Area lies within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The City is subject to the requirements of the General Permit for Storm Water Discharges for Phase II Small Municipal Separate Storm Sewer Systems (MS4s).

Under Provision E.12 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. The goal is to be accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace one acre or more of impervious surfaces must comply with the hydromodification requirements specified in the E.12 provisions of the Phase II Small MS4 permit. These requirements include implementing site design measures to achieve infiltration, evapotranspiration, and/or harvesting/reuse of the 85th percentile, 24-hour, storm runoff event to the extent feasible and treatment of the remaining runoff with bioretention facilities. The hydromodification provisions also require that post-project runoff does not exceed pre-project runoff for the two-year, 24-hour storm event. The guidance document for implementing Provision E.12 of the NPDES permit is the Bay Area Stormwater Management Agencies Association (BASMAA) Post Construction Manual.

State

State Water Quality Control Board's Trash Amendment

On April 7, 2015, the SWQCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California to control trash. In addition, the Water Quality Control Plan for

Inland Surface Waters, Enclosed Bays, and Estuaries of California added the section: Part 1, Trash Provisions. Together, they are collectively referred to as "the Trash Amendments." The purpose of the Trash Amendments is to provide statewide consistency for the RWQCBs in their regulatory approach to protect aquatic life and public health beneficial uses, reduce environmental issues associated with trash in State waters, and focus limited resources on high-trash-generating areas.

The Trash Amendments apply to all Phase I and II permittees under the NPDES municipal separate storm sewer systems (MS4) permits. Compliance with the Trash Amendment requires municipalities to install certified trash treatment control systems on all catch basins no later than December 2, 2030.

Local

Larkspur General Plan 1990-2010

The existing General Plan contains goals, policies, and programs addressing flooding and drainage in the Health and Safety Chapter. The plan policies are aimed at preventing development in areas subject to flooding, reducing pollution of surface waters, and providing adequate drainage. The various federal, State, and regional laws, regulation, and guidelines summarized in the previous Hydrology and Water Quality section in many cases provide additional protections to these general plan policies and actions.

Larkspur Municipal Code

The LMC includes various directives to ensure the safe, efficient management of stormwater in Larkspur the LMC is organized by title, chapter, and section.

The LMC contains regulations to address drainage and flooding.

- Chapter 15.08.160 (Drainage) lists drainage improvements required for new development
- Chapter 15.18 includes provisions for flood hazard reduction.
- Chapter 15.20 (Grading, Excavation, and Fills) sets forth rules and regulations to control excavation, grading, and drainage on land to safeguard public health, safety, and welfare. It includes standards to control runoff.

3. Project Impacts

Standards of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in significant stormwater related impacts if it would:

1. Require or result in the relocation or construction of new or expanded storm water

drainage facilities, the construction or relocation of which could cause significant environmental effects.
2. Result in significant cumulative impacts related to stormwater facilities.

Impact UTIL-10: Implementation of the proposed project could require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects

Potential future development as part of the proposed General Plan 2040 could result in an increase in impervious surfaces, which in turn could result in an increase in stormwater runoff, higher peak discharges to drainage channels, and the potential to cause nuisance flooding in areas without adequate drainage facilities. However, almost all potential future development sites are located in infill areas or already developed areas that are paved, and new development on these sites should not create a substantial increase in impervious surfaces.

In addition, potential 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 Storm Water Pollution Prevention Plan (SWPPP), which includes best management practices to limit the discharge of sediment and non-stormwater discharges from the site. Potential future development that involves the creation and/or replacement of 2,500 square feet or more of impervious surfaces would trigger the implementation of source control measures and site design measures to address stormwater runoff, per the BASMAA Post-Construction Manual and the Phase II Small MS4 Permit requirements. In addition, stormwater treatment measures are required to contain site runoff for regulated projects that create or replace 5,000 square feet or more of impervious surface, using specific numeric sizing criteria based on volume and flow rate. Regulated projects would also be required to prepare a stormwater control plan that demonstrates that the regulatory requirements for temporary on-site stormwater runoff retention have been met. This would minimize the amount of stormwater runoff from potential future development in the Planning Area.

With the implementation of these provisions for potential future development, there would not be a significant increase in stormwater runoff to the City's storm drain system. The improvement of stormwater facilities, implementation of best management practices, and preparation of related plans would serve to minimize any potential impacts.

As described in the Setting section, the City has an adopted Storm Water Master Plan that identifies needed improvements to the storm drain system, and the City is funding these needed improvements annually through its CIP. There are current fully-funded projects in the City's CIP to 1) replace the damaged storm drainage system that runs from Via La Paz to Corte Alejo; 2) storm water treatment along Magnolia Avenue; 3) reconfiguration of the Hillview Gardens Neighborhood system will reroute drainage through the storm water Pump Station on Bon Air Road, circumventing the neighborhood and alleviating the flooding issue; 4) Park Way storm drain improvements, and 4) surveying for required repairs of the City's storm drain system.

In addition, the Larkspur General Plan 2040 includes policies and programs that address the storm drain system. These include the following.

Policy SAF-4.3: Consider the impacts of Sea Level Rise when designing and funding capital improvements.

> *Action Program SAF-4.3.a: Implement the recommended drainage system improvements of the Larkspur 2050 Capital Improvement Program, and any other recommended improvements identified in the future through the City's Capital Improvement Program. Design storm drain improvement to avoid back-flow intrusion in areas vulnerable to flooding and sea level rise.*

Policy ENV-2.8: Encourage on-site water infiltration on project sites and the use of low impact development techniques to reduce run-off of sediment and toxic materials, downstream erosion, and flooding.

> *Action Program ENV-2.8.a: Require drainage plans for projects that are designed, at a minimum, to produce no net increase in the rate and volume of peak runoff from the site compared to pre-project conditions. Encourage drainage plans that decrease the rate and volume of peak runoff compared to pre-project conditions.*
>
> *Action Program ENV-2.8.b: Continue to implement slope and hillside development regulations, including preservation of natural state conditions in steep hillside areas.*
>
> *Action Program ENV-2.8.c: Continue to require the use of low impact development techniques and other best management practices per Marin County Stormwater Pollution Prevention Program guidelines during development review, construction process, and site operation.*

Compliance with and implementation of these proposed General Plan 2040 policies and programs that ensure adequate infrastructure and the regulatory provisions in the Phase II Small MS4 permit that limit runoff from new development would ensure that the implementation of the proposed General Plan 2040 would not result in significant increases in runoff that contribute to the need for construction of new storm drain facilities or expansion of existing facilities, the construction of which would cause significant environmental impacts. In addition, the City will continue to repair, rehabilitate, and upgrade the storm drain system through implementation of the CIP program funded through the General Fund, and potential future development would also be required to pay public facilities fees per Chapter 3.28 of the LMC. Therefore, impacts with respect to stormwater infrastructure would be less than significant.

Future changes to the hydrologic conditions in Larkspur created by sea level rise may require major changes to the storm drain system. These changes are unknown and speculative at this time. In addition, these changes would be a response to climate change and not result from new development in the City allowed under Larkspur General Plan 2040.

Impact UTIL-11 Implementation of the proposed project could result in a cumulatively considerable impact to stormwater infrastructure.

The analysis of cumulative storm drainage impacts considers future development within the Corte Madera Creek watershed that encompasses the Planning Area. Cumulative impacts could

result from incremental changes that contribute to drainage and stormwater infrastructure problems within the watershed or the city.

Development within the Planning Area would require conformance with State and local policies that would reduce hydrology and infrastructure construction impacts to less than significant levels. Any new development in the city would be subject to City policies and ordinances, design guidelines, zoning codes, and other applicable City requirements that reduce impacts related to hydrology and stormwater drainage facilities. More specifically, potential changes related to stormwater flows, drainage, impervious surfaces, and flooding would be minimized by the implementation of stormwater control measures, retention, infiltration, and low-impact-development measures and review by the City's Public Works Department to integrate measures to reduce potential stormwater drainage and flooding impacts.

All cumulative projects in incorporated and unincorporated areas within the watershed would be subject to similar permit requirements and would be required to comply with various municipal codes and policies and County ordinances, as well as numerous water quality regulations that control construction-related and operational discharge of pollutants in stormwater. The 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 NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the Phase II Small MS4 Permit applies to all of the surrounding municipalities to manage stormwater systems and be collectively protective of water quality. For these reasons, impacts from future development within the Planning Area related to stormwater infrastructure construction are not cumulatively considerable.

In addition, the implementation of goals, policies, and programs of the proposed Larkspur General Plan 2040 would require coordination with MCFCWCD to minimize potential impacts to hydrology and stormwater infrastructure from other projects within the watersheds. Therefore, the proposed project would not result in a cumulatively considerable impact to hydrology and stormwater infrastructure. and cumulative impacts would be less than significant

Finally, Larkspur is at the downstream end of the watershed. Corte Madera Creek is the stream that would potentially be affected by runoff from Larkspur and upstream communities. As described in detail in Section 4.9, Hydrology and Water Quality, flooding and drainage issues concerning that creek and its watershed are being addressed by the Ross Valley Flood Protection & Watershed Program, the San Anselmo Flood Risk Project, and the USACE Corte Madera Creek Flood Risk Management Project.

Runoff from new development in Larkspur would not adversely affect storm drain systems of Ross, San Anselmo, Fairfax or unincorporated communities in the watershed upstream of Larkspur. Runoff from Larkspur also would not affect the plans and projects being implemented to address flooding concerns in the watershed. As described in the previous impact, runoff from projected development in Larkspur would not require storm drain improvements in Larkspur that would have a significant impact on the environment.

Accordingly, runoff from new development in Larkspur would not contribute to a cumulative runoff impact that would require additional new storm drain facilities in the watershed that would have a significant impact on the environment.

4.16 Wildfire

1. Setting

Introduction

Fire is a natural part of California's diverse landscapes and is vital to the health of many ecosystems across the state. For centuries, the native peoples of California recognized the interdependence between fire and the environment and used fire to maintain healthy plant communities and improve habitat for game. Fire's role in California's ecosystems changed dramatically in the late 1800s when settlers began quickly suppressing all new fires. Over the next century, aggressive firefighting led to problems such as forest densification, increased fuel loads, reduced forest health, and increasing intensity of fires. During this period of change, California's communities have grappled with the difficulty of sustainably managing fire while reducing the associated risks. The Wildfires today are even more complex, with an increase in frequency and severity is due to climate change and the challenges presented by the expansion of development into areas prone to severe fire hazards.

In 2017, catastrophic wildfires struck Ventura, Sonoma, and Napa Counties. The Thomas (Ventura) and Tubbs (Sonoma) fires were the largest and most destructive wildfire events on record, respectively. However, these records were short-lived. In 2018, the Mendocino Complex Fire burned over 459,000 acres to become the largest fire in California history, while the Camp Fire took at least 85 lives and destroyed 18,804 structures in Butte County, including much of the town of Paradise, to become the most destructive fire in California history. The 2019 Kincade Fire in Sonoma County burned about 78,000 acres and displaced 180,000 evacuees, while the Glass Fire that same year in Napa and Sonoma counties burned about 67,000 acres and dozens of homes. The 2020 LNU Lightning Complex, including the Wallbridge Fire in Sonoma County, burned 363,000 acres and required evacuation of residents from Highway 101 to the coast. The same year, the August Complex fires became California's first "gigafire" with over 1 million acres burned. In 2021 after over a year of record drought, the Dixie Fire near Lassen Park became the largest single fire in California history while the Caldor Fire burned more than 200,000 acres and threatened communities on the south side of Lake Tahoe.

Between 2003 and 2018, the top 10 costliest wildland fires in the United States all occurred in California. Six of the 20 largest and most destructive fires in California's history occurred in 2020 alone (OPR, 2020).[105]

[105] California Office of Planning and Research, *Fire Hazard Planning Technical Advisory,* November 2020.

Challenge of Climate Change

Climate change caused by increased emission of GHG will affect the weather of the area with corresponding impacts on wildfire risk, human health, and decreased water availability. Impacts include:

- Warmer, drier weather and longer fire seasons will lead to more frequent and intense wildfires.
- Warmer average weather will be associated with increased heat waves and increased number of days of extreme heat.
- Tree mortality will increase due to higher temperatures, decreased resilience, and beetle invasions, leading to increased fuel loads.
- Extended droughts will become more frequent with reduced water available to residents, agriculture, businesses, and firefighting.
- A decrease in precipitation will decrease the Sierra snowpack that will affect freshwater availability.
- Warming raises the elevation of snow levels with reduced spring snowmelt and more winter runoff.
- Warming will increase the occurrence of insect-borne diseases as these insects find new habitats in Marin and increase in prevalence due to warmer conditions.

Hazard, Risk and the Larkspur WUI

In wildland fire assessments, hazard refers to the type, arrangement, volume, condition, and location of fuels that form a special threat of ignition or of suppression. However, for a general plan, a hazard analysis for the Planning Area also addresses other factors that affect wildfire behavior. This includes how hot, how big, how vigorously a fire is likely to bum, how resistant to control it is likely to be, and how resistant to fire any impacted structures or infrastructure will be. These factors include fuel (including wildland and structural fuels), topography, and weather. Said another way, the principal hazard involving wildfire is the vegetative and structural fuels, and the risk is the likelihood of an ignition occurring near enough to a flammable fuel under weather conditions to ignite that fuel and to expand and cause damage to people and assets.

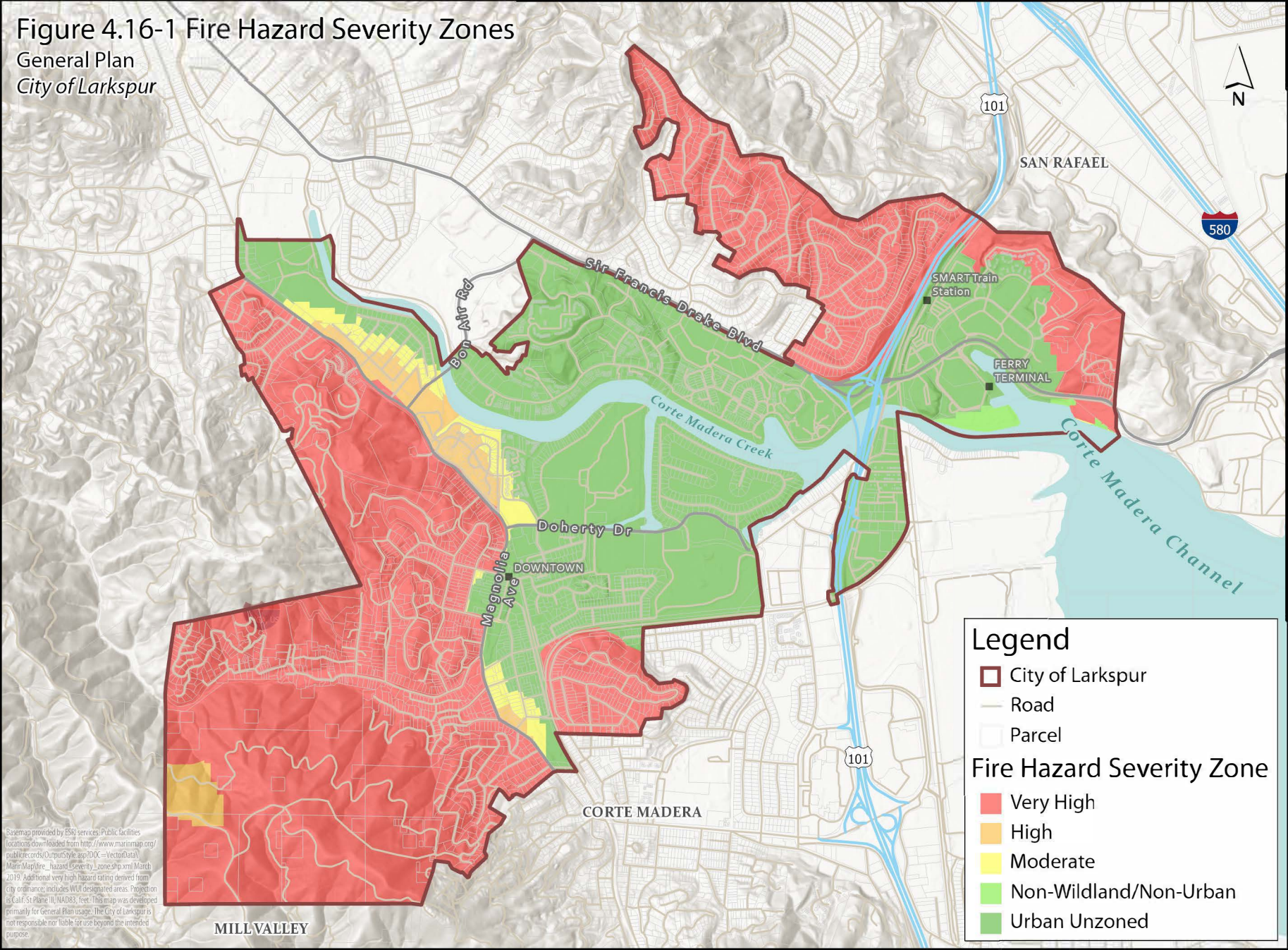
The Wildland Urban Interface (WUI) is recognized as the zone of transition between unoccupied land and human development, where natural vegetation and human-modified landscapes comingle. Lands within the WUI zone are most at risk of wildfires. Communities that are within 1/2 mile of the transition zone may also be included in the designated WUI zone. The City has designated all lands west of Magnolia Avenue, the Palm Hill area, and the Greenbrae area north of Sir Francis Drake Boulevard and west of Highway 101 as WUI (Figure 4.16-1). The proposed General Plan 2040 would extend this designation (shown on Figure 4.16-2) to the upper elevation portion of the Southern Heights Ridge east of Highway 101.

Much of this area includes steep slopes, flammable vegetation, and constrained access and evacuation routes. However, these areas are largely designated as either Open Space, Low

Figure 4.16-1 Fire Hazard Severity Zones

General Plan

City of Larkspur

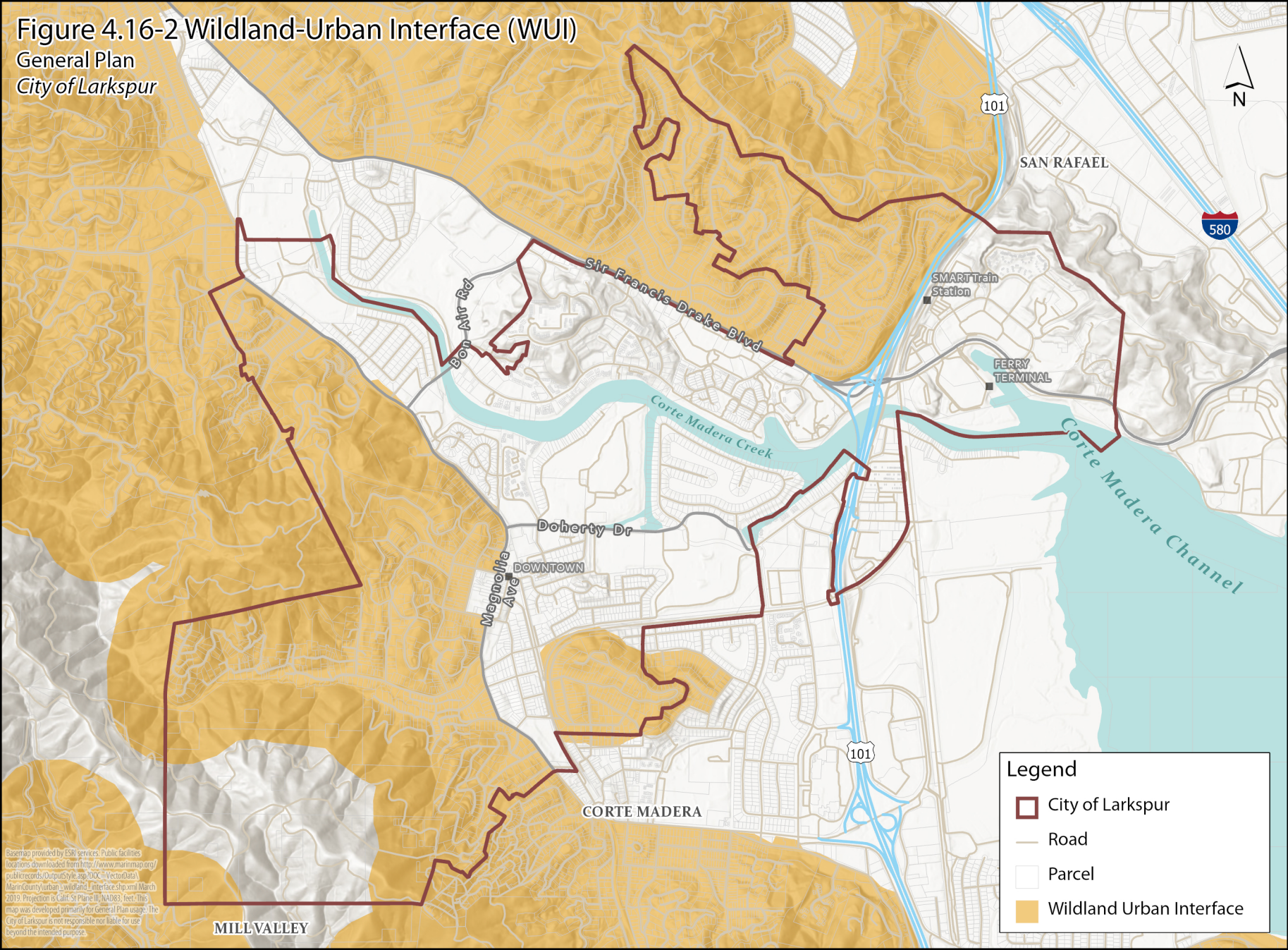


Basemap provided by ESRI services. Public facilities locations downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?DOC=VectorData\MarinMap\fire_hazard_severity_zone.shp.xml March 2019. Additional very high hazard rating derived from city ordinance; includes WUI designated areas. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Figure 4.16-2 Wildland-Urban Interface (WUI)

General Plan

City of Larkspur



Basemap provided by ESRI services. Public facilities locations downloaded from http://www.marinmap.org/publicrecords/OutputStyle.asp?OX_=VectorData\MarinCounty\urban_wildland_interface.shp.xml March 2019. Projection is Calif. St Plane III, NAD83, feet. This map was developed primarily for General Plan usage. The City of Larkspur is not responsible nor liable for use beyond the intended purpose.

Density Residential, or Very Low Density Residential. The neighborhoods in these zones are largely built-out, with very limited potential for subdivision and new development, due to density restrictions prescribed by the slope and hillside regulations. Accordingly, the highest risk is for residences that are largely on already developed lands.

The City is designated a Local Responsibility Area (LRA) for fire prevention or suppression. No portion of the City of Larkspur is designated as State Responsibility Area (SRA) where the State is financially responsible for the prevention and suppression of wildfires. Central Marin Fire Department is responsible for initial attack fire response and suppression in the entirety of the City of Larkspur. Central Marin Fire Department maintains mutual aid agreements with other local and regional departments to provide support for larger fires.

Local Fire History

Prior to human inhabitation of the area, the types of vegetation and habitats in the area were the result of many factors, including topography, soil types, underlying geological conditions, climate, lightning-caused fires, and evolutionary processes. At the time of human inhabitation of the area, likely more than 10,000 years ago, the basic vegetation communities were probably similar to current types - a mosaic of evergreen forest, hardwood woodland, chaparral, and grassland vegetation types. Wildfires ignited by lightning would burn grasslands, chaparral, and woodland understories. Infrequently, conditions in the area would lead to large, stand-replacing wildfires. Most species were likely fire tolerant and would resprout or reseed after both large and small burns.

With the migration of Native Americans into the area, fire became a more frequent event, as these earliest human settlers used fire to facilitate travel, provide additional browse for deer, facilitate access to acorns, stimulate the growth of grasses and forbs whose seeds and bulbs were used as food sources, and for other purposes. One of the major results of Native American burning was that the fire history of the area became more cyclic and predictable than was the case during pre-human times. Fires were frequent and relatively small. Through frequent ignitions, the vegetation was "managed" so that fuel loadings were reduced. This prevented the establishment of heavy fuel loads capable of supporting large catastrophic wildfires such as those that have become increasingly frequent in California over the past 25 years.

This historic landscape changed again after the Mexican and European settlement of the area. Beginning about 1800, the area's vegetation and wildlife was influenced by a number of actions including the introduction of livestock; extermination of many native grazing animals such as elk; elimination of grizzly bears, black bears, and most other fur-bearing carnivores; and introduction of non-native grasses. The Spanish-Mexican and early American settlers continued a periodic burning regime similar to that of the Native Americans as they sought to clear brush and wooded areas to provide additional habitat for their livestock. However, as the area became more settled, the widespread use of fire became a hazard (or nuisance) to many residents. As was the case throughout much of the United States, the historic fire regime was increasingly replaced by a policy of fire suppression. As fire suppression became an accepted public stance and suppression agencies improved their equipment and techniques, fire intervals

became longer, fuel accumulated, and the size of the fires, when they did occur, became larger. Between 1881 and 1945 virtually the entire Marin Water watershed was burned in five major fires. These wildfires included an 1881 fire that started in Blithedale Canyon and burned about 65,000 acres; an 1891 fire starting in Bill Williams Gulch that burned about 12,000 acres; a 1923 fire that burned about 40,000 acres from Novato to Alpine Lake; and the 1929 Mill Valley Fire that burned about 2,500 acres. The last major fire on the Marin Water watershed occurred in 1945 and burned approximately 20,000 acres.[106]

In the latter part of the 20th century, renewed attention and research were highlighting the adverse impacts of a century of fire suppression. Fuel buildups were of increasing concern, especially near residential development. During the 1980s Marin County Fire Department (MCFD) and Marin Water conducted a number of prescribed burns and other vegetation management projects to reduce flammable fuels in the Mt. Tamalpais area. Prescribed burns in the northern part of the watershed (north of Bolinas-Fairfax Road) were quite successful and most stands of chaparral were burned. Burns on the south face of Mt. Tamalpais were not as successful. A 1984 burn went awry as the weather changed right before the burn was started, but the burn proceeded anyway despite being out of prescription. The result was small and unconnected stands of chaparral were burned. These burns resulted in various researchers questioning the utility of the burns and members of the public protesting about the scarring of the face of the mountain with little beneficial results.

Subsequently, Marin Water and MCPOSD initiated preparation of a Vegetation Management Plan prepared to address the various alternative to reducing fuels and managing wildfire hazard and assessing the impacts of burning and other techniques.[107] The Mount Tamalpais Area Vegetation Management Plan was adopted in 1994, and the two districts implemented the plan over the next 10+ years. The Plan addressed vegetation and fuel management on the Marin Water watershed and the Northridge Open Space Preserve (that included the Baltimore Canyon, Blithedale Ridge, King Mountain, Alto Bowl, and Camino Alto components). In 2019, Marin Water adopted an updated version of this plan. In 2016, MCPOSD adopted its Vegetation and Biodiversity Management Plan (which addresses fire hazard reduction plan Marin County Open Space Preserves). The MCPOSD adopted a new vegetation management plan in 2018.

Subsequent to the deadly 1991 Tunnels Fire in the east bay hills, the Marin County Board of Supervisors issued a resolution to create a fire safety council, which became Fire Safe Marin. Since January 1993, Fire Safe Marin meetings have been open to the general public. Fire Safe Marin is a nonprofit representing many agencies, organizations, and individuals who work together towards the common goal of reducing wildland fire hazards and improving fire safety

[106] Summary of fire history taken from unpublished *Draft MMWD Management Plan for Watersheds Land*, Leonard Charles and Associates, 2011.

awareness in Marin. Vegetation management to reduce hazardous fuels, water systems for fire suppression, roads for emergency access, and public education continue to be primary endeavors for Fire Safe Marin. Between 2014 and 2019, the group successfully funded a variety of hazard reduction projects.

In response to large recent wildfires and subsequent reports by the Marin County Board of Supervisors and the Marin Civil Grand Jury, Marin voters passed Measure C in March of 2020. This created the Marin Wildfire Prevention Authority (MWPA), a joint powers agency tasked to develop and implement a comprehensive wildfire prevention and emergency preparedness plan throughout almost all of Marin County. The MWPA mission includes providing expert information and assistance to help the public reduce risk, prevent wildfires, and be prepared for potential disaster. The MWPA provides major financial support to Fire Safe Marin for these community outreach and education efforts. Additional information of MWPA is presented under the Regulatory Framework section later in this chapter.

2. Regulatory Framework

This section summarizes key State and local regulations set forth to identify wildfire hazard areas and to reduce wildfire risks to new and existing structures.

Federal

National Cohesive Wildland Fire Management Strategy

In response to requirements of the Federal Land Assistance, Management, and Enhancement Act of 2009, the Wildland Fire Leadership Council directed the development of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). The Cohesive Strategy is a collaborative process with active involvement of all levels of government and non-governmental organizations, as well as the public, to seek national, all-lands solutions to wildland fire management issues. The strategy is regionally oriented, and science based.

The Cohesive Strategy identifies three primary goals as presenting the greatest opportunities for making a positive difference in addressing wildland fire problems and achieving their vision. The Cohesive Strategy's goals are as follows:

1. Restoring and maintaining resilient landscapes
2. Creating fire-adapted communities
3. Responding to wildfires: The strategy must consider the full spectrum of fire management activities and recognize the differences in missions among local, state, tribal and federal agencies. The strategy must offer collaboratively developed methodologies to move forward.

Local Hazard Mitigation Planning

The Federal Disaster Mitigation Act of 2000 (DMA 2000) enacted several changes under Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act related to pre-disaster mitigation, streamlining the administration of disaster relief, and controlling the costs of federal disaster assistance. These changes have collectively brought greater focus on pre-disaster planning and activities as a means for reducing response and post-disaster costs.

On February 26, 2002, an Interim Final Rule (IFR) (44 Code of Federal Regulations Parts 201 & 206) to implement the DMA 2000, was published in the Federal Register. This IFR addressed state mitigation planning, identified new local mitigation planning requirements, authorized Hazard Mitigation Grant Program (HMGP) funds for planning activities, and included the possibility of an increase in the percentage of HMGP funds available to states that develop a comprehensive, enhanced plan.

State Hazard Mitigation Planning

In accordance with the February 26th IFR and a further October 1, 2002 IFR, local governments must have a Local Hazard Mitigation Plan (LHMP) that is reviewed by the State Mitigation Officer and then approved by FEMA, prior to November 1, 2004, as this is a required condition of receiving FEMA mitigation project assistance. LHMPs must be revised, reviewed, and approved every five years.

The February 26th IFR directs state and local governments to develop comprehensive and integrated plans that are coordinated through appropriate state, local, and regional agencies, as well as non-governmental interest groups. Moreover, state and local governments are encouraged to consolidate the planning requirements for different mitigation plans and programs to the extent feasible and practicable.

Although the LHMP and the general plan safety element are not intended to be identical documents, many of the data and analysis requirements are similar. AB 2140 (2006) allows (but does not require) a county or city to adopt and/or incorporate by reference its current, FEMA-approved LHMP into the general plan safety element. AB 2140 encourages LHMP integration or incorporation by reference into the safety element by providing a disaster mitigation funding incentive that authorizes the state to use available California Disaster Assistance Act funds to cover local shares of the 25% non-federal portion of grant-funded post-disaster projects when approved by the legislature per GC § 8685.9. If an LHMP is adopted or incorporated by reference into the safety elements, it must be consistent with the safety element and all other elements of the general plan, pursuant to internal consistency requirements for the general plan codified at GC § 65300.5.

Community Wildfire Protection Plans

A Community Wildfire Protection Plan (CWPP) is a planning and funding prioritization tool created by the Healthy Forests and Restoration Act of 2003 as an incentive for communities to

engage in comprehensive forest and fire hazard planning and help define and prioritize local needs. They are generally developed by local governments or other entities with assistance from state and federal agencies and in collaboration with other interested partners. This provides communities with a tremendous opportunity to influence where and how federal agencies implement fuel reduction projects on federal land, as well as how additional federal funds may be distributed for projects on non-federal lands. CAL FIRE also provides funding opportunities for projects or activities that may be identified in CWPPs. As with the LHMP, a CWPP is not identical to the general plan; however, some of the data and analysis included in both documents are similar. The Marin County CWPP was updated in 2020, with subsequent updates planned on 5-year intervals.

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 wildlands. The Office of the State Fire Marshal supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. The Office of the State Fire Marshal provides for fire prevention by enforcing fire-related laws in State-owned or-operated buildings; licensing those who inspect and service fire protection systems; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and State government emergency response agencies.

2019 Strategic Fire Plan for California

CAL FIRE produced the 2019 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. The 2019 Strategic Fire Plan for California focuses on fire prevention and suppression activities to protect lives, property, and ecosystems in addition to providing natural resource management to maintain state forests as a resilient carbon sink to meet California's climate change goals. This plan provides State Responsibility Fire Safe Regulations, which requires that all parcels 1 acre or larger provide a minimum 30-foot setback for buildings from all property lines and/or the center of the road. A key component of the 2019 Strategic Fire Plan for California is the collaboration between communities to ensure fire suppression and natural resource management is successful. The California Fire Plan is the State's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. [108]

[108] California State Board of Forestry and Fire Protection. 2019. *2019 Strategic Fire Plan for California*, https://www.fire.ca.gov/media/5504/strategicplan2019-final.pdf,

Fire Hazard Severity Zones and Responsibility Areas

CAL FIRE publishes maps recommending fire hazard severity zones for every California county. The maps identify lands in California as falling within one of the following management areas: local responsibility area (LRA), state responsibility area (SRA), and federal responsibility area (FRA). Within each of these areas, a single agency has direct responsibility: in LRAs, local fire departments or fire protection districts are responsible; in SRAs, CAL FIRE is responsible; in FRAs, federal agencies such as the United States Forest Service, National Park Service, Bureau of Land Management, United States Department of Defense.

Climate Adaptation Requirements

SB 379 (2015) amended California Government Code § 65302(g)(4) to require that climate change adaptation and resilience be addressed in the safety element of all general plans in California. Specifically, "upon the next revision of a local hazard mitigation plan, adopted in accordance with the Federal Disaster Mitigation Act of 2000 (Public Law 106-390), on or after January 1, 2017, or, if a local jurisdiction has not adopted a LHMP, beginning on or before January 1, 2022, the safety element shall be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county."

United States Fish and Wildlife Service, and Department of the Interior are responsible.1 Within the LRA, CAL FIRE designates lands as being within a Very High Fire Hazard Severity Zone (VHFHSZ) or non-VHFHSZ.

Fire Risk Reduction Communities

Assembly Bill (AB) 1823 (2019) amended Public Resources Code (PRC) Section 4290.1 to require that, on or before July 1, 2022, the State Board must develop criteria for and maintain a list of local agencies considered to be a "Fire Risk Reduction Community" located in the SRA or VHFHSZ, identified pursuant to GC § 51178, that meet best practices for local fire planning. Criteria that must be used to develop the Fire Risk Reduction Community list include recently developed or updated CWPPs, adoption of the board's recommendations to improve the Safety Element, participation in Fire Adapted Communities and Firewise USA programs, and compliance with the Board's minimum fire safety standards.

California Office of Emergency Service

The California Office of Emergency Services (Cal OES) was established on January 1, 2009. Cal OES is responsible for the coordination of overall state agency response to major disasters in support of local government. It 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. In 2018, Cal OES completed a State Hazard Mitigation Plan, which designated fire hazard severity zones and wildland-urban interface (WUI) areas.

Senate Bill 1241

SB 1241 requires that the fire hazard severity zone maps prepared by CAL FIRE be included in each general plan. Each map sets the foundation for subsequent policies, usually in a general plan's safety element, to address fire prevention and protection in areas with a High or VHFHSZ. SB 1241 additionally requires that General Plan Safety Elements get reviewed by CAL FIRE prior to adoption to ensure policies provide adequate wildfire protection.

Building Design Standards

The California Building Code (CBC), Part 2 of 24 California Code of Regulations, identifies building design standards, including those for fire safety. 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. Commercial and residential buildings are plan checked by local city and county building officials for compliance with the CBC and any applicable local edits. Typical fire safety requirements of the CBC include the installation of sprinklers in all high-rise buildings and other facilities; the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction in VHFHSZs; requirements for smoke-detection systems; exiting requirements; and the clearance of debris. The City of Larkspur regularly adopts each new CBC update under the Larkspur Municipal Code (LMC).

Materials and Methods for Exterior Wildfire Exposure

Chapter 7A of the CBC, Materials and Methods for Exterior Wildfire Exposure, prescribes building materials and construction methods for new buildings in a fire hazard severity zone. Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures.

California Fire Code

The California Fire Code 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 California Code of Regulations 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 California Fire Code is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions. The City of Larkspur regularly adopts each new fire code update. The California Fire Code is a model code that regulates minimum fire safety regulations for new and existing buildings; facilities; storage; processes, including 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.

Defensible Space

California PRC Sections 4291 et seq. require that brush, flammable vegetation, or combustible growth within 100 feet be removed around all buildings on or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land covered in flammable materials. Requirements regarding hazardous vegetation and fuel management are also contained in Sections 4906 and 4907 of the California Fire Code, and section 51189 of the California Government Code.

Regional Regulations

Marin Community Wildfire Protection Plan

The Marin Community Wildfire Protection Plan (CWPP), adopted in July 2016 and updated in 2020, is intended to provide a foundation for and facilitate continued collaboration between the multiple agencies providing fire protection within Marin County, The CWPP has five goals: (1) continue to identify and evaluate wildland fire hazards; (2) articulate and promote the concept of land use planning related to fire risk; (3) support and continue to participate in the collaborative development and implementation of wildland fire protection plans; (4) increase awareness, knowledge, and actions implemented by individuals and communities to reduce human loss and property damage from wildland fires; and (5) integrate fire and fuels management practices.

To expand on State fire hazard assessment, the County conducted an independent hazard, asset, and risk assessment to help identify and prioritize areas within the County that are potentially at high wildfire risk based on more recent fuels data, advanced modeling techniques, and local input. The assessment was performed by modeling potential fire behavior and the probability that an area would burn given an ignition. This output was combined with areas of concern and assets at risk. Composite maps were generated indicating relative potential fire hazards throughout the County. The culmination of this effort was the Marin CWPP. Large portions of Larkspur were identified in the CWPP as having a high risk (a combination of potential flame length, rate of spread, and assets at risk).

Some of the projects done under the CWPP in 2020 in the Larkspur area included:

- Evaluated LRAD warning systems within the jurisdiction and developed a local study and polling to evaluate community need and support for enhanced audible warning systems.
- Conducted 2,200 private property defensible space assessments:
- Engaged and supported Firewise Sites in:

    - Meadowcrest, Corte Madera
    - Madera Del Presidio HOA, Corte Madera
    - Hidden Valley NRG, Corte Madera
    - Blue Rock NRG, Larkspur
    - Palm Hill NRG, Larkspur
    - Madrone Canyon NRG, Larkspur
- Developed draft multi-year shaded fuelbreak concept and draft map and plan.
- Evacuation Route fuels reduction project on Christmas Tree Hill, Chapman Park, Meadowcrest, Hidden Valley, and Palm Hill.
- Engaged Marin County Parks and Open Space on phase 1 of a multi-year fuel reduction, invasive plant control, and habitat restoration effort in the Citron Bowl, Blue Rock, and Madrone Canyon neighborhoods.
- Engaged with Madrone Canyon NRG and California Fire Safe Council to implement grant funded fuel reduction/shaded fuel break work plan for 2021.

Marin County OES Operations Plan

The Marin OES Emergency Operations Plan, adopted in October 2014, establishes emergency management policies and procedures, in addition to assigning responsibilities to ensure the effective management of emergency operations within the Marin Operational Area. Cities and towns within the county participate in the Marin OES coordination of emergency management activities. Emergency operations are split into four phases: (1) Preparedness Phase, (2) Response Phase, (3) Recovery Phase, and (4) Prevention/Mitigation Phase. The City of Larkspur coordinates with Marin OES to ensure emergency management functions meet the expectation of the City.

The Marin County Sheriff's Office, the Marin Wildfire Prevention Authority (MWPA), and all Marin municipalities launched ZoneHaven, a community evacuation interface that allows the public access to real-time status updates and instructions for their evacuation zone and provides County municipalities and fire responders with an evacuation planning application. Agencies in Marin are able to use ZoneHaven to send evacuation warnings to evacuation zones in Novato, San Rafael, Ross Valley, Southern Marin, and West Marin. Fire Safe Marin and Marin fire agencies, cities and towns, and other partners developed improved wildfire evacuation maps and messaging for residents of Marin's WUI communities. These FireClear maps show both evacuation zones and evacuation routes by community and are found on the MWPA website: Fire Safe Marin Evacuation Maps

Marin County Operational Area Emergency Recovery Plan

The Marin County Operational Area Emergency Recovery Plan (ERP), adopted in November 2012, establishes procedures and assigns responsibility to ensure the effective management of emergency recovery operations within the Marin County Operational Area, which includes Larkspur. The ERP describes operational concepts relating to recovery, identifies components of recovery organization, and describes general responsibilities of the Marin County Office of Emergency Services (Marin OES). Recovery operations in a multi-jurisdictional incident are

coordinated and managed by the Marin OES in accordance with the California Emergency Services Act.

Marin Wildfire Prevention Authority

In 2020 the Marin Wildfire Prevention Authority (MWPA), a joint powers authority (JPA) was formed after receiving 70.8% support from local voters and includes 17 local municipal governments, fire districts, and utility districts. Backed by a $10.8 million annual work plan, the authority began developing and implementing a comprehensive wildfire prevention and emergency preparedness plan for most of Marin that includes facets of vegetation management, wildfire detection and evacuation program improvements, defensible space evaluations, and public education.

Marin Wildfire Prevention Authority will accomplish key initiatives including:

- Improving emergency alert and warning systems to enhance early alert for organized evacuations.
- Expanding coordinated efforts to reduce combustible plants and vegetation.
- Improving evacuation routes and infrastructure to enhance traffic flow and promote safe evacuations.
- Expanding and enhancing defensible space and home evaluations and educating homeowners about how to reduce the vulnerability of their home and neighborhood to wildfire.
- Providing grants and support to seniors, persons with disabilities, and low-income homeowners who need assistance maintaining defensible space, making homes fire resistant, reducing combustible vegetation, and preparing for emergencies.
- Creating and sustaining a coordinated local wildfire public safety and disaster preparedness program.
- Supporting residents to establish Firewise USA programs in neighborhoods through ongoing public education.

The MWPA is conducting an Evacuation Ingress-Egress Risk Assessment to create a rating system of roads, presenting a visual risk assessment of the County's roadways at various levels of aggregation (geographic areas, evacuation zones, or other). In 2021, MWPA implemented several projects, including the Central Marin Evacuation Route Core Project. The activities under this project would occur along prioritized roads in the Greater Ross Valley area in the communities of Fairfax, San Anselmo, Sleepy Hollow, Ross, Kentfield, Greenbrae, Larkspur, Corte Madera, and adjacent unincorporated County areas. Project work would be along roadways within the designated WUI boundary or along primary, secondary, or tertiary evacuation routes. Approximately 100 miles of roads have been prioritized for roadside

vegetation treatment, generally located within the wildland urban interface (WUI).109 The MWPA also proposed similar evacuation route projects for West Marin and San Rafael.

In 2021, MWPA instituted a Defensible Space & Home Hardening Program to better inform residents of requirements, hazards, and suggested mitigation measures identified by inspectors. Inspectors from the MWPA and the local fire department will inspect properties to evaluate whether homes meet wildland-urban interface "WUI" defensible space, vegetation management, and construction standards. Residents then receive a comprehensive, online report that includes recommendations for improving their home's ability to survive a wildfire. This evaluation may also determine if the property meets state and local requirements for defensible space.

Marin County Multi-Jurisdictional Local Hazard Mitigation Plan.

The Marin County Multi-Jurisdictional Local Hazard Mitigation (MCM LHMP) was completed in November 2018 to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. Several jurisdictions and special districts participated in the creation of the MCM LHMP, including the City of Larkspur. The risks and mitigations in the MCM LHMP are broad and encompassing of the entirety of Marin County. The MCM LHMP incorporates each local jurisdiction's individual LHMP as appendices to ensure jurisdiction-specific information supplements the vulnerability mitigation in the MCM LHMP.

When updating a General Plan Safety Element, Government Code Section 65302(g)(3) requires a jurisdiction to provide background data on CALFIRE Fire Hazard Severity Zone maps, historical data on wildfires, USGS wildfire hazard areas, the number of existing residences at risk from wildfire, and agencies with responsibility for fire protection. These data are all included in the 2018 MCM LHMP that is incorporated by reference into this General Plan Update.

Local Regulations

Central Marin Fire Department

In 2016, The City entered into a Joint Powers Authority (JPA) agreement with the Town of Corte Madera to create the Central Marin Fire Department. The Central Marin Fire Department maintains four fire stations in the greater Twin Cities area (numbered according to the Marin County fire station system):

- Station 13 at 5600 Paradise Drive in Corte Madera
- Station 14 at 342 Tamalpais Drive, next to Corte Madera Town Hall
- Station 15 at 420 Magnolia Avenue, next to Larkspur City Hall
- Station 16 at 15 Barry Way in Greenbrae

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[109] MWPA website visited August 31, 2021 - https://www.marinwildfire.org/programs

The Department is responsible for enforcing the Larkspur Fire Code in Larkspur, Ordinance 904 Designating the WUI, and Ordinance 907 Wildland Urban Interface Code. The Department actively works with Fire Safe Marin and the MWPA to develop vegetation management, evacuation route planning, and risk reduction projects in Larkspur and Corte Madera. Some recent projects include.

- In 2021, the Department in cooperation with MWPA and the Greater Ross Valley Fire Agencies planned to conduct a comprehensive fuel reduction project located along Hazel Avenue, Palm Avenue, and Onyx Street in Larkspur.
- In 2021, the Department and Kentfield Fire Protection District, in partnership with Marin Wildfire Prevention Authority (MWPA), conducted Wildfire Defensible Space and Home Hardening Evaluations on residential properties in the Wildland Urban Interface (WUI) areas of Greenbrae.
- Fire Safe Marin in cooperation with the Department prepared an Evacuation Route Map for the Greenbrae neighborhood.
- The Department continues to support the creation and support for Neighborhood Resource Groups (NRGs). There are NRGs in 41 neighborhoods in Larkspur and Corte Madera representing over 6,000 households that are organized to respond and help each other in the event of major earthquake, flood, or PG&E Power Safety Power Shutoff. They work together to mitigate communal fire risks, help each other prepare safe practices and safe evacuation routines on high fire risk days (Red Flag Days), and share awareness of such days. They create community ties to make sure no neighbor is overlooked. Central Marin Fire Department NRG Program has a Program Coordinator who supports NRG efforts in Corte Madera, Larkspur, incorporated Greenbrae, unincorporated Greenbrae and Kentfield.
- The Department also supports Community Emergency Response Team (CERT) Training for local residents as well as resident sign up for emergency notifications on Nixie (an email text alert system) and Alert Marin.

Larkspur Municipal Code.

As described above the LMC incorporates the Larkspur Fire Code. The LMC also limits development of ADUs and Junior ADUs in the WUI to sites where the Fire Department determines there is adequate emergency access and evacuation.

Larkspur General Plan 1990-2010

The existing General Plan contains policies and programs to ensure there is adequate fire protection service and to avoid development in high fire hazard areas. The policies and programs are more general in nature reflecting the understanding that hazardous areas should be avoided but not reflecting the current state of knowledge about the hazards and risk wildfire now presents.

3. Project Impacts

Thresholds of Significance

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would result in significant wildfire impacts if it would:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan.
2. 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.
3. 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.
4. 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.
5. Result in significant cumulative impacts related to wildfire.

Impact FIRE-1 Implementation of the proposed project could substantially impair an adopted emergency response plan or emergency evacuation plan.

The City of Larkspur is essentially built out. As discussed previously in the Introduction to Chapter 4.0, almost all new development will be reuse or redevelopment of currently developed sites within the two TRAs centered around the Larkspur Landing area or along major arterials (High Resource Areas or HRAs) including Sir Francis Drake Boulevard, Redwood Highway, and Magnolia Avenue. Development along these major arterials or near Highway 101 will not block or substantially impair evacuation or emergency access. New development that could substantially impair evacuation or emergency access would be in the WUI that has very high fire hazard. The WUIs, including the western part of the city that is west of Magnolia Avenue, the Palm Hill area, and the Greenbrae area have essentially been built out.

The one large undeveloped site within in the WUI with some development potential (the Tiscornia property west of Magnolia Avenue and the west end of Bon Air Road) has potential for as many as 23 residences. It is expected that proposed development at this site, as well as other smaller scattered parcels, will be conditioned by the City to provide two access routes for new homes as well as be reviewed for compliance with all requirements for new construction in the WUI, including potential requirements for fire-resistant building materials. The site abuts Magnolia Avenue which is a major arterial providing evacuation routes and emergency access to the north, south and via other intersecting streets, to the east.

There is also the potential for redevelopment of properties on N. Magnolia Avenue located along the east side of the WUI that could add up to 100 new dwelling units, that would likely be built on a second or third story above commercial or other non-residential development. This possible redevelopment would be built adjacent to the main evacuation route in the N. Magnolia area where residents would have quick access to evacuation options. It is not expected that redevelopment along this corridor would block or impair emergency access or evacuation in the area.

No new development is proposed in the Greenbrae WUI, Kentfield WUI, or the proposed expansion of the WUI to include the Southern Heights Ridge (per Action Program SAF-7.1.a) on the San Quentin peninsula, so there would be no impact in these three areas. However, the City may eventually annex the area within the City's SOI on the San Quentin peninsula. If the WUI is extended to include the State-owned parcel in the SOI, then as many as 8 new residential lots could be developed within the extended WUI. This large-lot residential development located just uphill from Sir Francis Drake Boulevard would not be expected to affect emergency access or response plans. It is expected that the Residential Master Plan that is required for development of this land would include evacuation routes and other fire hazard reduction conditions as described above for the Tiscornia property.

It is projected that as many as 300 ADUs could be created in the city by 2040. Per the LMC, ADUs and Junior ADUs are not permitted in the in very high fire hazard severity zones where the primary access to the property is on roadways that are subject to constrained ingress/egress for emergency vehicles and resident evacuation. The LMC specifically restricts ADUs on many streets in the Baltimore Canyon areas. It is expected that the Central Marin Fire Department would oppose ADUs in other parts of the VHFH Zone where there is restricted access.

Existing constraints on evacuation and emergency access in the western WUI and the other WUIs will continue to be improved through the evacuation route planning and risk reduction projects being done by the Central Marin Fire Department, MWPA, Fire Safe Marin, and the NRGs. An example is the evacuation route fuels reduction project on Palm Hill. Evacuation route planning is supported by policies in the General Plan 2040, as summarized below. The General Plan 2040 plus existing fire agency plans, and projects will reduce the risk of wildfire in the Planning Area and improve emergency route access in the case of a major fire igniting in or crossing through the western WUI.

As discussed in the Regulatory Framework, the Marin OES provides emergency management and recovery services through the Marin ERP and the Marin Emergency Operations Plan (EOP). All cities and towns within Marin County participate in the regional coordination of emergency management activities by Marin OES. Implementation of the proposed General Plan 2040 would not impair implementation of or physically interfere with either the Marin ERP or the Marin EOP.

As stated in the Setting section, Marin County residents approved funding that created the MWPA and to fund proactive state-of-the-art wildfire prevention and preparedness efforts in

Marin County, which includes a key initiative aimed to improve evacuation routes and infrastructure to enhance traffic flow and promote safe evacuations.

The proposed Health & Safety Chapter of General Plan 2040 contains goals, policies, and programs that require local planning and development decisions to take into account fire agency plans related to wildfire. The following General Plan policies and programs would serve to ensure that future development takes existing plans into account:

Policy SAF-1.1: Strive to educate the community about natural hazards, measures which can be taken to protect lives and property, and methods for responding to various disasters.

Action Program SAF-1.1.c: Continue to support FIRE Safe Marin in coordinating and leading the County efforts to reduce the risk from wildfire and provide regulations and recommendations on efforts to reduce that risk.

Action Program SAF-1.1.e: Continue to coordinate with local and regional Marin fire agencies to publicize wildfire awareness and prevention strategies with applicable wildfire awareness programs.

Policy SAF-7.4: Manage public lands as appropriate and feasible to minimize the chances of a wildfire affecting residences and businesses while maintaining habitat functions and values. Request that the Marin County Open Space District and Marin Municipal Water District assess and reduce the wildland fire hazards on their holdings within and adjacent to the City.

Policy SAF-3.1: Allow appropriate land uses in areas prone to natural hazards only with appropriate mitigation.

Policy SAF-6.1: Maintain and, as necessary, upgrade or expand equipment and staffing to provide efficient fire suppression service to Larkspur residents.

Action Program SAF-6.1.a: Apply regional and industry established performance standards such as desired response times for police, fire, and other public services.

Action Program SAF-6.2.b: Continue to support the Central Marin Fire Department to have sufficient sources needed to purchase equipment and hire staff to provide effective fire response times.

Action Program SAF-6.2.c: Continue to support the community chipper program and other fuel mitigation and reduction programs.

Policy SAF-7.1: Continue to require that new and existing development in the Very High Fire Hazard Severity (VHFHS) Zone and adjacent High Fire Hazard areas meet all current building and property maintenance requirements for these zones.

Action Program SAF-7.1.a: Amend the Larkspur Municipal Code Section 14.10.010 that defines the City's VHFHS Zone to include the area north of E. Sir Frances Drake Blvd from the east end of Larkspur Landing Circle to the Larkspur city limits, and from Drakes Way east to the Larkspur city limits. Amend the code section to be consistent with the City's map of the VHFHS Zone (Reference Figure 7-10: Fire Hazard Severity Zones for Larkspur).

Action Program SAF-7.1.b: Continue to monitor properties designated Fire Hazard Severity Zones on Figure 7-10.

Action Program SAF-7.1.c: Continue to apply City building and vegetation management requirements that include consistency with Wildland Urban Interface (WUI) Code building requirements, Class A roofing, parking requirements, vegetation management, defensible space, and road and evacuation route fuel reduction.

Action Program SAF-7.1.d: Continue to monitor properties in very high fire hazard areas and require abatement of flammable vegetation and fire hazards, as determined by the Fire Marshal.

*Action Program SAF-*7.1.e: Coordinate with Marin Municipal Water District to provide and maintain water supply systems to supply for structural fire for structural fire suppression.

Policy SAF-7.2: Reduce the risk of loss of life, personal injury and property damage resulting from urban fire hazards through code enforcement to protect residents and businesses from structural fires.

Action Program SAF-7.2.a: Continue to inspect businesses, public buildings and multi-family dwelling complexes on a regular basis for fire and safety code violations, as required by the State Fire Marshal's office.

Action Program SAF-7.2.b: Continue to implement the most recent updated versions of the California Fire Code, the International Fire Code and Appendix A of the International Wildland Urban Interface Code standards (as amended and adopted by the City of Larkspur) for all new construction and applicable remodeling or additions, as determined by the Fire Chief. Consistent with the Marin County CWPP, promote the use of fire-resistant materials and construction methods.

Action Program SAF 7.2.c: Enforce fire safety codes requiring fire suppression, management of combustible materials, fuel and ignition sources in conjunction with construction activities and vegetation management/tree removal.

Policy SAF-7.3: Coordinate with FIRE Safe Marin, the Marin County Office of Emergency Services, other local fire departments, state, and federal fire protection agencies with respect to fire suppression, rescue, mitigation, training and education. (Also see Policy SAF-2.3.)

Action Program SAF-7.3.a: Implement actions pertinent to fire hazards listed in the MCM LHMP.

Policy SAF-7.4: Manage public lands as appropriate and feasible to minimize the chances of a wildfire affecting residences and businesses while maintaining habitat functions and values. Request that the Marin County Open Space District and Marin Municipal Water District assess and reduce the wildland fire hazards on their holdings within and adjacent to the City.

Action Program SAF 7.4.*a: Work collaboratively with county, local, and regional agencies and landowners to develop fuel reduction priorities and strategies based on the Marin County CWPP, and other regional plans.*

Action Program SAF 7.4.*b: Work with the Central Marin Fire Department to encourage the Marin County Open Space District to expedite fuel management on open space preserves adjacent to the City per the recommendations in the District's Fire Vegetation and Biodiversity Management Plan.*

Action Program SAF 7.4.*c: Work with the Central Marin Fire Department to encourage the Marin Municipal Water District to expedite fuel management on its watershed adjacent to the City per the recommendations in the Districts Final Biodiversity, Fire, and Fuels Integrated Plan.*

Action Program SAF 7.4.*d: Work with the Central Marin Fire Department to encourage the Marin County Open Space District and the Marin Municipal Water District to facilitate creation of fuel reduction and shaded fuel breaks along the perimeter of their lands where they abut residential lots in the City.*

*Action Program SAF-*7.4.*e: Request that the Marin Municipal Water District prioritize fire flow upgrades in the Very High Fire Hazard Severity Zone to meet a goal, where feasible, of 1,000 gallons per minute for two hours.*

These proposed policies and programs encourage added fire risk reduction by recommending additional inspections of hazardous areas, continuing monitoring of properties in the very high fire hazard zone, increasing fuel management on Marin Water and MCPOSD wildlands adjacent to the city, and increasing fireflow in the WUI.

As discussed in the Regulatory Framework, there are a number of local, regional, and State agencies that have adopted plans relevant to emergency response and evacuation. Implementation of General Plan 2040 would include the requirement to comply with all existing adopted regulations, which include the 2019 California Fire Code and the 2019 California Building Code regulations, the Marin ERP, the Marin EOP, the LMC, and the LHMP. Each of these documents incorporate emergency response and evacuation provisions to ensure existing and future development comply with best management practices. As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development is expected to occur in existing urban areas and would be concentrated on a limited number of vacant parcels in the form of infill/intensification on sites already developed and/or underutilized and/or in close proximity to existing residential and residential-serving development. All future development, regardless of the location, is required to comply with adopted local, regional, and State plans and regulations addressing emergency response and evacuation. As such, implementation of General Plan 2040 would not substantially impair an adopted emergency response or emergency evacuation plan, and the impact would be less than significant. No additional program-level mitigation is required.

Impact FIRE-2 Development facilitated by the proposed 2040 General Plan in areas located in lands classified as very high fire hazard severity zones would not substantially expose future occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire, due to slope, prevailing winds, and other factors.

There are no State-designated Fire Hazard Severity Zones within the Planning Area. However, much of the city is designated as very high fire hazard and/or within the WUI. As described in the previous impact, the only new development potential of undeveloped land in the City's western WUI is the Tiscornia property that has a buildout potential of 23 dwelling units and in the eastern WUI the possible future annexation of the State-owned property adjacent to San

Quentin Prison that would a buildout potential for the 40 acres that would remain undeveloped on the parcel of 8 residential lots. As discussed under Impact FIRE-1, these properties would require review to ensure adequate evacuation routes and consistency with all City and State requirements for new development in the WUI. Per Action Program SAF-7.2.b, the Fire Chief can require the use of fire-resistant materials and construction methods for new development in these areas. Therefore, development of these properties would not be expected to substantially change the fuels or fire hazard of the WUI, and it would not increase the likely size or severity of a wildfire igniting in or crossing the WUI.

Other potential development within the western WUI would include reuse or redevelopment of existing properties along the west side of N. Magnolia Avenue. Up to 100 additional dwelling units could be added between Bon Air Road and College Avenue. These units could be added to the area that is within the WUI (west of N. Magnolia Avenue) or outside the WUI on the east side of the street. The area east of N. Magnolia Avenue is not within the WUI, but it is designated as an area with high fire hazard (see Figure 4.16-1). Redevelopment of these properties would be subject to the same General Plan 2040 policies and regulations on new development within the WUI as described previously for the Tiscornia property. While this development would be in a VHFHZ and subject to wildfires, the development along N. Magnolia Avenue currently faces the same risk. The new development would be subject to current regulations for new development or redevelopment within the WUI. New buildings would be expected to be better “hardened” and more resistant to fire and less likely to produce embers. The fire department has the opportunity to require fire resistant material for this new development. Accordingly, this redevelopment would not be expected to exacerbate existing slope, wind, or other factors causing wildfire spread that produces pollutants affecting areas east of this western WUI.

No new development is proposed in the Greenbrae WUI Kentfield WUI, or the proposed expansion of the WUI to include the Southern Heights Ridge (per Action Program SAF-7.1.a) on the San Quentin peninsula, so there would be no impact in these three areas. However, as described above, the City may eventually annex the area within the City's SOI on the San Quentin peninsula. If the WUI is extended to include the State-owned parcel in the SOI, then as many as 8 new residential lots could be developed within the extended WUI. It is expected that the Residential Master Plan that is required for development of this land would include evacuation routes and other fire hazard reduction conditions as described in the previous impact discussion for the Tiscornia property.

While it is possible that new ADUs could be added to existing properties, the LMC Chapter 18.23.040 does not allow new ADUs in very high fire hazard severity zones where roadways do not have adequate ingress/egress or there is an inadequate water supply.

The General Plan 2040 contains Policy SAF-7.4 that states that the City will continue to encourage fuel management by Marin Water and MCPOSD for their lands within or adjacent to the WUI. Fires igniting in or crossing these wildlands and entering the Larkspur WUI likely pose the greatest risk of a major fire in the city that could result in loss of many assets and threats to

human safety. The City will also continue to support fuel reduction projects included in the CWPP. Recent projects have included engaging Marin County Parks and Open Space on the first phase of a multi-year fuel reduction, invasive plant control, and habitat restoration effort in the Citron Bowl, Blue Rock, and Madrone Canyon neighborhoods.

Marin Water and MCPOSD are continuing to conduct fuel reduction and other hazard reduction plans on their property adjacent or near the city. In June 2021, the Coastal Conservancy staff recommended authorization to disburse up to $1,000,000 to the Marin Municipal Water District to implement vegetation management projects identified in the Biodiversity, Fire, and Fuels Integrated Plan (BFFIP) for the Mount Tamalpais Watershed and to reduce ladder fuels in the Marin County Parks Blithedale Summit Preserve. These funds would augment $2,253,000 from the two agencies to fund this work.

The western WUI area is currently susceptible to wildfire either igniting in the WUI or from a fire spreading east from wildland under the ownership of Marin Water or Marin County Parks and Open Space District (MCPOSD). The existing fire risk in this area is the result of the following: 1) historic changes in how the landscape was managed for much of the 20th century, including the strict fire suppression management approach of the 20th century and t20 he local historic development pattern of building homes in wooded areas on the high fire hazard hillsides of the western end of the city. The development of the WUI resulted in residences and other structures in close proximity to dense and often unmanaged fuels. This existing hazardous combination of past actions is now exacerbated by climate change.

Development under General Plan 2040 would not substantially exacerbate this existing hazard nor the effects of climate change on that hazard. The General Plan 2040 would not result in substantial new development in the WUI or elsewhere that would cause any change to slopes or prevailing winds that would exacerbate the existing fire risk. New development would in general be located to the east and distant from fires in the WUI. One risk is from ember dispersion during wildfires, when wind and convection conditions from the west drop embers into developed portions of the city. However, the project would not substantially increase new development in that area and not increase the risk or severity of a fire igniting or spreading across that area.

Pursuant to the 2015 California Building Industry Association v. Bay Area Air Quality Management District case, CEQA applies to a project's impacts on the environment and not the environment's impacts on the project, unless the project would exacerbate the environmental hazard. Implementation of General Plan 2040 would result in a significant impact if it would exacerbate wildfire risks due to site characteristics such as slope, prevailing winds, or vegetation.

As stated above, the project would not exacerbate wildfire risks in Larkspur. Therefore, new development under the General Plan 2040 would not result in new development that would substantially expose residents of the WUI or areas outside the WUI to emission of hazardous levels of smoke or other pollutant emissions that would exceed the emission of these pollutants by a wildfire in existing development under existing conditions. Residents in the WUI and

elsewhere in the City could be exposed to hazardous pollutant concentrations from wildfire smoke from wildfires occurring in Larkspur or other areas. In the past four years, Bay Area residents have been exposed to unhealthy air quality conditions due to wildfires in distant locations in Northern California. This smoke pollution will possibly continue to be the case. The proposed project will not substantially increase wildfire-generated smoke nor substantially increase exposure to smoke due to slope, prevailing winds, or vegetation in Larkspur. In fact, implementation of the policies and programs of General Plan 2040 and continuing implementation of fuel reduction and other hazard reduction plans of MWPA, Fire Safe Marin, the State, and the Central Marin Fire Department should reduce the existing fire risk, even with the complications caused by climate change. The impact is less than significant at the program level. No additional mitigations beyond the policies and programs of the General Plan 2040 and continuing implementation of the many regulations and risk reduction guidelines and projects of other State, regional, and local agencies described previously are required.

Impact FIRE-3 Implementation of the proposed project could require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) but would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

As previously described in the Setting section and in Impacts FIRE-1 and FIRE-2, there are existing requirements of the LFD Ordinance and the proposed General Plan 2040 that are related to special fire protection measures that are required for new development within the WUI zone. Furthermore, the Marin County Community Wildfire Protection Plan, Marin Operational Area Emergency Operations Plan, and projects initiated by the MWPA include public education programs to reduce potential for fires to start, and they also set action plans to remove flammable vegetation from around buildings and ensure increased water supply in high-risk wildfire areas. Reducing potential for fires to start and mitigating wildfire spread once started reduces exposure to smoke and air pollution. Safely evacuating people affected by wildfires also reduces exposure.

Marin Water and MCPOSD maintain fuel breaks and ridgeline fire roads to manage wildland fuels and provide emergency access to public wildlands west of the city. Fuel reduction projects are included in adopted vegetation management plans of the two agencies. Future development under the General Plan 2040 would not substantially increase the fire hazard in the City's WUI adjacent to these wildlands. Most new development in the city would primarily be located at a substantial distance from the western WUI. Virtually no new development would occur in the other WUIs in the city, so their proximity to potential development sites in HRAs and TPAs would not increase fire hazard for that new development. As such, possible new development would not increase the burden on Marin Water or MCPOSD to maintain their access road systems or fuelbreak systems. New fire roads or fuelbreaks are not currently proposed within the WUI. Instead, the Central Marin Fire Department and cooperating agencies are focusing on reducing fuels in the area and along evacuation routes, recommending residence hardening and fuel reduction strategies to residents, and encouraging the formation

and coordination of NRGs and emergency alert systems. The General Plan 2040 recommends that MCPOSD and Marin Water further reduce fuels on their lands in the area and for MCPOSD for lands bordering the Larkspur WUI.

As was described under the previous impact, CEQA applies to a project's impacts on the environment and not the environment's impacts on the project, unless it would exacerbate wildfire risks thereby requiring the installation or maintenance of associated infrastructure (such as roads, fuelbreaks, emergency water sources, power lines or other utilities). As stated above, the project would not substantially exacerbate the existing wildfire risks. Marin Water and MCPOSD will continue their fire road access maintenance and fuel reduction projects regardless of whether new development occurs in the city. The projected new development would not require additional installation of facilities to address current or future wildfire risk. Wildfire is a substantial existing risk, especially as regards the western WUI. The General Plan 2040 contains strong policies and programs to reduce this risk, and development under the proposed plan would not substantially increase that risk. Accordingly, the impact is reduced to a less-than-significant level. No additional mitigations beyond the policies and programs of the General Plan 2040 and continuing implementation of all regulations, risk reduction guidelines and risk reduction projects of other regional and local agencies are required.

Impact FIRE-4 Implementation of the proposed project could expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, postfire slope instability, or drainage changes.

The western portion of the Planning Area that is within the WUI contains sloping hillsides that are susceptible to landslides and flooding after fire has removed protective vegetative cover. These secondary hazards associated with wildfires are described in the Marin County Multi-Jurisdictional LHMP. In a post-fire scenario, wildfires can secondarily cause contamination of waterways, as well as destruction of transmission line and roads. Slopes that have been stripped of vegetation are exposed to greater amounts of erosive runoff, which can weaken soils and cause slope failure. Major landslides can occur several years after a wildfire. Most wildfires burn hot and for long durations that can bake soils, especially those high in clay content, thus increasing ground imperviousness and runoff generated by storm events, increasing the chance of flooding.

As described in the three previous impact assessments in this section, most projected growth to the year 2040 would be outside and be relatively distant from the four WUIs. The exception is the potential for 100 additional dwelling units along the N. Magnolia HRA and the 23 potential units on the Tiscornia property west of Magnolia Avenue. Most of the Magnolia Avenue corridor is within Zone 2, stable slopes, on Figure 4.6-3 (Slope Stability). The undeveloped hilly area to the west of the corridor is designated as Zone 3, moderate stability. Existing development along the west side of N. Magnolia Avenue would be at risk from landslides originating on undeveloped lands to the west. However, the risk is not substantial given the moderate slopes in the area and City requirements for geotechnical studies to ensure building

safety for new development proposals. In addition, this is an existing risk that would not be substantially increased by development of 23 homes on one site and redevelopment of existing parcels further north along the Magnolia Avenue corridor.

King Mountain Creek is the only perennial stream draining through the corridor. Its headwaters are on the north slope of King Mountain, and it crosses N. Magnolia Avenue just to the south of the section of N. Magnolia Avenue that would be expected to be redeveloped. The entire watershed uphill of N. Magnolia Avenue is less than one square mile, and it is drained through a number of intermittent stream channels to the north of King Mountain Creek. This watershed is small and flows through moderate slopes compared to watersheds that typically are prone to large mudflows. It is unlikely that post-fire mud or debris flows along any of these small stream corridors would substantially affect potential new development. Post-fire debris and mudflows along intermittent drainage courses crossing beneath N. Magnolia Avenue would not be expected to generate substantial flows. In addition, existing development in the path of these drainage sources already are a risk from post-fire flows down these intermittent and ephemeral streamcourses.

As described in Section 3.6, Geology, Soils, and Seismicity, and Section 3.9, Hydrology and Water Quality, development under the proposed General Plan 2040 would be subject to the rules and regulations of the Larkspur Municipal Code and the proposed General Plan 2040 regarding development on unstable soils and controlling stormwater runoff during and after construction. In the absence of a wildland fire, future development under the proposed General Plan 2040 would not substantially alter drainage patterns, result in significant downslope or downstream flooding, or result in significant effects related to landslides.

In a post-fire scenario, new development that could occur along the N. Magnolia Avenue corridor could result in an incremental increase in secondary hazards associated with wildfires. However, this mainly is an existing risk, and it would not be substantially exacerbated by redevelopment on properties along this corridor. Most development is projected in the TPAs near Highway 101 and along Sir Francis Drake Boulevard. This new development would not be at substantial risk from post-fire flows given their distance from wildland fuels and the WUI. A few new units are projected in the central Magnolia Avenue corridor (25 units in the area north and 25 units in the area south of the street). This corridor is on flat land at a substantial distance from the slopes to in the WUI to the west, and they would not be expected to be substantially affected by post-fire flows.

The State-owned property at the east end of the San Quentin peninsula may be annexed by the City. The development potential on the 40 vacant acres not currently proposed for development by the State is a steep hillside. The site contains steep slopes and flammable vegetation though much of the site is grassland. As many as 8 residential lots could be developed on the property. Development would require preparation and City approval of a Master Residential Plan. That plan would provide an assessment of fire hazard on the site including risk from post fire flows and landslides and list all the specific measures needed to

provide safe access and measures to reduce risk at structures. It is expected that the RMP will include all risk reduction actions recommended by the CMFD.

Land use designations in the city are not being modified under the proposed General Plan 2040. As a result, the degree of secondary wildland fire hazard would not substantially change with adoption of the proposed plan, and current hazards would not be significantly increased. Therefore, the impact of post-fire downhill flows would not substantially alter existing risk conditions, and the impact is less than significant. No additional mitigation beyond proposed General Plan 2040 policies and programs and existing LMC regulations and requirements is needed. In addition, the National Resource Conservation Service's Emergency Watershed Protection program from the United States Department of Agriculture, exists to provide emergency technical and financial assistance to help local communities relieve imminent threats to life and property caused by floods, fires, windstorms and other natural disasters that impair a watershed. Standard practices of the Emergency Watershed Protection program include undertaking post-disaster emergency measures for runoff retardation and soil erosion prevention to safeguard lives and property from floods and the products of erosion on any watershed whenever a wildfire causes or has caused a sudden impairment of the watershed. Emergency Watershed Protection program funds address erosion related watershed impairments by supporting activities such as removing debris from stream channels, road culverts, and bridges; reshaping and protecting eroded banks; correcting damaged drainage facilities; repairing levees and structures; and reseeding damaged areas to establish vegetative cover on critically eroding lands. [110]

Impact FIRE-5 Implementation of the proposed project could result in a cumulative wildfire impact.

As discussed in Chapter 4, Environmental Analysis, of this Draft EIR, the cumulative setting includes growth within Planning Area in combination with projected growth in the rest of Marin County and the surrounding region. As discussed under Impact FIRE-1, future development under the proposed project would not interfere with implementation of emergency response plans or result in significant wildfire-related impacts. Wildfires igniting elsewhere in the county or outside the county could spread under red flag weather or other weather conditions into Larkspur. This is an existing risk for residents of Larkspur, particularly for those living in the western WUI. However, no land use changes are proposed for the WUI. While some additional dwelling units may be located along the edge of the western WUI, no new development other than possibly 23 new dwelling units on the Tiscornia property and redevelopment of existing developed properties on N. Magnolia Avenue would occur, this development would not

[110] Natural Resources Conservation Service, Disaster Recovery Assistance, https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=nrcseprd1361073, accessed March 24, 2020.

substantially increase wildfire risk in the city. Future development under General 2040 would not be expected to substantially increase the risk of fire ignition in the WUI or elsewhere in the city. Future development would not substantially increase the exposure of residences or other assets in the city to damage from wildfire.

Potential impacts associated with wildfires would be reduced through requiring continuing compliance with proposed policies and existing local, regional, and State regulations. Cumulative development in adjacent jurisdictions and unincorporated Marin County would be subject to the same State and regional regulations, as well as regional safety plans, such as recommended in the Marin CWPP, Fire Safe Marin's Local Wildfire Prevention and Mitigation Initiative, and MCWA projects.

With respect to the implementation of the proposed project, wildfire hazards in the WUI are addressed in the goals, policies, and programs detailed under Impacts FIRE-1, FIRE-2, and FIRE-3. Future development in the WUI would be required to incorporate structural hardening, fuel reduction, fire-resistant landscaping, adequate vegetation clearances around structures, and other vegetation management measures. Additionally, development review would occur for each proposed project. Cumulative projects would be required to comply with the requirements of the California Building Code Chapter 7A, California Fire Code Chapter 49, PRC Sections 4291 et seq., and the SRA Fire Safe regulations for areas in the SRA. Programs promoted by the Central Marin Fire Department, Fire Safe Marín and the MCWA that would enhance public education programs to train the community how to reduce the hazard at their residences, understand evacuation routes and plans, be signed up for emergency alerts, and be prepared to respond to emergency situations such as wildfire, and these programs would increase regional education and, therefore, cumulative preparedness.

While there is an existing risk of wildfire spreading into Larkspur, the mitigations provided by the General Plan 2040 policies and programs, the continuing implementation of fire hazard reduction regulations and projects and the planning by the State and regional agencies to reduce flammable fuel loads and strengthen fire suppression capabilities reduce the cumulative impact of wildfire affecting new development in the area to a level that is less than significant. The existing risk of wildfire would be reduced by compliance with General Plan policies and compliance with regulations on development, but the risk of potentially catastrophic wildfire in the area remains. The issue for this EIR is whether new development allowed under the General Plan update creates a substantial new risk or substantially increased risk. Given the small amount of area where new development in the WUI could occur – the Tiscornia site and the west side of N. Magnolia Avenue - plus the new requirements for development in the WUI and other new provisions for addressing wildfire, would mean that the impact of a few new residences in the WU would not result in a significant new or increased risk of structures and lives being threatened by wildfire. As stated previously, almost all new development by 2040 would be in urbanized areas of the TRAs and HRAs that are not within the WUI and are near fire and other emergency responses facilities.

The existing risk to existing development in the WUI remains. Reductions in the risk would have a beneficial effect on that risk, but certainly not eliminate it. In addition, the City of Larkspur is not substantially increasing development in the VHFH Zone and is increasing its efforts to reduce hazard in the WUI. As such, development under the General Plan 2040 would not make a cumulatively considerable contribution to a regional increase of risk from wildfire.

As discussed previously in Section 4.9, Hydrology and Water Quality, wildfire hazard will increase due to climate change. As the climate becomes drier and hotter, the change of fire ignition increase. Fuels will be drier leading to more frequent and intense wildfires. New development in Larkspur does not significantly contribute to this cumulative change in the environment. As described above, the policies and programs of the Larkspur General Plan 2040 and new wildfire-related regulatory programs and requirements reduce the risk of wildfire to a level that new development projected by 2040 would not significantly increase the risk or damage from a future wildfire. As described in Section 4.9, the General Plan 2040 also includes policies and programs to increase the City's resiliency in the face of climate change. Again, new projected development in Larkspur would not exacerbate the impact of climate change on wildfire hazard and risk. In fact, meeting Plan Bay Area 2050 housing needs by concentrating new development in areas with good access to public transit, the City will do its part to reduce future GHG emissions from projected regional growth. This would be an environmental benefit of the proposed plan. Therefore, the impact of new development on wildfire hazard and risk within Larkspur would be less than significant. It would not make a cumulatively considerable contribution to regional wildfire hazard and risk, and no additional mitigation would be required.

5.0 Project Alternatives

The following discussion is intended to inform the public and decision-makers of feasible alternatives to the proposed project that would avoid or substantially decrease any of the significant effects of the proposed project. The California Environmental Quality Act (CEQA) Guidelines set forth the intent and extent of alternatives analysis to be provided in an environmental impact report (EIR). Section 15126.6(a) 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*.

The alternatives evaluated in this Draft EIR were developed consistent with Section 15126.6(b) of the CEQA Guidelines, which states that: *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

Consistent with Section 15126.6(c) of the CEQA Guidelines, some alternatives were not selected for analysis either because they are not feasible, or they would not reduce any significant impacts of the proposed project. Alternatives not addressed in this chapter include the following.

- *Alternative Location*. EIRs prepared for projects that are proposed on a specific site include an assessment of an alternative of building the project on a different site than the one proposed to determine if impacts would be reduced if that site were developed. This alternative is not pertinent to a general plan, as the Larkspur General Plan cannot be prepared for a different location than Larkspur.
- *Greater Development*. An alternative that projects more development than projected under the Larkspur General Plan 2040 was not selected for analysis for two reasons. First, it will be difficult for the City to identify feasible sites to develop the housing needed to meet the current RHNA of 979 new units by 2031 and additional new units to comply with *Plan Bay Area 2050*. Therefore, identifying additional land where more housing could be built by 2040 is infeasible. Second, developing more housing would not be expected to reduce any of the significant impacts identified for the proposed project. In most cases, this alternative would increase the magnitude of identified

project impacts, Therefore, in this case, there would be no point assessing such an alternative.

The two alternatives assessed below include Alternative A, No Project and Alternative B, Reduced Residential Development. The first alternative is the CEQA-required "No Project" Alternative, which assumes the current General Plan 1990-2010 is carried through instead of the proposed project. Alternative B assumes fewer households, housing units, and population.

Project Objectives

As stated above, the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the proposed project. As listed in Chapter 3.0, Project Description, the primary purposes of the proposed project are to plan for the growth and conservation of resources in Larkspur over a 20-year time horizon and to achieve a more equitable, sustainable, and prosperous future for all residents. Objectives related specifically to growth include focusing growth on transit rich areas and capitalizing on transit opportunities. This requires extending the buildout horizon to year 2040 and updating goals, policies, and programs so that they meet current State requirements and community priorities. Objectives also include conservation of sensitive environmental resources, adaptation to risks presented by climate change, and maintenance of high-quality services and infrastructure.

1. Alternative A - No Project Alternative

Pursuant to CEQA Guidelines Section 15126.6(e)(1), the No Project Alternative 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 will be the continuation of the existing plan. Under Alternative A, potential future development in Larkspur would continue to be subject to existing policies, regulations, development standards, and land use designations of the existing General Plan 1990-2010, the Housing Element 2016-2023, and Zoning Code. Many of the community issues vetted in General Plan 1990-2010 are still relevant, well addressed, and do not require major changes. Therefore, while the proposed General Plan 2040 is not a major departure from General Plan 1990-2010 in terms of its underlying vision and fundamental growth concepts, Alternative A would not incorporate the topics that are now required by State law and would not revise relevant policies and programs to meet those requirements.

The existing General Plan did not include any projections of buildout to the year 2010. Growth in Larkspur has been modest for many years, remaining relatively stable from 11,070 people in 1990 when the existing General Plan was adopted to 11,926 in 2010 and 12,071 in 2021. Recognizing this trend of development, the City’s 2015-2023 Housing Element states that the City’s fair share of new housing to be built by 2023 would be a modest 132 units.

The City would legally remain responsible for fulfilling its 2023-2031 RHNA by 2031 and subsequent RHNAs after 2031. In updating its Housing Element by the end of 2022, the City will identify properties where 979 new dwelling units can realistically be developed by 2031. The existing General Plan did not include policies allowing increased density and building elevations in commercial classifications that are included in the proposed General Plan. Therefore, it would seem that the existing General Plan would not allow as much development potential as the proposed plan. However, as described in Chapter 3.8 of this EIR, there is ample land to redevelop commercial properties to meet the RHNA target under existing General Plan land use classifications and zoning. Given State and ABAG mandates to develop the same number of new units (979 new units) by 2031 as projected for the proposed Larkspur General Plan 2040, it is projected that the same amount of new development would occur under the No Project Alternative as would occur under the proposed project.

However, while the amount of new development could be the same that development would not be bounded by the new policies and programs included in the proposed General Plan 2040. The proposed project is the City's approach to meet State housing mandates while maximizing its ability to meet the other City project objectives listed previously. Therefore, the analysis of the No Project Alternative presented below focuses on the differences in policies and programs more than on the amount of growth that could occur.

The alternatives analysis assumes that none of the applicable mitigation measures recommended for the proposed project would apply to Alternative A. The potential environmental impacts associated with Alternative A when compared to the proposed project are described below.

Aesthetics

As described in Chapter 4.1, Aesthetics, the proposed project would not result in any significant impacts related to aesthetics, and no mitigation measures are required.

Like the proposed project, potential future development in the Planning Area under Alternative A is anticipated to primarily occur in the form of infill/intensification on sites either already developed and/or underutilized, where future development would have a lesser impact on scenic vistas. New ADUs attached or adjacent to existing residential units would be allowed under the alternative, as they are allowed by new State laws. These ADUs would not be expected to substantially affect views from public vantage point. The areas where most new development would occur under the proposed project are currently developed with a mix of buildings that range from 1 to 2 stories in height, Views of new development would continue to be visible between elements of the existing built environment and over lower-intensity areas. New three-story buildings allowed in commercial zones by the proposed project could block some views from streets and other public vantage points. Not allowing third story additions as mandated under Alternative 1 in commercial zones, except in possibly a few cases where a development proposal that includes affordable housing is eligible requests a waiver of height limitations, would reduce visual impacts.

> Applicable future projects under both scenarios could be subject to design review prior to project approval pursuant to the LMC Design Review Guidelines (Section 18.64) and need to comply with the various planning documents that govern scenic quality in the city, as described in the Regulatory Framework in Chapter 4.1. Principles of good design have been incorporated into the proposed project. The proposed General Plan contains detailed policies and programs related to landscaping, protection of natural features, views, and the waterfront. For example, Policy LU-2.3 promotes residential infill development and/or redevelopment that accommodates additional housing that fits in aesthetically and architecturally with the community and neighborhood character, as determined through the City's design review process and/or zoning standards.

New development under Alternative A would not provide the same level of design consideration related to the visual character or quality of a project site and its surroundings; thus, aesthetic impacts related to these topics would be greater than those of the proposed project.

Similar to the proposed project, Alternative A would result in new lighting sources that could result in sources of glare. Potential future development under both scenarios would be required to comply with best management practices in CALGreen and LMC provisions that ensure new land uses do not generate adverse light levels and reduce light and glare spillover from future development to surrounding land uses.

Overall, development in the Planning Area under Alternative A would be approximately the same though buildings in commercial zones would be limited to 25 feet in height. The additional third story allowed in certain non-residential zones could block some views, but the effect would not be expected to be substantial. New development would be guided by the current policies and regulations that guide development in Larkspur and not the policies and programs of the proposed project that provide additional protection of natural features, views, and the waterfront. Therefore, Alternative A would potentially have *greater* aesthetic impacts than the proposed project.

Air Quality

As described in Section 4.2, Air Quality, the proposed project would have less-than-significant impacts on regional air quality. Development under both scenarios would be subject to the Bay Area Air Quality Management District's (BAAQMD's) basic control measures for fugitive dust control and screening sizes. Additionally, future development under both scenarios could result in construction activities within 1,000 feet of residential and other sensitive land uses, thus, temporarily elevating concentrations of toxic air contaminants and diesel-PM2.5 in the vicinity of sensitive land uses.

The amount of new development would be approximately the same for the proposed project and Alternative A with the same direct and indirect criteria air pollutant emissions from energy use (e.g., natural gas use) and area sources (e.g., aerosols and landscaping equipment). Under both scenarios, subsequent environmental review of applicable development projects would be required to assess potential impacts under BAAQMD's project-level thresholds. As described in Chapter 4.16, Transportation, the Vehicle Miles Traveled (VMT) Per Service would be greater

under Alternative A (13.6 VMT Per Capita) than the proposed project (13.26 VMT Per Capita). However, this VMT analysis assumes a lower growth rate in Larkspur than required by the current RHNA 2023-2031. As discussed in the introduction to this analysis, if the City meets its RHNA target, it is likely that the same amount of new housing would be built under either Alternative A or the proposed project. In that case, it is expected that the VMT Per Capita would be similar. Therefore, the air quality Impacts would be *similar.*

Biological Resources

As described in Chapter 4.3, Biological Resources, the proposed project would result in less-than-significant impacts to biological resources with implementation of Mitigation Measures BIO-1 through BIO-4.

Although potential future development under the proposed project could potentially affect animal and plant species identified as candidate, sensitive, or special-status species, proposed goals, policies, and programs; proposed mitigation measures; and adherence to all federal, State, and local regulations relating to biological resources would fully mitigate any potential impacts. The proposed project would also have a less-than-significant impact on riparian habitats, wetlands, and wildlife movement corridors because compliance with proposed goals, policies, and programs; proposed mitigation measures; and adherence to all federal, State, and local regulations relating to biological resources would fully mitigate any potential impacts. Further, potential future development under the proposed project would primarily occur as infill/intensification on sites that are either already developed and/or underutilized, and/or in close proximity to existing development, which reduces the likelihood that special-status plant and animal species could be impacted. Infill development also reduces the likelihood that the riparian habitats, wetlands, and wildlife movement corridors could be impacted.

Most of the Planning Area is developed, and there is not much developable area that contains sensitive biological habitat. Both the proposed project and the existing General Plan encourage development to occur in existing urbanized areas, which would mean that Alternative A would reduce the development potential in areas with sensitive riparian habitat, wetland, or wildlife movement corridors. The proposed project contains several new policies and programs to develop a Creek, Shoreline, and Wetland Master Plan and management guidelines to project wetland sources. The proposed project contains other new policies and programs to provide additional protection to sensitive species and other biological resources.

Impacts to birds from new buildings would be mitigated by this alternative because buildings are limited to 2-story buildings.

Cultural Resources and Tribal Cultural Resources

As described in Chapter 4.4, Cultural and Tribal Cultural Resources, the proposed project would result in less-than-significant impacts to cultural and tribal cultural resources with implementation of Mitigation Measure CULT-1.

Under Alternative A, new development would continue throughout the city under existing plans and regulations. As explained in Chapter 4.4, there are existing prehistoric, historical, or archaeological resources in the Planning Area that could be impacted by new demolition, inappropriate modification, or inappropriate new construction under the proposed project or Alternative A. Like the proposed project, Alternative A would be subject to the procedures of conduct following the discovery of human remains set forth in California Health and Safety Code, Public Resources Code and the California Code of Regulations. The same amount of development could occur under Alternative A and the proposed project, so there would be no difference in the potential for disturbance of cultural resources. However, the proposed project includes Mitigation Measure CULT-1 that requires the proposed General Plan 2040 to adopt additional programs that would further protect cultural resources in the Planning Area. Under Alternative A, these programs would not be adopted. Therefore, Alternative A would have *greater* l impacts to cultural resources as compared to the proposed project.

Energy

As described in Chapter 4.5, Energy, the proposed project would not result in any significant impacts related to energy, and no mitigation measures are required.

All development that occurs in the State is required to comply with best management practices regulated in the 2019 California Green Building Code and 2019 Building and Energy Efficiency Standards, which ensure new development would not result in the wasteful or inefficient use of energy. Further, new development would automatically be enrolled in renewable energy supplied by Marin Clean Energy. Such requirements and enrollment in MCE would be required under both the proposed project and under Alternative A. Additionally, neither the proposed project nor Alternative A would introduce a level of development and population growth that would be anticipated to necessitate the construction of new energy supply facilities or transmission infrastructure.

The same amount of development would occur under the proposed project and Alternative A, so energy consumption from construction would be the same. It is possible, as described in the air quality discussion, energy use from VMT would be greater under Alternative A because less infill development in TPAs and HRAs might occur than under the proposed project. Therefore, overall energy demand and consumption would be greater under Alternative A when compared to the proposed project. If new development under Alternative A was focused on the TPAs and HRAs, then the impact would be *similar*.

Geology, Soils, and Seismicity

As described in Chapter 4.7, Geology and Soils, the proposed project would result in less- than-significant impacts related to geology, soils, and seismicity.

Future development under both Alternative A and the proposed project would be subject to the same federal, State, and local regulations that address and prevent hazards associated with geology, soils, andseismicity. Both the existing General Plan and proposed General Plan 2040

encourage development in urbanized settings where there is less likelihood for impacts from geologic hazards to occur. The proposed project policies and programs are not substantively different from the existing General Plan. Compliance with existing regulations related to geologic and seismic safety would apply similarly to future development under both Alternative A and the proposed project; therefore, Alternative A would result in *similar* impacts when compared to the proposed project.

Greenhouse Gas Emissions

As described in Chapter 4.8, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in two significant and unavoidable impacts related to greenhouse gas emissions.

Because the same amount of development is expected under the Alternative A and the proposed project, there would be a similar overall increase in energy usage and GHG emissions during construction and operational phases. Even with implementation of the 2017 Scoping Plan, it is estimated that the 2050 target identified under Executive Order S-03-05, is not achievable without major advances in technology.

Alternative A would not necessarily result in as much of a concentration of new development and redevelopment in the TPAs and HRAs. Reducing development in the TPAs and HRAs could lessen the net benefit gained from siting more intense infill near public transit and result in a higher percentage of transit users that may rely on automobiles (as opposed to walking or biking). Therefore, as a result of potentially reducing infill development near transit, Alternative A would not necessarily reduce trips as much as the proposed project, and trips are the major source of GHG emissions. Therefore, the proposed project would have less impacts than Alternative A. However, if development under Alternative A was channeled to the TPAs and HRAs, then the impact would be *similar*.

Hazards and Hazardous Materials

As described in Chapter 4.8, Hazards and Hazardous Materials, the proposed project would result in less-than-significant impacts related to hazards and hazardous materials. Policies contained in the proposed project and the General Plan 1990-2010 require potential future development abide by federal and State law and follow best management practices related to hazards and hazardous materials

The proposed project was found to have a less-than-significant impacts related to the routine transport, use, or disposal of hazardous waste, the release of hazardous waste, or the emitting of hazardous emissions or handling of hazardous materials in the proximity of an existing or proposed school. As further discussed in Chapter 4.8, Hazards and Hazardous Materials, the project would not conflict with an adopted emergency response plan or emergency evacuation plan. Potential future development that could occur under either scenario would be required to comply with all federal, State, and local regulations pertaining to hazards and hazardous materials, and the proposed project includes goals, policies, and programs that would further reduce impacts related to hazardous materials. Development that would occur under

Alternative A would be required to comply with the same federal and State regulations and would be required to comply with policies in the existing General Plan 1990-2010, which reduce impacts related to hazardous materials. Therefore, Alternative A would have a *similar* impact when compared to the proposed project.

Hydrology and Water Quality

As described in Section 4.9, Hydrology and Water Quality, the proposed project would result in less-than significant hydrologic and water quality impacts.

New development under the proposed project or Alternative A would be required to abide by the various federal, State, and regional regulations governing impacts to water quality from construction and operational activities. Since the same amount of new development would occur under either scenario, the impacts would be similar. In both cases, new development would almost entirely be redevelopment of existing developed lots.

Compliance with existing regulations would ensure that pre- and post- construction impacts to water quality be minimized as future development occurs. The proposed project has updated and expanded the General Plan 1990-2010 goals, policies, and programs related to hydrology and water quality, which could result in some reduction in impact.

Almost all new development under either the proposed project or Alternative A would occur on already developed lots. There would not be substantial increase in the amount of impermeable surfaces or consequent changes to stream channels or flooding potential. The proposed project contains policies and programs that address the risks from sea level rise. The proposed project and Alternative A restrict development in areas projected to be inundated by sea level rise and require feasible adaptive management improvements for existing development to accommodate sea level rise. Sea level rise was not an issue discussed in the existing General Plan. While most hydrology and water quality impacts are similar, the important focus of the proposed project on addressing sea level rise results in *greater* hydrology impacts under Alternative A.

Land Use and Planning

As described in Chapter 4.10, Land Use and Planning, the proposed project would not result in any significant impacts related to land use and planning, and no mitigation measures are required.

The existing General Plan 1990-2010 was adopted to protect and enhance the small-town character of the city. While the proposed project would aim to improve connectivity and would not create physical barriers within existing communities, Alternative A would support the integration of infill development and does not propose physical features that could divide a community. Accordingly, impacts would be *similar* under both scenarios.

Under Alternative A, development would continue to occur throughout the city under the oversight of the existing General Plan 1990-2010, Housing Element, and Zoning Code and would not conflict with these already approved standards. Implementation of the proposed project would revise policies and programs of the existing General Plan, but this not considered a conflict as it is the objective of the project. Either development scenario would not conflict with any applicable land use plan adopted for the purpose of avoiding or mitigating an environmental effect and impacts would be *similar*.

Noise

As described in Chapter 4.11, Noise, the proposed project would result in a less-than-significant noise and vibration impacts with implementation of Mitigation Measure NOISE-1.

Future development under Alternative A would be subject to the standards of the LMC and existing General Plan 1990-2010, including those relating to the noise level compatibility between residential and non- residential land uses. As specific uses are proposed for particular sites, project-level design, permitting, and/or environmental review would serve to ensure that individual uses would comply with the noise regulations. The proposed project has similar policies and noise and land use compatibility guidelines as the existing General Plan. As the same amount of new development is possible under either scenario, the noise impacts from both construction and operations would be similar. However, the existing General Plan does not specifically address train vibration impacts. The proposed project adds a new program (Mitigation Measure NOISE-1) to address the significant vibration impact. Therefore, Alternative A would have a *greater* impact on noise and vibrations.

Population and Housing

As described in Chapter 4.12, the proposed project would not result in any significant impacts related to population and housing, and no mitigation measures are required.

Development under either Alternative A or the proposed project would comply with the RHNA regional projections. Implementation of the proposed project would have a less-than-significant impact due to the focus on infill development in TPAs and HRAs, which is in alignment with the regional planning framework of *Plan Bay Area 2050*. The proposed project is the overriding policy document in the Planning Area, which plans for population growth that is reasonably foreseeable through 2040. It is possible that new development under Alternative A would equally focus development in the TPAs and HRAs, but this is not known. The proposed project has a more predictable consistency with regional planning. Therefore, Alternative A would have *greater* impact.

Public Services and Recreation

As described in Chapter 4.13, impacts under the proposed project to fire protection services, police services, parks, schools, and libraries were found to be less than significant, and no mitigation measures are required.

Alternative A and the proposed project would result in the same number of new residents in the Planning Area, and therefore, would result in the same demand on the public service providers that serve the Planning Area. Potential future development under Alternative A would be required to comply with all existing City regulations adopted to ensure that development pays its fair share of the cost of delivering services, while payment of property taxes would ensure that future development pays its fair share towards schools. Overall, impacts under Alternative A would be *similar* than those of the proposed project.

Transportation

As described in Chapter 4.14, Transportation, impacts to transportation were found to be less than significant, and no mitigation is required.

As discussed in that chapter, the VMT Per Capita would be higher under Alternative A (13.6 compared to 13.25). However, that VMT analysis is based on less development in 2040 than assumed here for the No Project Alternative. If the same amount of new development occurs, then the VMT would be similar. It is possible it could be slightly lower for the proposed project because of the focus on new development occurring in the TPAs and HRAs. Impacts to bicycles and pedestrians would be similar as improvements are guided by the Bicycle and Pedestrian Master Plan under both scenarios. Alternative A would not include the multi-modal circulation improvements that are included in the proposed project. Overall, transportation impacts in the Planning Area under Alternative A would be *greater* when compared to the proposed project.

Utilities and Service Systems

As described in Chapter 4.15, Utilities and Service Systems, impacts to sanitary wastewater, solid waste and stormwater infrastructure were found to be less than significant with the compliance of all applicable regulations, and no mitigation measures are required. Due to uncertainties about the ability of Marin Water to provide adequate potable water to new development, and because additional water sources may need to be developed which could result in significant impacts to the physical environment, the proposed project would have significant impacts related to the water system. No mitigation is available for the three water-related impacts.

The same amount of new development would occur under each scenario. Similar amounts of solid waste, wastewater, and stormwater would be generated, and the same amount of water would be required, and the impacts would be *similar*.

Wildfire

As described in Chapter 4.16, Wildfire the proposed project would not result in any significant impacts related to wildfire, and no mitigation measures are required.

The same amount of new development is possible under either scenario. However, the existing General Plan does not address wildfire hazard and risk to the level legally required of new

general plans. The proposed project contains substantive policies and programs to reduce risk. Therefore, there would be *greater* wildfire-related impacts under Alternative A.

Relationship of the Alternatives to the Objectives

Under Alternative A, the proposed project would not be implemented and, therefore, this alternative would not accomplish any of the project objectives except that as is defined as part of this alternative enough new housing would be constructed to comply with ABAG's Final 2023-2031 RHNA.

2. Alternative B – Reduced Residential Development

Alternative B uses the projected growth in Larkspur projected in the Plan Bay Area 2040 and used in the TAM Demand Model for projecting VMT to 2040. This projection is that there would be 13,604 people in Larkspur in 2040. This is 1,550 people less than the 15,154 projected for buildout in 2040 under the proposed General Plan. An additional 1,533 people would be added under this alternative, which would require constructing an additional 640 dwelling units, or approximately half the number of units projected for the proposed project. Alternative B includes all the goals, policies, and programs of the proposed General Plan 2040 and the mitigation measures recommended in this EIR. Therefore, the following analysis of this alternative compares the difference in impact of the plan as proposed with the impact from reduced buildout.

This alternative may not be feasible given the RHNA target for the city and future direction from Plan Bay Area 2050 and the City's aim to meet its share of the regional housing need. However, this alternative discussion shows the difference in impact to environmental resources if developers opt not to build as many new units as ABAG requires by 2040. It also shows the reduced impacts that could occur if in the future ABAG and the MTC adopt a new Plan Bay Area that reduces the need for new housing due to changes in economic or other forces.

Aesthetics

As described in Chapter 4.1, Aesthetics, the proposed project would not result in any significant impacts related to aesthetics, and no mitigation measures are required.

As described for the proposed project in Chapter 4.1, potential future development in the Planning Area under the proposed project is anticipated to primarily occur in the form of infill/intensification on sites either already developed and/or underutilized where future development would have a lesser impact on scenic vistas. The same is true for Alternative B, though the reduced number of new units may slightly reduce visual effects of new development. However, the overall difference in impact would not be substantial. Under Alternative B, there would not necessarily be as much redevelopment of existing commercial centers, reducing the possible need for constructing third stories in commercial zones. This could reduce the potential for blocking views of natural landscapes from roadway corridors and private vantage points

Applicable future projects under both scenarios would be subject to design review prior to project approval pursuant to the LMC Design Review Guidelines (Section 18.64) and need to comply with the various planning documents that govern scenic quality in the city, as described in the Regulatory Framework in Chapter 4.1. New development under Alternative B or the proposed project would provide the same level of design consideration related to the visual character or quality of a project site and its surroundings.

Similar to the proposed project, Alternative B would result in new lighting sources that could result in sources of glare. Potential future development under both scenarios would be required to comply with best management practices in CALGreen and LMC provisions that ensure new land uses do not generate adverse light levels and reduce light and glare spillover from future development to surrounding land uses.

Overall, development in the Planning Area under Alternative B would be reduced. New development would be guided by the proposed General Plan 2040 policies and programs that will guide development in Larkspur. Reducing the number of new buildings and, potentially third story additions to existing buildings in commercial zones would result in Alternative B having *lesse*r aesthetic impacts than the proposed project.

Air Quality

As described in Section 4.2, Air Quality, the proposed project would have less than significant impacts on regional air quality with inclusion of Mitigation Measures AIR-1 and AIR-2. Development under both scenarios would be subject to the Bay Area Air Quality Management District's (BAAQMD's) basic control measures for fugitive dust control and screening sizes. Additionally, future development under both scenarios could result in construction activities within 1,000 feet of residential and other sensitive land uses, thus, temporarily elevating concentrations of toxic air contaminants and diesel-PM2.5 in the vicinity of sensitive land uses.

The amount of new development would be approximately half the development projected under the proposed project. Alternative B would result in fewer emissions of criteria pollutants than the proposed project. Therefore, the air quality Impacts would be *lesser* than the proposed project.

Biological Resources

As described in Chapter 4.3, Biological Resources, the proposed project would result in less-than-significant impacts to biological resources with implementation of Mitigation Measures BIO-1 through BIO-4.

Less new development would occur under Alternative B. However, this may not make much difference as regards biological resources since most development under both scenarios would be on already-developed lots. The goals, policies, and programs of the proposed project and this alternative would reduce direct and indirect impacts to biological resources to a less-than-significant level. It is possible that if fewer new units are built, the few undeveloped lots

remaining in Larkspur, particularly the Tiscornia property located west of Magnolia Avenue, might not be developed or perhaps developed at a lower density. It is also possible that the decreased need for new units would reduce the number of three-story buildings, which would reduce the potential impact of bird collisions. Though it is not expected that the reduced number of new units would substantially reduce biological impacts, there would be some reduction. Therefore, Alternative B would have *lesser* impacts to biological resources than the proposed project.

Cultural Resources and Tribal Cultural Resources

As described in Chapter 4.4, Cultural and Tribal Cultural Resources, the proposed project would result in less-than-significant impacts to cultural and tribal cultural resources with implementation of Mitigation Measure CULT-1.

As explained in Chapter 4.4, there are existing prehistoric, historical, or archaeological resources in the Planning Area that could be impacted by new demolition, inappropriate modification, or inappropriate new construction under the proposed project or Alternative B. Like the proposed project, Alternative B would be subject to the same regulations governing cultural resources and human remains as the proposed project. It would be subject to the same goals, policies, and programs as the proposed project including Mitigation Measure CULT-1 that requires the proposed General Plan 2040 to adopt additional programs that would further protect cultural resources in the Planning Area. The reduction in new construction would reduce the possibility of damage to cultural resources and tribal cultural resources. Therefore, Alternative B would have *lesser* potential impacts to cultural resources than the proposed project.

Energy

As described in Chapter 4.5, Energy, the proposed project would not result in any significant impacts related to energy, and no mitigation measures are required.

All development under Alternative B would be required to comply with best management practices regulated in the 2019 California Green Building Code and 2019 Building and Energy Efficiency Standards, which ensure new development would not result in the wasteful or inefficient use of energy. Further, new development would automatically be enrolled in renewable energy supplied by Marin Clean Energy. Such requirements and enrollment in MCE would be required under both the proposed project and under Alternative B. Additionally, neither the proposed project nor Alternative B would introduce a level of development and population growth that would be anticipated to necessitate the construction of new energy supply facilities or transmission infrastructure.

Less development would occur under Alternative B, so energy consumption from construction would be less. As shown in Table 4.5-2, in 2040 development under Alternative B would use 214,453 kilowatts per day as compared to 233,138 kilowatts per day for the proposed project. Therefore, overall energy demand and consumption would be *lesser* under Alternative B when

compared to the proposed project. However, in neither case would energy be used in a wasteful manner.

Geology, Soils, and Seismicity

As described in Chapter 4.7, Geology and Soils, the proposed project would result in less- than-significant impacts related to geology, soils, and seismicity.

Future development under both Alternative B and the proposed project would be subject to the same federal, State, and local regulations and General Plan policies and programs that address and prevent hazards associated with geology, soils, and seismicity. Though the likelihood of significant geologic-related impacts from new development are slim, the fact remains that less new development would occur under Alternative B. Therefore, the potential impact under Alternative B would be *lesser* than under the proposed project.

Greenhouse Gas Emissions

As described in Chapter 4.8, Greenhouse Gas Emissions, the proposed project would result in two significant and unavoidable impacts.

Because a lesser amount of development is expected under Alternative B, there would be a decrease in energy usage during construction and operational phases. Table 4.7-2, General Plan-Related GHG Emissions (MT of CO_2e by Population, demonstrates that even with the reduced development, the development would exceed the "substantial progress threshold" for meeting 2050 emissions. Even with implementation of the 2017 Scoping Plan, it is estimated that the 2050 target identified under Executive Order S-03-05, is not achievable without major advances in technology. Nevertheless, because development under Alternative B would emit less GHG, the impact on GHG emissions is *lesser* than for the proposed project.

Hazards and Hazardous Materials

As described in Chapter 4.8, Hazards and Hazardous Materials, the proposed project would result in less-than-significant impacts related to hazards and hazardous materials.

The proposed project was found to have a less-than-significant impacts related to the routine transport, use, or disposal of hazardous waste, the release of hazardous waste, or the emitting of hazardous emissions or handling of hazardous materials in the proximity of an existing or proposed school. Potential future development that could occur under either scenario in the Planning Area would be required to comply with all federal, State, and local regulations pertaining to hazards and hazardous materials, and the proposed project includes goals, policies, and programs that would further reduce impacts related to hazardous materials. Development that would occur under Alternative B would be required to comply with the same federal and State regulations and would be required to comply with policies in the proposed General Plan, which reduce impacts related to hazardous materials. Given the reduction in development under Alternative B, there would be less use of hazardous materials and less

potential exposure of existing and future residents to hazardous materials and other hazards. Therefore, Alternative B would have a *lesser* impact when compared to the proposed project.

Hydrology and Water Quality

As described in Section 4.9, Hydrology and Water Quality, the proposed project would result in less-than-significant hydrology and water quality impacts.

New development under the proposed project or Alternative B would be required to abide by the same various federal, State, and regional regulations governing impacts to water quality from construction and operational activities. In both cases, new development would almost entirely be redevelopment of existing developed lots. Almost all new development under either the proposed project or Alternative B would occur on already developed lots. Therefore, there would not be substantial increase in the amount of impermeable surfaces or runoff and little change to stream channels or flooding. The proposed project and Alternative B contain policies and programs that address the risks from sea level rise. Alternative B would result in less new development and less significant hydrologic impacts. However, the reduction is not substantial, and therefore the impacts to hydrology and water quality would not be substantially different. Therefore, the impact of Alternative B on hydrologic resources would be *similar* to impacts from the proposed project.

Land Use and Planning

As described in Chapter 4.10, Land Use and Planning, the proposed project would not result in any significant impacts related to land use and planning, and no mitigation measures are required.

Neither Alternative B nor the proposed project would create physical barriers within existing communities. Both scenarios would also support the integration of infill development and do not propose physical features that could divide a community.

Under Alternative B, development would continue to occur throughout the city as would occur under the proposed project and would not conflict with these already approved standards. Implementation of either development scenario would not conflict with any applicable land use plan adopted for the purpose of avoiding or mitigating an environmental effect and impacts would be *similar*.

Noise

As described in Chapter 4.11, Noise, the proposed project would result in a less-than-significant noise and vibration impacts with implementation of Mitigation Measures NOISE-1.

Future development under either the proposed project or Alternative B would be subject to the standards of the LMC and policies and programs of the proposed project, including those relating to the noise compatibility between residential and nonresidential land uses. As specific

uses are proposed for particular sites, project-level design, permitting, and/or environmental review would serve to ensure that individual uses would comply with the noise regulations.

Less development would occur under Alternative B, so it is possible that fewer residents would be exposed to incompatible noise levels. However, the policies of the proposed project and noise regulations contained in the LMC would ensure that residents are not exposed to levels deemed incompatible.

Vibration impacts would occur under both scenarios. These vibration impacts can be reduced to a less-than-significant level by implementation of Mitigation Measure NOISE-1. The reduction in the number of new units would reduce the amount of construction and operational noise generated by new development, reduce the need for mitigation to reduce incompatible noise impacts, and reduce the need for mitigation for vibration Impacts. Therefore, Alternative B would have *lesser* impacts than the proposed project.

Population and Housing

As described in Chapter 4.12, the proposed project would not result in any significant impacts related to population and housing, and no mitigation measures are required.

Development under Alternative B would not comply with the RHNA regional projections. This alternative assumes that the City will comply with the State mandate that the Housing Element update will identify adequate sites where the new housing needed to meet the RHNA can feasibly be approved and built. However, it is possible that despite the availability of identified sites, the RHNA target number of units will not be constructed. As stated previously, one of the objectives of Alternative 2 is to identify the differences in impact that would occur with less residential development.

Implementation of the proposed project and Alternative B would have a less-than-significant impact due to the focus on infill development in TPAs and HRAs, which is in alignment with the regional planning framework of *Plan Bay Area 2050*. The proposed project is the overriding policy document in the Planning Area, which plans for population growth that is reasonably foreseeable through 2040. It is possible that new development under Alternative B would equally focus development in the TPAs and HRAs, but this is not known. The proposed project has a more predictable consistency with regional planning. Because Alternative B could result in fewer new units than targeted in the RHNA, this alternative would have a *greater* impact on population than the proposed project.

Public Services and Recreation

As described in Chapter 4.13, impacts under the proposed project to fire protection services, police services, parks, schools, and libraries were found to be less than significant, and no mitigation measures are required.

Because Alternative B would result in fewer new residents and dwelling units, there would be less demand for fire protection services, police services, parks, schools, and libraries.

Potential future development under Alternative B would be required to comply with all existing City regulations adopted to ensure that development pays its fair share of the cost of delivering services, while payment of property taxes would ensure that future development pays its fair share towards schools. Given the reduction in demand for public services, impacts under Alternative B would be *lesser t*han those of the proposed project.

Transportation

As described in Chapter 4.14, Transportation, impacts to transportation were found to be less than significant, and no mitigation is required.

As discussed in that chapter, the VMT would be less under Alternative B assuming that new development under that alternative would be focused in the TPAs and HRAs as is the case for the proposed project. Fewer new residents would reduce the number of trips and VMT generated by the proposed project. Impacts to bicycles and pedestrians would be similar as improvements are guided by the Bicycle and Pedestrian Master Plan under both scenarios. Overall, VMT and transportation impacts in the Planning Area under Alternative B would be *lesser* when compared to the proposed project.

Utilities and Service Systems

As described in Chapter 4.15, Utilities and Service Systems, impacts to sanitary wastewater, solid waste and stormwater infrastructure were found to be less than significant with the compliance of all applicable regulations, and no mitigation measures are required. Due to uncertainties about the ability of Marin Water to provide adequate potable water to new development, and because additional water sources may need to be developed which could result in significant impacts to the physical environment. the proposed project would have significant impacts related to the water system. No mitigation is available for the three water-related impacts.

Approximately half the amount of new development would occur under Alternative B as compared to the proposed project. There would be a corresponding reduction is the amount of wastewater and solid waste generated and less demand for additional water. Runoff to the storm drain system would be similar. Given the reduction in demand for services, the impacts under Alternative B would be *lesser* than under the proposed project.

Wildfire

As described in Chapter 4.16, Wildfire the proposed project would not result in any significant impacts related to wildfire, and no mitigation measures are required.

Alternative B would reduce the number of new units potentially at risk from wildfire. Though it is expected that most new development under either scenario would be located side of the

WUI and high fire hazard zone, there would still be fewer residences at risk under Alternative B. Therefore, development under Alternative B would have *lesser* impacts related to wildfire than development occurring under the proposed project.

Relationship of the Alternatives to the Objectives

Under Alternative B, the goals, policies, and programs of the proposed project would be implemented. The alternative would meet most of the City's objectives. However, the alternative would not fully meet the objective of meeting the City's share of the regional housing needs of 2040. Alternative B would result in less housing and population growth in the Planning Area when compared to the proposed project. As discussed in Chapter 3.0, Project Description and reiterated above under Project Objectives, the primary purposes of the proposed project are to plan for the growth and conservation of resources in Larkspur over a 20-year time horizon and to achieve a more equitable, sustainable, and prosperous future for all residents. Objectives related specifically to growth include focusing growth on transit rich areas and capitalizing on transit opportunities. While the growth in Alternative B would be expected to mainly occur in the same locations as included in the proposed project, Alternative B would result in less overall development, which would mean that the City would not meet the goal of providing adequate development to accommodate the growing population in the region. Therefore, Alternative B does not meet all the project objectives as outlined for the proposed project.

Environmentally Superior Alternative

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines 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. 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 Larkspur. 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 anenvironmentally superior alternative among the other alternatives.

The following summarizes the impacts for each alternative.

- Alternative A would, in comparison to the proposed project, not result in any reduced environmental impacts, but would ultimately result in greater impacts related to aesthetics, air quality, biological resources, cultural resources, hydrology and water quality, noise, population and housing, transportation, and wildfire.

- Alternative B would, in comparison to the proposed project, result in reduced environmental impacts related to aesthetics, air quality, biological impacts, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, noise, public services and utilities, transportation, utilities and service systems, and wildfire, but would result in greater impacts to population and housing. It would not allow the City to meet its regional housing needs requirements. Because Alternative B reduces impacts to almost all environmental resources areas, Alternative B, Reduced Residential Development is the environmentally superior alternative.

6.0 CEQA-Required Conclusions and Findings

6.1 Significant and Unavoidable Impacts

Table 2-1 in the Summary Chapter lists the potentially significant impacts that could result from buildout under the Larkspur General Plan 2040. Mitigation measures have been identified for potentially significant impact. These mitigation measures would reduce the level of impact for potentially significant impacts. However, there are two impacts that are reduced by proposed policies of the General Plan 2040 and the City's Climate Action Plan, but they are not reduced to a level that is less than significant. The impacts are listed below.

1. Specific reductions and tools are not available to document the GHG emissions generated by buildout can reach a level that is 60-percent below 1990 levels, as required to meet the 2050 reduction goal of Executive Order S-03-05. Therefore, the project is considered to have a significant and unavoidable impact with respect to GHG emissions.
2. Implementation of the City's Climate Action Plan and the goals, policies, and action programs of Larkspur General Plan 2040 would ensure that the City is tracking and monitoring the City's GHG emissions to chart a trajectory to achieve the long-term year 2050 GHG reduction goal set by Executive Order S-03-05. However, at this time, there is no plan that extends beyond 2030 that achieves the long-term GHG reduction goal established under Executive Order S-03-05. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impact would be significant and unavoidable.
3. The Marin Municipal Water District (Marin Water) may need to develop additional sources of water to meet the demand of buildout under the Larkspur General Plan 2040. Development of possibly needed new sources of water could have a significant and unavoidable impact on the environment.
4. Marin Water may not have adequate sources of water to serve the proposed project and foreseeable future development in its service area during dry and multiple-dry years. Developing additional sources of water to meet demand during these dry year scenarios could have significant and unavoidable impacts on the environment.
5. Implementation of the proposed project could result in a cumulatively considerable impact to water service. Again, additional sources of water may need to be developed, which could have a significant unavoidable impact on the environment.

6.2. Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth-inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development.

This section evaluates the proposed project's potential to create such growth inducements. As CEQA Guidelines Section 15126.2(d) requires, "[it] must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment." In other words, 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.

Direct Impacts

The proposed project is a plan-level document and does not propose any specific development that would induce other new development. However, implementation of the proposed project would induce growth by increasing the development potential in the Planning Area. State law requires the City to promote the production of housing to meet its fair share of the regional housing needs distribution made by ABAG. The proposed General Plan 2040 projected residential growth to 2040 is consistent with the 2023-2031 RHNA established by ABAG and the *Plan Bay Area 2050* projections for the city.

In addition, most of the projected growth under the proposed project would occur in the two TPAs and the HRAs in the city. The growth projected under the proposed project would result in regional benefits by promoting growth that encourages less automobile dependence and supports regional transit systems, which could have associated air quality and GHG benefits. Encouraging infill growth in designated areas would help to reduce development pressures on lands outside the city boundary.

Indirect Impacts

The proposed project is considered growth inducing because it encourages new growth in the urbanized areas of Larkspur. Development in these areas would consist of infill development on underutilized sites, sites that have been previously developed, and that have been determined to be suitable for development. However, infrastructure is largely in place and growth would be required to comply with the City's General Plan, zoning regulations, and standards for public services and utilities; secondary effects associated with this growth do not represent a new

significant environmental impact which has not already been addressed in the individual resource chapters of this EIR.

Additional population and employment growth would occur incrementally over a period of approximately 20 years and would be consistent with the regional planning objectives established for the Bay Area.

6.3. Significant and Irreversible Changes

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed herein.

*Changes in Land Use that Commit Future Generations***.** As described in Chapter 3.0, Project Description, of this Draft EIR, the proposed project generally maintains the land use pattern of the existing General Plan. New development will occur almost entirely on already urbanized sites, particularly in the TPAs and HRAs, or as ADUs in existing residential neighborhoods Therefore, substantial land use changes are not foreseen, and new development within the built-out city will not commit future generations to a new form or scale of land use than currently exists.

Irreversible Damage from Environmental Accidents. Irreversible changes to the physical environment could occur from accidental release of hazardous materials associated with development activities; however, compliance with the applicable regulations and General Plan goals, policies, and programs and implementation of policies and programs discussed in Chapter 4.8, Hazards and Hazardous Materials, would reduce this potential impact to a less-than-significant level. Additionally, the projected growth in Larkspur does not contain new industrial development, so there would be no increased risk of the release of hazardous industrial materials. Therefore, irreversible damage is not expected to result from the adoption and implementation of the proposed project.

Large Commitment of Nonrenewable Resources. Implementation of development allowed under the proposed project would result in the commitment of limited, renewable resources such as lumber and water. In addition, development allowed by the proposed project 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 buildout under implementation of the proposed project also represents a long-term commitment to the consumption of fossil fuels, natural gas, and gasoline. Increased energy demands would be used for construction, lighting, heating, and cooling of residences, and transportation of people within, to, and from Larkspur. However, as shown in Chapter 4.5, Energy and in Chapter 4.15 Utilities and Service Systems of this Draft EIR, several regulatory measures and General Plan policies and strategies encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building. Future development, as a result

of increased development allocation under the proposed project, 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. Therefore, while the construction and operation of future development, as a result of increased development allocations under the proposed project, would involve the use of nonrenewable resources, compliance with applicable standards and regulations and implementation of General Plan policies and mitigations recommended in this EIR would reduce the use of nonrenewable resources to the maximum extent practicable; therefore, the proposed project would not represent a large commitment of nonrenewable resources in comparison to a business-as-usual situation.

In addition, the projected new housing is needed for Larkspur to provide its required fair share of projected regional growth. If this housing, and the accompanying use of nonrenewable resources, does not occur here, it would need to occur elsewhere in the Bay Area. The commitment of resources is needed to support the projected growth for the State and the Bay Area. The City's commitment of these resources is required from the City for it to do its part in addressing the repercussions of that growth.

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