January 7, 2021

State Clearinghouse Number: 2019039167

SAN RAFAEL
GENERAL PLAN 2040 & DOWNTOWN PRECISE PLAN DRAFT EIR

for the City of San Rafael

SAN RAFAEL
General Plan
2040

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for the City of San Rafael

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SOURCES

In addition to the technical appendices, all documents cited in this report and used in its preparation are hereby incorporated by reference into this Draft EIR. Copies of documents referenced herein are available for review online at https://www.cityofsanrafael.org/general-plan-ceqa/.

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1. Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Chapter 14, California Code of Regulations, Section 15378[a], the proposed San Rafael General Plan 2040 (General Plan 2040) and Downtown San Rafael Precise Plan (Downtown Precise Plan) are considered a "project" subject to environmental review. Their implementation is "an action [undertaken by a public agency] which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment." This Draft Environmental Impact Report (Draft EIR) provides an assessment of the potential environmental consequences of adoption and implementation of the General Plan 2040 and the Downtown Precise Plan, herein referred to separately, or together referred to as 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 San Rafael (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.

1.1 PROPOSED ACTION

If approved by the San Rafael City Council, the proposed project would replace the City's existing General Plan, which has a buildout horizon to 2020, with an updated General Plan and a new Downtown Precise Plan. The proposed project would build off the existing General Plan 2020, which was last comprehensively updated in 2004, to provide a framework for land use, transportation, and conservation decisions through the horizon year of 2040. The proposed project would also introduce new zoning provisions in the Downtown Precise Plan Area, including development regulations and design standards that implement the Downtown Precise Plan.

The environmental analysis in this Draft EIR assumes that the adoption and implementation of the proposed project would result in up to 4,250 new households, 4,460 new residential units, 8,910 new residents, and 4,155 new employees by 2040. Of these, up to 2,100 new households, 2,200 new residential units, 3,570 new residents, and 2,020 new employees would be within the Downtown Precise Plan Area. See Chapter 3, Project Description, of this Draft EIR for additional details on the proposed project. See Chapter 5, Alternatives to the Proposed Project, for a comparison of the current General Plan 2020 and the proposed General Plan 2040.

1.2 EIR SCOPE

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

In this case, the proposed project that is the subject of this 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 and Downtown Precise Plan. 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]

When a program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent activities.[2] If a subsequent activity would have effects that are not within the scope of the program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR unless the activity qualifies for an exemption. For these subsequent environmental review documents, this program EIR will serve as the first-tier environmental analysis to streamline future environmental review.

1.3 ENVIRONMENTAL REVIEW PROCESS

1.3.1 DRAFT EIR

Pursuant to CEQA Section 21080(d) and CEQA Guidelines Section 15063, the City determined that the proposed project could result in potentially significant environmental impacts and that a program EIR would be required. In compliance with CEQA Section 21080.4, the City circulated the Notice of Preparation (NOP) of an EIR for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse (SCH) and interested agencies and persons on March 29, 2019, for a 30-day review period. A public scoping meeting was held on April 23, 2019, at 7:00 p.m. at the San Rafael City Council Chambers. The NOP and scoping process solicited comments regarding the scope of the Draft EIR from responsible and trustee agencies and interested parties. Appendix A, Notice of Preparation and Scoping

[1] CEQA Guidelines Section 15168(c) and CEQA streamlining provisions.
[2] CEQA Guidelines Section 15168(c)(3) and CEQA streamlining provisions.

Comments, of this Draft EIR contains the NOP and the comments received by the City in response to the NOP.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 60-day comment period starting January 7, 2021 and ending March 9, 2021. During the comment period, the public is invited to provide written comments on the Draft EIR via mail or email to the City of San Rafael Planning Division by 5:00 p.m. on March 9, 2021. Comments should be submitted as follows:

- Written: Barry Miller, Consulting Project Manager
  City of San Rafael, Community Development Department
  1400 Fifth Ave, 3rd Floor
  San Rafael, California 94901
- Phone: (415) 485-3423
- Email: Barry.Miller@cityofsanrafael.org with "*General Plan 2040 and Downtown Precise Plan EIR*" as the subject line.

1.3.2 FINAL EIR

Upon completion of the 60-day review period for the Draft EIR, the City will review all written comments received and prepare written responses to each comment on the adequacy of the Draft EIR. A Final EIR will then be prepared, which contains all of the comments received, responses to comments raising environmental issues, and any changes to the Draft EIR. The Final EIR will then be presented to the San Rafael Planning Commission where a public hearing will allow for public comment on the Final EIR and to consider recommendation for certification of the Final EIR. Following the public hearing, the Final EIR will be presented to City Council for consideration of the certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing, which is tentatively scheduled for Tuesday, March 9, 2021.

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

If the City Council certifies the EIR, it may then consider action on the proposed project. If approved, the City Council would adopt and incorporate 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.

1.3.3 MITIGATION MONITORING

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

1.4 USE OF GENERAL PLAN EIR

1.4.1 TIERING PROCESS

CEQA includes several provisions to streamline the environmental review of qualified projects based on several factors. These include where environmental review has already occurred (e.g., a program-level EIR), which could apply to future development in the EIR Study Area.

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

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

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

1. A discussion of general background and setting information for environmental topic areas;
2. Overall growth-related issues;
3. Issues that were evaluated in sufficient detail in the program EIR for which there is no significant new information or change in circumstances that would require further analysis;
4. Assessment of cumulative impacts; and
5. Mitigation measures adopted and incorporated into the proposed project.

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

As a Program EIR, this document and the mitigation measures presented herein, will be used as a guide for implementing the General Plan 2040 policies and programs, as well as adopting changes in City codes, regulations, and practices. For some of the topic areas covered in this Program EIR (e.g., air quality, noise and vibration, hazards/hazardous materials, and biological resources) mitigation measures are recommended to carry forward and expand on current City policies, regulations, and best practices. For specific topic areas such as cultural (historic) resources, new mitigation measures are recommended to streamline environmental review of future development projects within the Downtown Precise Plan Area.

This Program EIR will also be used as a base resource for reviewing future development projects. This document will assist in guiding the assessment of projects and provide environmental review tiering, where appropriate. Currently, the City completes the following steps in reviewing development projects, which will be carried forward under the adopted General Plan 2040:

- Project Consistency with the General Plan and City Codes. When a new development project is filed with the City, it is reviewed for completeness and consistency with the General Plan goals, policies, and programs, and City codes and practices. Because City policies, programs, codes, and practices will be amended to incorporate the mitigation measures presented in this Program EIR, development projects will inherently implement these measures to: a) mitigate environmental impacts; and b) achieve consistency with the General Plan and compliance with City codes.
- Projects Subject to Environmental Review. For future development projects subject to environmental review, the resources contained within this EIR and carried forward in the General Plan 2040 will guide the scope of this review. For project level environmental review, many of the topic areas studied in this Program EIR will adequately cover and provide environmental clearance for the project. However, the preparation of site-specific studies and reports may be necessary based on the location and nature of the development project. The resources presented in this Program EIR will assist in determining when and where a special, site-specific study is warranted. One example is shown on Figure 4.4-2, Special Status Plant Species and Sensitive Natural Communities, and Figure 4.4-3, Special Status Animal Species and Critical Habitat, of this Draft EIR. These figures map geographic areas where special status species are known to exist, which will provide guidance on where and when to require a technical study of biological resources.
- Projects Exempt from Environmental Review. CEQA includes a long list of environmental review exemptions. Most of the future development projects will likely be exempt from environmental review as the project impacts will be adequately covered by this Program EIR. However, many of the CEQA exemptions require compliance with specific criteria for the development project to qualify for the exemption. The resources contained within this EIR and carried forward in the General Plan 2040 will be used to assist in determining if the CEQA-prescribed criteria have been met to quality for the exemption. One example of a CEQA exemption is for development projects located in a "Transit Priority Area" (TPA). Further information on CEQA exemptions for development in a TPA is provide in Chapter 4, Environmental Analysis. Several chapters of this Draft EIR provide assistance in determining if these exemption criteria can be met.

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2. *Executive Summary*

This chapter presents an overview of the proposed General Plan 2040 and Downtown Precise Plan, herein referred to separately, or together referred to as the "proposed project." This executive summary also provides a summary of the alternatives to the proposed project, identifies issues to be resolved, areas of controversy, and conclusions of the analysis in Chapters 4 through 4.18 of this Draft Environmental Impact Report (EIR). For a complete description of the proposed project, see Chapter 3, Project Description, of this Draft EIR. For a discussion of alternatives to the proposed project, see Chapter 5, Alternatives to the Proposed Project, 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 potential environmental consequences to support informed decision-making.

This Draft EIR has been prepared pursuant to the requirements of CEQA[1] and the State CEQA Guidelines[2] to determine if approval of the identified discretionary actions and related subsequent development could have a significant impact on the environment. The City of San Rafael (City), as the lead agency, has reviewed and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment, including reliance on applicable City technical personnel and review of all technical reports. Information for this Draft EIR was obtained from on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, greenhouse gas emissions, noise, and transportation).

2.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed project. The main objectives of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental damage.

[1] The CEQA Statute is found at California Public Resources Code, Division 13, Sections 21000–21177.

[2] The CEQA Guidelines are found at California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387.

- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approval of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the CEQA statute and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. 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[3] if the proposed project would result in significant impacts that cannot be avoided.

2.2 REPORT ORGANIZATION

This Draft EIR is organized into the following chapters:

- Chapter 1: Introduction. Provides an overview describing the Draft EIR document.
- Chapter 2: Executive Summary. Summarizes environmental consequences that would result from implementation of the proposed project, describes recommended mitigation measures, and indicates the level of significance of environmental impacts with and without mitigation.
- Chapter 3: Project Description. Describes the proposed project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- Chapter 4: Environmental Analysis. Organized into 18 subchapters corresponding to the environmental resource categories identified in CEQA Guidelines Appendix G, Environmental Checklist, this chapter provides a description of the physical environmental conditions in the vicinity of the proposed project as they existed at the time the Notice of Preparation was published and by referencing historic conditions that are supported with substantial evidence, from both a local and regional perspective. Additionally, this chapter provides an analysis of the potential environmental impacts of the proposed project and recommended mitigation measures, if required, to reduce the impacts to less than significant where possible, and to reduce their magnitude or significance when

[3] CEQA Guidelines Section 15093.

impacts cannot be reduced to a less-than-significant level. The environmental setting included in each subchapter provides baseline physical conditions, which provide a context, which the lead agency uses to determine the significance of environmental impacts resulting from the proposed project. Each subchapter also includes a description of the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the proposed project; and the potential cumulative impacts associated with the proposed project.

- Chapter 5: Alternatives to the Proposed Project. Considers alternatives to the proposed project, including the CEQA-required "No Project Alternative" and "environmentally superior alternative."
- Chapter 6: CEQA-Required Conclusions and Findings. Discusses growth inducement, cumulative impacts, unavoidable significant effects, and significant irreversible changes as a result of the proposed project.
- Chapter 7: Organizations and Persons Consulted. Lists the people and organizations that were contacted during the preparation of this EIR for the proposed project.
- Chapter 8: Common Acronyms and Abbreviations. Lists the common acronyms and abbreviations found in this Draft EIR
- Appendices: The appendices for this document contain the following supporting documents:
  - Appendix A: Notice of Preparation and Scoping Comments
  - Appendix B: Proposed General Plan Goals, Policies, and Programs
  - Appendix C: Staff Recommended Land Use Map Changes
  - Appendix D: Air Quality and Greenhouse Gas Emissions Data
  - Appendix E: Biological Resources Data
  - Appendix F: Cultural Resources Data
  - Appendix G: Hazardous Materials Data
  - Appendix H: Noise Data
  - Appendix I: Transportation Data

2.3 TYPE AND PURPOSE OF THIS DRAFT EIR

As described in the CEQA Guidelines, different types of EIRs are used for varying situations and intended uses. Because of the long-term planning horizon of the proposed project and the permitting, planning, and development actions that are related both geographically and as logical parts in the chain of contemplated actions for implementation, this Draft EIR has been prepared as a program EIR for the proposed project, pursuant to CEQA Guidelines Section 15168. Once the program EIR has been certified, subsequent 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 activities that are within scope of the effects examined in the program EIR, may qualify for a streamlined environmental review process or may be exempt from environmental review. When a program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the

subsequent activities.[4] If a subsequent activity would have effects that are not within the scope of the program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR unless the activity qualifies for an exemption. For these subsequent environmental review documents, this program EIR will serve as the first-tier environmental analysis to streamline future environmental review.

2.4 SUMMARY OF PROPOSED PROJECT

The proposed project would replace the City's existing General Plan, which has a buildout horizon to 2020, with an updated General Plan and a new Downtown Precise Plan. The proposed project would also introduce new zoning provisions in the Downtown Precise Plan Area, including development regulations and design standards that implement the Downtown Precise Plan.

The existing General Plan 2020 was prepared in 2004. It involved a major overhaul and modernization of the prior General Plan 2000 that was adopted in 1988. The City determined that the General Plan 2020 provided a good foundation for General Plan 2040. The General Plan 2020 included a comprehensive review process, resulting in a broad range of community goals and policies. Many of the community issues vetted in General Plan 2020 are still relevant, well addressed, and do not require major change. Therefore, the approach to the proposed General Plan 2040 is not a comprehensive update, rather, it builds off of the current General Plan 2020 by incorporating the topics that are now required by State mandate and revises relevant policies and programs to meet those requirements. It also incorporates regional forecasts for 2040, thus moving the planning horizon forward by 20 years. Chapter 3, Project Description, of this Draft EIR includes a detailed description of the proposed project.

2.5 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. There is no set methodology for comparing the alternatives or determining the environmentally superior alternative under CEQA. 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 (Current General Plan). 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 2020.
- Alternative B: Greater Residential Growth. Alternative B presents greater residential and fewer jobs when compared to the proposed project. This alternative would increase the number of housing units

[4] CEQA Guidelines Section 15168[c] and CEQA streamlining provisions.

and population but would reduce the number of employees when compared to the proposed project. This alternative would include the same proposed General Plan 2040 land use designations as the proposed project except for two additional locations that do not currently allow for housing. Under this alternative, these two locations would allow for housing. Because this alternative includes more housing, at least some light industrial, office, and retail land uses would potentially be displaced.

- Alternative C: Lower Residential Growth. Alternative C presents a fewer residential and greater jobs when compared to the proposed project. This alternative would reduce the number of housing units and population but would increase the number of employees when compared to the proposed project. This alternative excluded several Housing Element sites and Downtown Precise Plan sites included in the proposed project. This alternative would convert less commercial acreage to housing. This alternative would include the same proposed General Plan 2040 land use designations as the proposed project and differ only in the presumed rate of growth.

Chapter 5, Alternatives to the Proposed Project, of this Draft EIR, includes a complete discussion of these alternatives. As discussed in Chapter 5, Alternative B, Greater Residential Growth, is the Environmentally Superior Alternative pursuant to CEQA Guidelines Section 15126.6.

2.6 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 San Rafael, as lead agency, 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 proposed land use changes are compatible with the character of the existing area.
- 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 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.

2.7 AREAS OF CONTROVERSY

The City issued a Notice of Preparation (NOP) on March 29, 2019. The CEQA-mandated scoping period for this EIR was between March 29, 2019, and April 29, 2019, during which interested agencies and the public could submit comments about the potential environmental impacts of the proposed project. During this

time, the City received comment letters from a variety of 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. Though every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive, but rather attempts to capture concerns that are likely to generate the greatest interest based on the input received during the scoping process.

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

2.8 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, geology and soils, greenhouse gas emissions, hazards and hazardous materials, noise and vibration, and transportation. All other topics were determined to be less than significant, and no mitigation measures were required. Table 2-1 is arranged in four columns: (1) impact; (2) significance without mitigation; (3) mitigation measures; and (4) significance with mitigation. 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 4.18**.**

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
4.3 AIR QUALITY			
Impact AIR-2.1: Construction activities associated with potential future development could potentially violate an air quality standard or cumulatively contribute to an existing or projected air quality violation.	S	**Mitigation Measure AIR-2.1:** To reduce temporary increases in criteria air pollutant emissions (NO_X) during the construction phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.4 (Particulate Matter Pollution Reduction) to be implemented as part of the project approval process: ▪ **New Program:** Require projects that exceed the BAAQMD screening sizes to evaluate project-specific construction emissions in conformance with the BAAQMD methodology and if construction-related criteria air pollutants exceed the BAAQMD thresholds of significance, require the project applicant to mitigate the impacts to an acceptable level.	LTS
Impact AIR-2.2: Operational activities associated with potential future development could cumulatively contribute to the non-attainment designations of the San Francisco Bay Area Air Basin.	S	**Mitigation Measure AIR-2.2:** To reduce long-term increases in air pollutants during the operation phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.2 (Land Use Compatibility and Building Standards) be implemented as part of the project approval process: ▪ **New Program:** Require projects that exceed the BAAQMD screening sizes to evaluate project-specific operation emissions in conformance with BAAQMD CEQA Guidelines, and if operation-related air pollutants exceed the BAAQMD-adopted thresholds of significance, require the project applicants to mitigate the impact to an acceptable level.	SU
Impact AIR-3.1: Construction activities associated with potential future development could expose nearby receptors to substantial concentrations of toxic air contaminants.	S	**Mitigation Measure AIR-3.1a:** Implement Mitigation Measure AIR-2.1. **Mitigation Measure AIR-3.1b:** To ensure sensitive receptors are not exposed to toxic air contaminant emissions during the construction phase for discretionary development projects that are subject to CEQA that exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
		support Policy C-2.2: (Land Use Compatibility and Building Standards) be implemented as part of the project approval process: ▪ **New Program:** 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 AIR-3.2. Operational activities associated with potential future development could expose sensitive receptors to substantial toxic air contaminant concentrations from nonpermitted sources.	S	**Mitigation Measure AIR-3.2**: To ensure sensitive receptors are not exposed to toxic air contaminant emissions during the operation phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.2: (Land Use Compatibility and Building Standards) be implemented as part of the project approval process: ▪ **New Program:** Require applicants for industrial or warehousing land uses or commercial land uses that would generate substantial diesel truck travel (i.e., 100 diesel trucks per day or 40 or more trucks with diesel-powered transport refrigeration units per day) to contact BAAQMD to determine the appropriate level of operational health risk assessment (HRA) required. If required, the operational HRA shall be prepared in accordance with the Office of Environmental Health Hazard Assessment and BAAQMD requirements and mitigated to an acceptable level.	SU
4.4 BIOLOGICAL RESOURCES			
Impact BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act and California Fish and Game Code, could occur as a result of potential new development.	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 General Plan Program C-1.13B and shall adopt a new Program or modify an existing program to clarify the need for special-status species surveys and to ensure avoidance of nests of native birds in active use to support Policy C-1.13 (Special Status Species). Revisions to Program C-	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
		1.13B are shown in double-underlined text while the new Program is in standard text: ▪ **Modified Program C-1.13B: Surveys for Special-Status Species**. Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of special status species 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. ▪ **New or Modified Program: Avoidance of Nesting Birds.** Nests of native bird nests 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 (March 1 through August 31) or preconstruction surveys should be conducted by a qualified biologist 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 any young birds have successfully left the nest.	
Impact BIO-2 Impacts to riparian areas, drainages, and sensitive natural communities could occur from potential future development where natural habitat remains.	S	**Mitigation Measure BIO-2:** To ensure sensitive riparian areas, drainages, and sensitive natural communities are not impacted through implementation of the proposed project, the City shall adopt the following General Plan Program or amend other programs to support Policy C-1.12 (Native or Sensitive Habitats) to ensure that sensitive natural communities are identified and addressed as part of future development review: ▪ **New or Modified Program: Surveys for Sensitive Natural Communities.** Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of 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.	LTS
Impact BIO-3 Potential future development could result in direct and indirect impacts to wetland habitat.	S	**Mitigation Measure BIO-3:** To ensure that sensitive wetland habitats are not impacted directly or indirectly through implementation of the proposed project, the City shall adopt the following General Plan Program or amend other programs to support Policy C-1.1 (Wetlands Protection) to ensure that	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
		jurisdictional waters are identified and addressed as part of future development review: ▪ **New or Modified Program: Surveys for Regulated Waters.** Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of regulated waters prior to development approval. Such surveys should be conducted by a qualified wetland specialist and occur prior to development-related vegetation removal or other habitat modifications.	
Impact BIO-4 Potential future development in the EIR Study Area could result in impacts on the movement of wildlife and potential for increased risk of bird collisions.	S	**Mitigation Measure BIO-4:** To ensure that potential future development under implementation of the proposed project does not result in impacts on the movement of wildlife, the City shall adopt the following General Plan programs or amend other programs to support Policy C-1.11 (Wildlife Corridors) so that important movement corridors and the potential for increased risk of bird collisions are identified and addressed as part of future development review: ▪ **New or Modified Program: Surveys for Wildlife Movement Corridors.** Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of important wildlife corridors 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. ▪ **New or Modified Program: Consider Risk of Bird Collision.** Require that taller structures be designed to minimize the potential risk of bird collisions using input from the latest bird-safe design guidelines and best management practice strategies to reduce bird strikes. ▪ **New Program: Bird Safe Design Ordinance.** Develop and adopt a Bird Safe Design ordinance to provide specific criteria and refined guidelines as part of design review of new buildings and taller structures.	LTS
4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES			
Impact CULT-1: Future development in San Rafael on sites that contain a historic resource may cause the demolition, destruction, or alteration of a historic resource such that the significance of the resource is	S	**Mitigation Measure CULT-1:** To ensure sites that contain a historic resource that are subject to demolition, destruction, or alteration, are mitigated to an acceptable level, the City shall amend Program CDP-5.1A (Preservation Ordinance).	SU

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
"materially impaired." Such adverse changes or potential adverse changes in the significance of a CEQA-defined historic resource would constitute a significant impact.		▪ **Modified Program CDP-5.1A: Update Historic Preservation Ordinance**. The City of San Rafael shall modify the City's Historic Preservation Ordinance to include updated procedures to mitigate impacts from the demolition, destruction, or alteration of historic resources.	
Impact CULT-2: Implementation of the proposed project could have the potential to cause a significant impact to an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	S	**Mitigation Measure CULT-2:** To ensure sites where archeological resources are unearthed during the construction phase of development projects are mitigated to an acceptable level, the City shall amend Program CDP-5.13A (Archeological Resources Ordinance). ▪ **Modify Program CDP-5.13A: Update Archeological Resources Ordinance.** The City of San Rafael shall modify the City's Archeological Resources Ordinance to include construction best management practices to follow if a potentially significant archaeological resource is encountered during ground disturbing activities.	LTS
Impact CULT-3: Ground-disturbing activities as a result of future development in the EIR Study Area could encounter human remains, the disturbance of which could result in a significant impact under CEQA.	S	**Mitigation Measure CULT-3:** To ensure human remains that are unearthed during the construction phase of development projects are protected, the City shall adopt a new Program to support Policy CDP-5.13 (Protection of Archaeological Resources). ▪ **New Program: Human Remains.** Any human remains encountered during ground-disturbing activities would be required to be treated in accordance with California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and the California Code of Regulations Section 15064.5(e) (CEQA), which state the mandated procedures of conduct following the discovery of human remains.	LTS
Impact CULT-4: Ground-disturbing activities as a result of future development under the proposed project could encounter Tribal Cultural Resources, the disturbance of which could result in a significant impact under CEQA.	S	**Mitigation Measure CULT-4:** Implement Mitigation Measures CULT-2 and CULT-3.	LTS
4.7 GEOLOGY SOILS			
Impact GEO-6: Construction activities associated with potential future development could have the potential to	S	**Mitigation Measure GEO-6:** To ensure sensitive and unique paleontological resources are not directly or indirectly affected in the event that such resources are unearthed during project grading, demolition, or building (such	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
directly or indirectly affect a unique paleontological resource.		as fossils or fossil-bearing deposits), the City shall adopt the following new General Plan Policy and associated Program: ▪ **New Policy: Paleontological Resource Protection.** Prohibit the damage or destruction of paleontological resources, including prehistorically significant fossils, ruins, monuments, or objects of antiquity, that could potentially be caused by future development. ▪ **New Program: Paleontological Resource Mitigation Protocol.** The City shall prepare and adopt a list of protocols in accordance with Society of Vertebrate Paleontology standards that protect or mitigate impacts to paleontological resources, including requiring grading and construction projects to cease activity when a paleontological resource is discovered so it can be safely removed	
4.8 GHG Emissions			
Impact GHG-1: Implementation of the proposed project may not meet the long-term GHG reduction goal under Executive Order S-03-05.	S	Implementation of the General Plan 2040 goals, policies, and programs would ensure that the City's GHG emissions are reduced to the degree feasible. Policy C-5.1, Climate Change Action Plan, requires the City maintain and periodically update the CCAP. Policy C-5.1 is supported by Programs C-5.1A, C-5.1B, and C-5.1C, which require annual progress reports, quarterly forums, and identification of funding sources. Implementation of this Policy and its associated Programs would ensure the City is monitoring the CCAP's progress toward achieving the City's GHG reduction target and requires amendments if the CCAP is not achieving the specified level. The update would ensure the CCAP is on the trajectory consistent with the GHG emissions-reduction goal established under Executive Order S-03-05 for year 2050 and the latest applicable statewide legislative GHG emission reduction that may be in effect at the time of the CCAP update (e.g., Senate Bill 32 for year 2030). GHG inventories of existing and forecast year GHG levels. 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. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology. Advancement in technology in the future could provide additional reductions to allow the state and City to meet the 2050 goal; however, no additional statewide measures are currently available.	SU

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
4.9 HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-4: Potential future development could result in construction and operation activities on sites with known hazardous materials and, as a result, create a significant hazard to the public or the environment.	S	**Mitigation Measure HAZ-4**: To ensure that construction on sites with known contamination pursuant to the lists compiled pursuant to Government Code Section 65962.5, which include, but are not limited to, the Department of Toxic Substance Control's online EnviroStor database and the State Water Resource Control Board's online GeoTracker database, do not result in or create a significant hazard to the public or the environment, the City shall adopt the following General Plan programs to support Policy S-5.4 (Development on Formerly Contaminated Sites) to be implemented as part of the project approval process: ▪ **New Program: Environmental Site Management Plan.** Require the preparation of an Environmental Site Management Plan (ESMP) in consultation with the San Francisco Bay Regional Water Quality Control Board and/or the Department of Toxic Substance Control, for proposed development on sites with known contamination of hazardous materials pursuant to Government Code Section 65962.5, which include, but are not limited to, the Department of Toxic Substance Control's online EnviroStor database and the State Water Resource Control Board's online GeoTracker database. ▪ **New Program: Soil Vapor Intrusion Assessment**. For sites with potential residual contamination in soil or groundwater that are planned for redevelopment with an overlying occupied building, a soil vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements.	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
4.13 NOISE AND VIBRATION			
Impact NOISE-1: Construction activities associated with potential future development could expose sensitive receptors in close proximity to a construction site to noise that exceed the City's noise limits established in San Rafael Municipal Code Chapter 8.13, Noise.	S	**Mitigation Measure NOISE-1:** To ensure receptors that are sensitive to construction noise are not exposed to unacceptable construction noise levels as defined in San Rafael Municipal Code Chapter 8.13, Noise, for discretionary development projects that are subject to CEQA the City shall amend Program N-1.9B (Construction Noise) as follows: ▪ **Modified Program: Construction Best Management Practices.** The City shall establish a list of construction best management practices to be implemented during the construction phase and incorporated into San Rafael Municipal Code Chapter 8.13, Noise. The City of San Rafael Building Division shall verify that these notations, as appropriate, are on the demolition, grading, and construction plans prior to issuance of demolition, grading and/or building permits.	LTS
Impact NOISE-2a: Construction activities associated with potential future development could generate excessive short-term vibration levels during project construction.	S	**Mitigation Measure NOISE-2a:** To ensure receptors, both buildings and people, that are sensitive to vibration from construction noise are not exposed to unacceptable vibration levels from discretionary development projects that are subject to CEQA the City shall revise General Plan Program N-1.11A (Vibration-Related Conditions of Approval) to support Policy N-1.11 (Vibration) be implemented as part of the project approval process. Revisions to Program N-1.11A are shown in double-underlined text: ▪ **Modified Program N-1.11A: Construction Vibration-Related Conditions of Approval.** Adopt standard conditions of approval in San Rafael Municipal Code Chapter 8.13, Noise, that require the Federal Transit Administration (FTA) criteria for acceptable levels of groundborne vibration for various types of buildings be applied to reduce the potential for vibration-related construction impacts for development projects near sensitive uses such as older or historically significant buildings and structures, housing, and schools. If vibration levels exceed the FTA limits, the condition of approval shall identify alternative uses, such as drilling piles instead of pile driving and static rollers instead of vibratory rollers. Construction vibration impacts shall be considered as part of project level environmental evaluation and approval for individual future projects.	LTS

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
Impact NOISE-2b: Operational activities associated with potential future development could generate excessive long-term vibration levels.	S	**Mitigation Measure NOISE-2b:** To ensure receptors that are sensitive to operational vibration from commercial or industrial uses are not exposed to unacceptable vibration levels from discretionary development projects that are subject to CEQA the City shall, shall adopt the following General Plan Program to support Policy N-1.11 (Vibration) be implemented as part of the project approval process: ▪ **New Program:** Adopt standard conditions of approval in San Rafael Municipal Code Chapter 8.13, Noise, that require the Federal Transit Administration (FTA) criteria for acceptable levels of groundborne vibration from commercial or industrial uses to reduce long-term vibration impacts at existing or potential future sensitive uses such as uses with vibration-sensitive equipment (e.g., microscopes in hospitals and research facilities) or residences. Operational vibration impacts shall be considered as part of project level environmental evaluation and approval for individual future projects.	LTS
4.16 TRANSPORTATION			
Impact TRAN-1a Implementation of the proposed project would result in a significant land use VMT impact for Total VMT and Work VMT due to forecast land use growth through 2040, based on a comparison of the VMT rate increment for Total VMT Per Service Population and Work VMT Per Employee to the corresponding average baseline rates for the full nine-county Bay Area.	S	**Mitigation Measure TRAN-1a***:* To reduce vehicle miles traveled the City shall modify Program M-3.3A (TDM Program Guidelines) to support achievement of the VMT reduction Standard: ▪ **Modified Program 3-3A: Update Trip Reduction Ordinance. ~~Develop TDM Program Guidelines.~~** The City of San Rafael shall modify the Trip Reduction Ordinance (TRO) to reflect General Plan 2040 Policy M-3.1 and focus on VMT reduction measures. The amended TRO shall include the City's VMT reduction thresholds, VMT reduction measures and program guidelines, and a VMT trip reduction monitoring process. The TRO shall be updated a minimum of every five years to reflect changes in baseline VMT values, VMT thresholds, VMT reduction measures, and the monitoring process. The modified TRO shall reflect the process and methodology for conducting the VMT analysis for development projects as described in the City's Transportation Analysis (TA) Guidelines.	SU
Impact TRAN-1b: Implementation of the proposed project would result in a significant road network VMT impact due to the planned capacity of the roadway system.	S	**Mitigation Measure TRAN-1b:** Implement Mitigation Measure TRAN-1a.	SU

TABLE 2-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance without Mitigation	Mitigation Measure	Significance with Mitigation
Impact TRAN-6: Implementation of the proposed project could cumulatively contribute to regional VMT.	S	**Mitigation Measure TRAN-6:** Implement Mitigation Measure TRAN-1a.	SU

3. *Project Description*

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed San Rafael General Plan 2040 (General Plan 2040) and Downtown San Rafael Precise Plan (Downtown Precise Plan), hereinafter referred to as "proposed project," pursuant to the California Environmental Quality Act (CEQA).[1] The proposed project includes potential new development associated with implementation of General Plan 2040 and the Downtown Precise Plan. This includes previously approved projects, the remaining buildout potential in the current Association of Bay Area Governments (ABAG) 2040 projections, and additional capacity related to policy updates and map changes. The potential buildout of the City of San Rafael is discussed in Section 3.8, 2040 Development Projections, of this chapter.

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.[2] The City of San Rafael (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.[3] 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. Because this is a program-level EIR, this document does not evaluate the impacts of specific, individual developments that may be allowed under the General Plan. Future projects may require separate environmental review as described in Section 1.4, Tiering Process, in Chapter 1, Introduction, of this Draft EIR.

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

3.1 BACKGROUND

Every city and county in California is required to have an adopted comprehensive long-range general plan for the physical development of the county or city and, in some cases, land outside the city or county boundaries.[4] It is the community's overarching policy document that defines a vision for future change and sets the "ground rules" for locating and designing new projects, expanding the local economy, conserving resources, improving public services and safety, and fostering community health. The General

[1] CEQA Guidelines Section 15126.
[2] CEQA Guidelines Section 15002(a).
[3] CEQA Guidelines Section 15168.
[4] California Government Code Section 65300.

Plan, which includes a vision, guiding principles, goals, policies, and programs, functions as the City's primary land use regulatory tool. It is San Rafael's constitution for future change and must be used as the basis for all planning-related decisions made by City staff, the Planning Commission, and the City Council.

Pursuant to state law, a general plan must contain eight mandated elements: land use, circulation, housing, conservation, open space, noise, environmental justice, and safety. Typically, general plans cover a time frame or forecast of 15 to 20 years. However, general plan housing elements are required to be updated every eight years to comply with the Regional Housing Needs Allocation (RHNA), required by the Association of Bay Area Governments (ABAG).

The existing San Rafael General Plan 2020 (General Plan 2020) was adopted in 2004 and included a horizon year of 2020. Accordingly, a comprehensive update is necessary to extend the planning horizon. One element of the current General Plan, the Housing Element, was amended in January 2015. Additionally, with the adoption of the California Global Warming Solutions Act (Assembly Bill 32), which requires statewide reduction of greenhouse gas (GHG) emissions, the City adopted the 2009 *Climate Change Action Plan* (CCAP). The CCAP included a list of tasks and measures to reduce the community's GHG emissions by 2020 and 2040. In 2011, the CCAP was added to the General Plan 2020 as the Sustainability Element. The CCAP was most recently updated in May 2019. In addition to the eight General Plan elements required by State law, the General Plan 2020 included eight optional elements, for a total of 16 elements.

All precise plans, master plans, and zoning in the city must be consistent with the General Plan. Similarly, all land-use development approvals and environmental decisions made by the City Council must be consistent with the General Plan. The General Plan itself, however, does not approve or entitle any development project. Property owners have control over when they wish to propose a project, and final development approval decisions are made on a project-by-project basis by City staff, the Design Review Board, the Planning Commission, and/or the City Council.

3.2 OVERVIEW

The existing General Plan 2020 involved a major overhaul and modernization of the prior General Plan 2000 that was adopted in 1988. The City determined that General Plan 2020 provided a good foundation for the proposed General Plan 2040. General Plan 2020 went through a comprehensive review process, resulting in a broad range of community goals and policies. Many of the community issues vetted in General Plan 2020 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 2020 in terms of its underlying vision and fundamental growth concepts. Rather, it builds off the current General Plan 2020 by incorporating the topics that are now required by State law and revises relevant policies and programs to meet those requirements. It also extends the planning horizon forward by 20 years consistent with other regional plans, including *Plan Bay Area* 2040.

Concurrent with General Plan 2040, the City is preparing a Downtown Precise Plan. The proposed Downtown Precise Plan is a critical part of the General Plan, as roughly half of the city's future housing and employment growth is expected to occur in downtown San Rafael, referred to as the Downtown

Precise Plan Area. Projected growth is discussed in Section 3.8, 2040 Development Projections, below. The proposed Downtown Precise Plan updates the 1993 *Our Vision of Downtown San Rafael and Our Implementation Strategy* (1993 Downtown Vision) and incorporates key recommendations of the 2012 *San Rafael Downtown Station Area Plan*, as well as the 2017 *Downtown Parking and Wayfinding Study* and other more focused projects such as the 2019 *Third Street Rehabilitation Project* and the 2018 *Third and Hetherton Intersection Improvements*. The proposed Downtown Precise Plan addresses urban design, placemaking, historic preservation, transportation, parking, economic development, affordable housing, and antidisplacement strategies.

The City's General Plan Land Use Map is integrated with the City's Zoning Map, which shows the parcel-specific delineation of the Zoning Districts throughout the city and depicts permitted and conditionally permitted uses. A parcel's Zoning District stems directly from its General Plan land use designation, with the Zoning District acting to implement the General Plan by refining the specific uses and development standards for that parcel. The proposed Downtown Precise Plan would include the Downtown Form-Based Code (Downtown Code) that will replace existing zoning regulations for properties in the Downtown Precise Plan Area. The Downtown Code is discussed further in Section 3.7.2.4, Downtown Precise Plan Zoning Amendment.

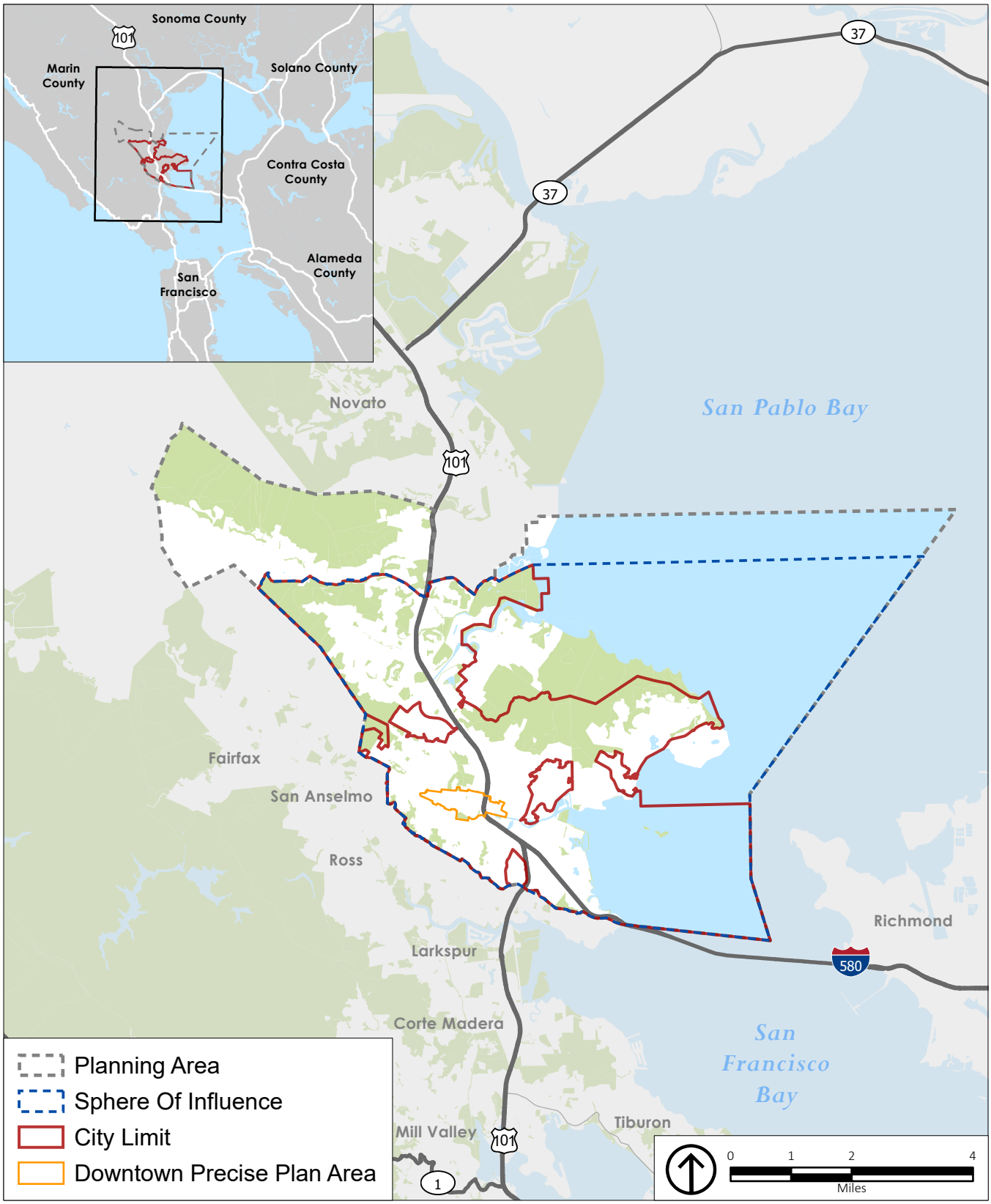
The proposed General Plan 2040 and Downtown Precise Plan, including the goals, policies, and programs, would require map and text amendments to the General Plan Land Use Map and Zoning Map. In conjunction with these amendments, Title 14, Zoning, of the San Rafael Municipal Code (SRMC) would be amended to codify the provisions of the proposed Downtown Code for the Downtown Precise Plan Area.

3.3 LOCATION AND SETTING

The city of San Rafael is in the eastern part of central Marin County and is the largest city in the county. It is generally bounded by the City of Novato to the north; the San Francisco Bay, which includes San Pablo Bay and San Rafael Bay herein referred to as Bay Waters, and unincorporated Marin County to the east; the City of Larkspur and the Town of Ross to the south; and the City of San Anselmo and unincorporated Marin County to the west. See Figure 3-1. The city is accessed by Interstate 580 (I-580) via the Richmond-San Rafael Bridge and U.S. Highway 101 (US-101), as well as the Sonoma-Marin Area Rail Transit (SMART) Train, which has stations at the San Rafael Transit Center in downtown and at the Marin Civic Center. San Rafael is known for a range of urban and suburban land uses, including a variety of residential neighborhoods, a downtown area, parks, and business centers. San Rafael's built-out environment is largely consistent with the built-out environments of adjacent communities.

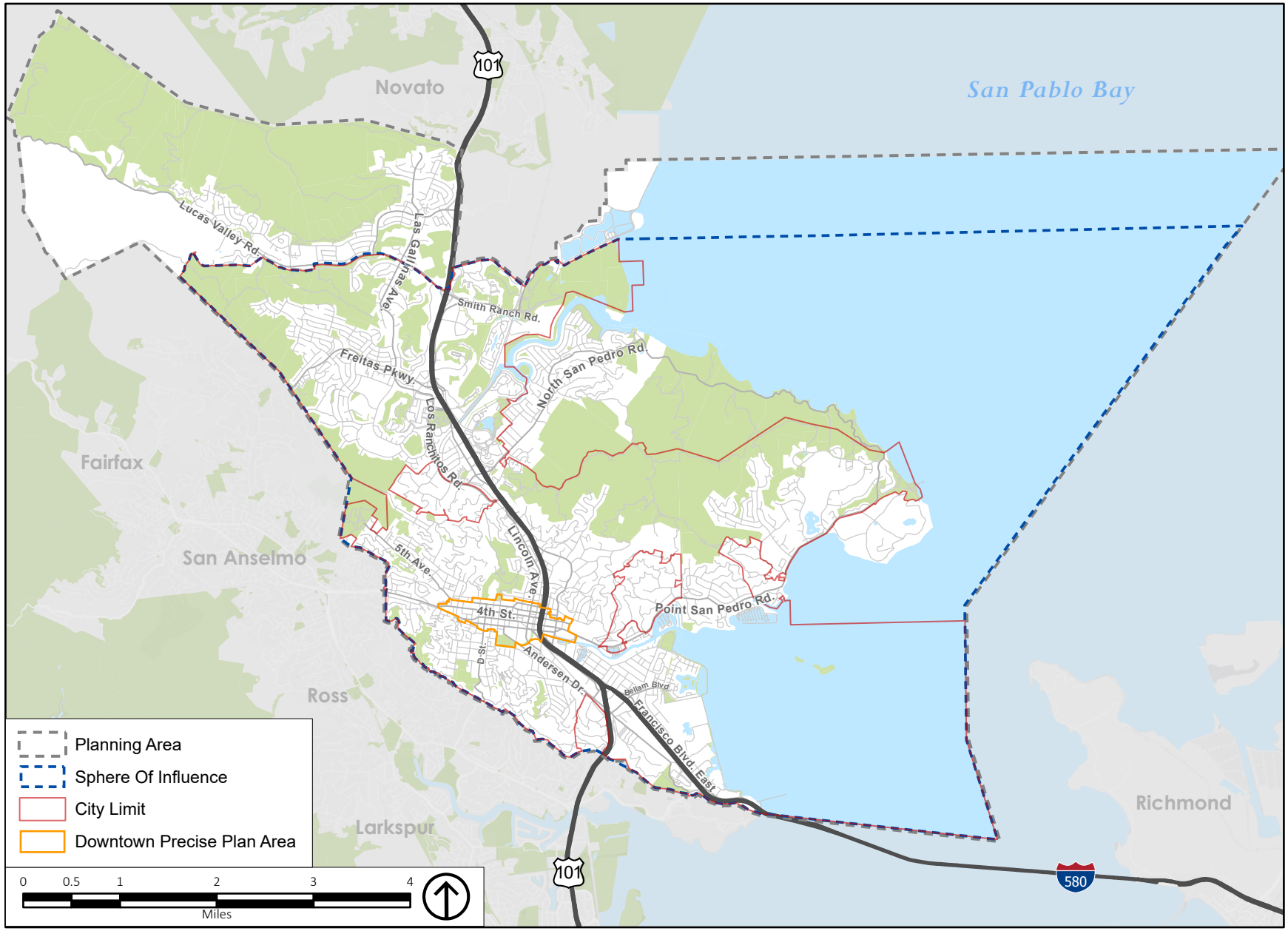
3.4 EIR STUDY AREA

The State of California encourages cities to look beyond their borders when undertaking the sort of comprehensive planning required of a general plan. The City only has jurisdiction over land that is within the city limits. However, the City maintains a role in land use decisions in its sphere of influence (SOI) and its planning area. Therefore, the EIR Study Area consists of all land within the City of San Rafael's city limits, SOI, and Planning Area. These areas are described below and shown on Figure 3-2.



Source: ESRI, 2017; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 3-1
Regional and Vicinity Map



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 3-2
EIR Study Area

3.4.1 PLANNING AREA

The San Rafael Planning Area is approximately 54 square miles of land and water that encompasses the SOI and the city limits, parts of the San Pablo and San Francisco Bays, and portions of unincorporated Marin County, including the Lucas Valley and Marinwood neighborhoods. The purpose of including these additional areas is to include lands that could cause an impact or be impacted by land use, development, and other changes in San Rafael, including impacts related to biological resources, hydrology, and transportation, among others. Designating a Planning Area does not give the City any regulatory power over the land outside the city limits, but signals to the County and other nearby local and regional authorities that San Rafael recognizes that development within this area may have an impact on the future of the city. Although the San Rafael General Plan and Zoning regulations do not currently apply within the Planning Area, General Plan policies must consider these areas and their relationship to the incorporated areas of San Rafael. See Chapter 4, Environmental Analysis, for a description of the cumulative impact scope for this EIR, which may include lands within the Planning Area and beyond, depending on the environmental topic being analyzed.

3.4.2 SPHERE OF INFLUENCE

The San Rafael SOI is approximately 40 square miles in size, including both land and water. The SOI is a boundary that identifies land that the City may potentially annex in the future, and for which urban services, if available, could be provided upon annexation. Under State law, the SOI is established by the Marin County Local Agency Formation Commission with input from the City. The purpose of the SOI is to identify areas where urban development can be best accommodated over the next 5 to 10 years in an orderly and efficient manner. While the City does not have jurisdiction over land within the SOI, designating an SOI sets precedence for ensuring that the City is able to comment on development proposed for lands within the SOI prior to annexation and to begin considering future development of the area. Establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in the area. Unincorporated areas adjacent to the San Rafael city limits fall under the planning, land use, and regulatory jurisdiction of Marin County. The City does not propose to annex any areas within the SOI as part of the proposed project. However, as further described in Chapters 4, Environmental Analysis, and 4.12, Mineral Resources, of this Draft EIR, the San Rafael Rock Quarry and McNear Brickworks, an active quarry in the SOI, could be considered for annexation if it is proposed for development prior to the 2040 horizon. The potential for and timing of annexation of these lands would depend upon the remaining forecast life of the quarry operation, which is currently proposed for an extension to 2044. This extension is outside the proposed 2040 horizon. Other unknown annexations may occur within the 2040 planning horizon and would be analyzed under separate environmental review.

3.4.3 CITY LIMITS

The San Rafael city limits enclose an area of approximately 22 square miles, of which 6 square miles consist of the Bay Waters, and the remaining 16 square miles consist of land. The City has primary authority over land use and other governmental actions within this area. Certain unincorporated areas outside of the city limit may still have a San Rafael mailing address and may share certain services with the

City. For example, most of the unincorporated neighborhoods such as Country Club, Bayside Acres, California Park, Los Ranchitos, and Marinwood, are not actually within San Rafael's city limit; however, these neighborhoods do fall within San Rafael's Planning Area.

3.4.4 DOWNTOWN PRECISE PLAN AREA

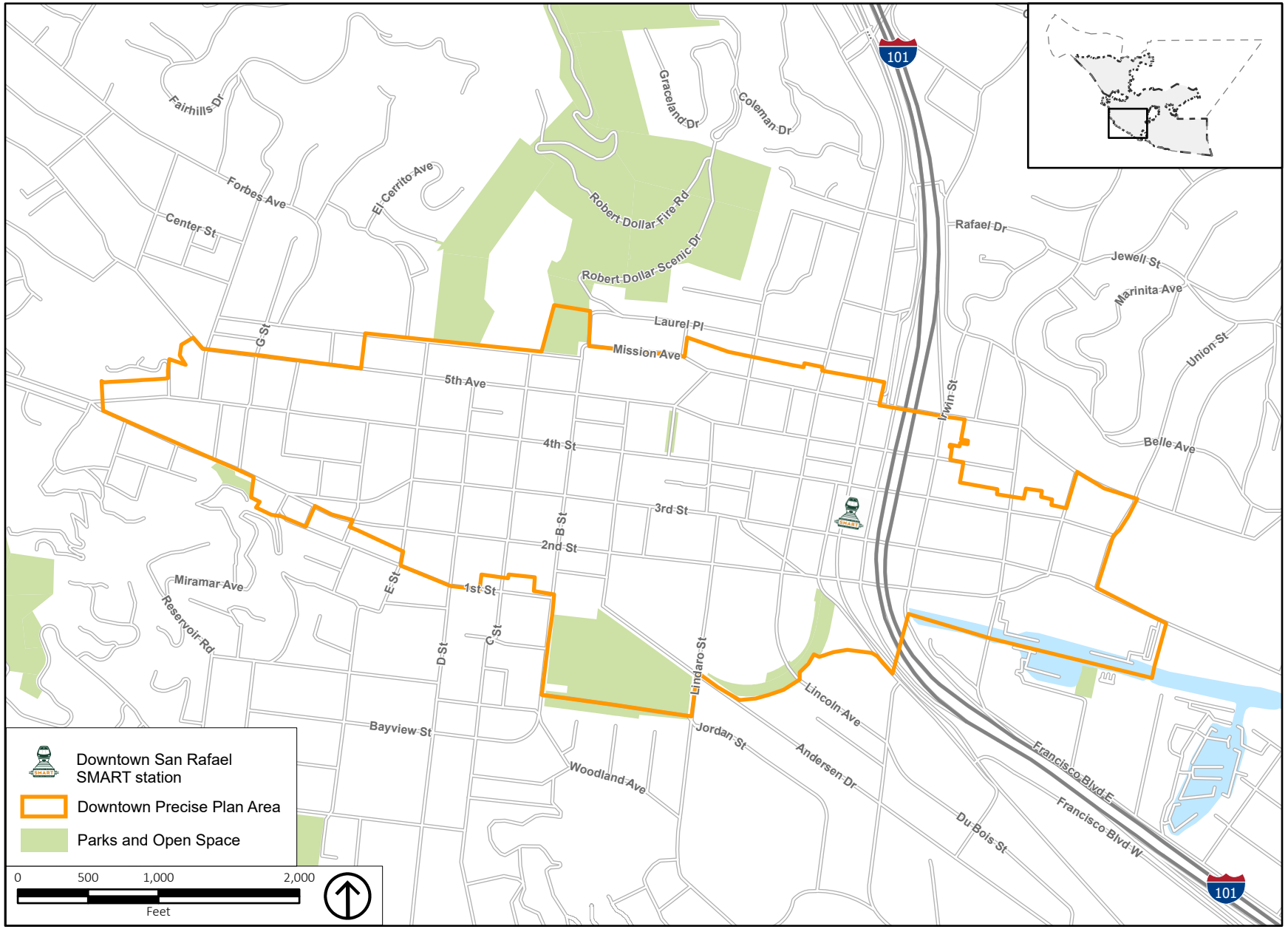
Covering approximately 265 acres, the Downtown Precise Plan Area is the economic, cultural, and civic heart of the city. With approximately 2,300 residents and over a million square feet of nonresidential uses, it is a major mixed-use center in the northern Bay Area. As shown on Figure 3-3, the Downtown Precise Plan Area is in southwestern San Rafael and is bisected by US-101. It extends from the Miracle Mile[5] on the west to Montecito Plaza shopping center on the east, with Mission Avenue on the north and First Street and Albert Park on the south. The Downtown Precise Plan Area contains major regional transportation links, including US-101, as well as the Downtown San Rafael SMART Station, which provides service between Sonoma County and Larkspur.

3.5 PLANNING PROCESS

The public outreach and participation process for the proposed General Plan 2040 and Downtown Precise Plan began in December 2017 when the City Council appointed a 24-member Steering Committee with 22 alternates to fill committee positions in the event of an absence. The Steering Committee met 25 times throughout the process. The Steering Committee served as a sounding board for City staff on draft policies and programs and was responsible for reviewing and commenting on draft materials and serving as a liaison to the community. Steering Committee meetings generally occurred on the second Wednesday of each month from 6:00 p.m. to 9:00 p.m. The Committee conducted business through four virtual subcommittees during the first two months of the COVID-19 pandemic, and then as a full group again via public Zoom webinars through June 2020. A Downtown Precise Plan subcommittee continued to meet through July and August 2020.

City staff also convened community workshops on the proposed General Plan 2040 and Downtown Precise Plan, including formal meetings at community centers and informal "pop-up" workshops at farmers markets and the Downtown Art Walk. The outreach program included surveys, storefront exhibits, youth participation exercises, and attendance at numerous meetings of neighborhood associations, civic organizations, and City boards and commissions. A parallel, Spanish-language, outreach program also was included. A multiday design charrette was held for the Downtown Precise Plan. The City maintains two websites for the proposed project. One website is the www.sanrafael2040.org, and the other is www.cityofsanrafael.org/2040. Both websites offered opportunities for the public to weigh in on key issues and download information about the project and will continue to be available throughout the environmental review and project approval process. City staff also solicited input from other public agencies, such as the County of Marin, local school districts, the Transportation Authority of Marin, and cities adjacent to San Rafael.

[5] The Miracle Mile is a historic section of road (Red Hill Avenue) that runs between the cities of San Rafael and San Anselmo.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 3-3
Downtown Precise Plan Area

3.6 PROJECT OBJECTIVES

The primary purposes of the proposed project are to plan for the growth and conservation of San Rafael 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 in the Downtown Precise Plan Area, capitalizing on transit opportunities in and around Priority Development Areas, and streamlining future development that is consistent with the proposed project. 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. As part of this process, the City drafted 2040 Guiding Principles, which build upon the framework of the vision, guiding principles, and goals of the current General Plan 2020 and reflect the community's desires for San Rafael's future. The draft 2040 Guiding Principles, as shown on Figure 3-4, will serve as the project objectives for the EIR.

3.7 PROJECT COMPONENTS

3.7.1 GENERAL PLAN 2040

The proposed project updates the General Plan 2020 goals, policies, and programs to reflect current conditions, issues, resources, and community perspectives. For example, changes are needed to address the evolving state of the city and region and to cover global issues such as climate change and emerging transportation technology. The update also incorporates regional forecasts for 2040 that extend the planning horizon forward by 20 years.

3.7.1.1 GENERAL PLAN 2040 OUTLINE

The proposed General Plan 2040, like the existing General Plan 2020, includes the eight mandatory elements (denoted with a "*" in the list below) and five optional elements. The proposed outline for the General Plan 2040 includes 16 chapters (13 of which are "elements") organized in five sections:

Toward a Thriving City
1. Introduction
2. Planning Framework
3. Guiding Principles

Our Built Environment
4. Land Use Element*
5. Neighborhoods Element
6. Community Design and Preservation Element

Our Natural Environment
7. Conservation and Climate Change Element*
8. Parks, Recreation, and Open Space Element*
9. Safety and Resilience Element*
10. Noise Element*

Connecting the City
11. Mobility Element*
12. Community Services and Infrastructure Element
13. Arts, Culture, and Preservation Element

Opportunity for All
14. Economic Vitality Element
15. Equity, Diversity, and Inclusion Element*
16. Housing Element*

Source: City San Rafael, 2018.

Figure 3-4
Draft 2040 General Plan Guiding Principles

3.7.1.2 GENERAL PLAN GOALS, POLICIES, AND PROGRAMS

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

- A *goal* is a description of what San Rafael wants to achieve—the end state.
- A *policy* is a specific or general statement of principle, positions, or approaches on a particular issue or subject. 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, although parameters can be set for such statements.
- A *program* is an action, procedure, or activity by the City to achieve a specific policy and/or goal.

A comprehensive list of proposed goals, policies, and programs is provided 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 2020 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 Element
SB 743	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 Mobility
SB 18 and AB 52	Require consultation with Native American tribes as part of a general plan update and for any subsequent project which could have the potential to impact Native American resources.	Community Design and Preservation
SB 244 and SB 1000	Requires the integration of equity into the General Plan process. SB 244 requires special consideration of lower income unincorporated areas within a city's planning area, and Senate Bill 1000 requires General Plans to include an element with environmental justice policies.	Equity, Diversity, and Inclusion
AB 1358	Requires "complete streets" be addressed in a general plan which considers the needs of all modes of travel.	Mobility
AB 32 and SB 375	Addresses GHG reduction largely implemented on the State and regional levels.	Mobility
SB 379	Requires a general plan to address climate resiliency.	Safety
AB 2140	Requires a link between a city's local hazard mitigation plan and the general plan.	Safety
SB 1241	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 1739	Requires that general plans consider impacts on groundwater and plans for groundwater basins.	Conservation and Climate Change
AB 162	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.	Conservation and Climate Change

Notes: SB = Senate Bill; AB = Assembly Bill

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 element is provided below.

- Land Use Element. This element is now organized into three goals rather than two. The third goal and associated policies and programs are from the Neighborhoods Element of General Plan 2020. Growth management policies have been updated to incorporate climate change considerations and transportation policies on vehicle miles traveled (VMT). Policies encouraging innovative and alternative housing types have been added. New policies recognize the needs of older adults. Policies on neighborhood centers have been updated to reflect diminishing demand for retail space and allowances for other uses such as housing.
- Neighborhoods Element. This element has been reorganized from General Plan 2020. Whereas General Plan 2020 only listed 30 neighborhoods alphabetically with policies for each, the proposed General Plan 2040 groups neighborhoods into five consolidated planning areas (Downtown, Central San Rafael, North San Rafael, Southeast San Rafael/Canal, and Point San Pedro) and presents neighborhood discussions under each. The neighborhood policies themselves have been comprehensively updated based on input from neighborhood groups and data about the current state of each area. New issues such as sea level rise and equity are covered. Downtown policies (which reflected the 1993 Downtown Vision) have been replaced with policies that reflect the new Downtown Precise Plan.
- Community Design and Preservation Element. This element has been reorganized. The element now addresses five primary goals: a beautiful city, a sense of place, an improved public realm, quality construction and design, and protected cultural heritage. Historic preservation policies have been amplified and expanded, and tribal resource protection policies have been added. The policies emphasize protection of natural features, views, and the waterfront; improvements to gateways and corridors; and upgrades to plazas, public spaces, and streetscapes. This element also covers street trees, landscaping, and wayfinding signage more comprehensively than General Plan 2020 did. Principles of good design have been incorporated. Policies reflects recent Senate Bill 35 directives for objective design standards.[6]
- Conservation and Climate Change Element. This element has been updated to incorporate new policies related to energy and water conservation, and to weave in policies that were formerly in the Sustainability Element and the Air and Water Quality Element. Wetland and hillside preservation policies have been carried forward from General Plan 2020. Creek policies, urban forestry, and invasive plant removal policies have been strengthened. A light-pollution policy has been added. Policies on water quality and urban runoff have been updated to reflect best practices in green infrastructure and current stormwater management programs. Goals on sustainable energy management and reduced GHG emissions have been added, with policies and targets from the City's

[6] Senate Bill 35 (SB 35) became effective on January 1, 2018. It enacted Government Code Section 65913.4 to require cities and counties to use a streamlined ministerial review process for qualifying multifamily housing developments that comply with the jurisdiction's objective planning standards, provide specified levels of affordable housing, and meet other specific requirements.

most recent CCAP incorporated. A "crosswalk" is included showing how climate change is addressed throughout the proposed General Plan 2040.

- Parks, Recreation, and Open Space Element. This element was two separate elements in General Plan 2020—the former Open Space Element and the former Parks and Recreation Element. The two have been combined to allow a more holistic look at the relationship between active and passive parks and their collective role in meeting the needs of San Rafael residents. The now-titled "Parks, Recreation, and Open Space Element" introduces and applies a new park classification system, establishes updated levels of service (4.0 acres per 1,000 residents), and expands the policy foundation for park and recreation planning in the city. Policies on recreational programming have been added, with a focus on equitable access for persons of all ages. Much of the open space policy language is carried forward from General Plan 2020, with updates to reflect a greater emphasis on fire safety and open space management rather than land acquisition, which was emphasized in General Plan 2020.
- Safety and Resilience Element. This element has been updated and expanded to include key policies and strategies from the local hazard mitigation plan. The Safety and Resilience Element includes broad policies related to resilience as well as focused policies on geologic hazards, flood hazards, and wildfire prevention and response. A new goal and associated policies and programs on sea level rise has been added. Wildfire policies have been updated to reflect recent events and new planning documents such as the Wildfire Prevention and Protection Action Plan. A goal on hazardous materials has been added, with accompanying new policies. A new goal on emergency preparedness has been updated, with new policies included.
- Noise Element. This element has been updated, including a noise compatibility table that reflects State Office of Planning and Research guidance. Some of the existing policies have been carried forward, and several new policies have been added, including a vibration policy.
- Mobility Element. This element has been comprehensively overhauled to reflect an emphasis on multimodal travel, GHG reduction, and complete streets. The regional leadership goal has been carried forward and augmented with new policies on transportation technology and innovation. The previous goal of "mobility for all users" has been expanded to address efficiency and accessibility. The level of service policy from General Plan 2020 has been updated to "de-couple" level of service from CEQA review. The list of proposed mobility improvements has been updated. A new goal has been added on clean transportation, including new VMT reduction targets, transportation demand management strategies, and low carbon transportation policies. A new goal has been added promoting transit, with policies focusing on collaboration between the City and different service providers (other agencies outside the City's control). The proposed General Plan 2040 carries forward goals for connectivity, walking and cycling, and parking. Policies have been updated to reflect best practices and recent planning initiatives such as the Bicycle and Pedestrian Master Plan (2018).
- Community Services and Infrastructure Element. The former Infrastructure and Governance Elements from General Plan 2020 have been consolidated and expanded into the Community Services and Infrastructure Element in the proposed General Plan 2040, combining updated infrastructure policies with policies on schools and libraries from the now-dissolved Governance Element and with policies that were formerly in the Safety and Resilience Element. Infrastructure policies have been expanded to address telecommunications, energy reliability, and solid waste reduction policies that were

formerly in the Sustainability Element. A goal on sound municipal financial practices has been expanded to emphasize cost-benefit analysis in decision-making.

- Arts, Culture, and Preservation Element. This element from General Plan 2020 has been carried forward and expanded, with a greater focus on social equity, inclusion, economic development, and the needs of the local arts community.
- Economic Vitality Element. This element has been reorganized to include an expanded focus on partnerships, relationship building between the City and business community, and the importance of economic diversification and resilience. New policies respond to the changing market for retail space, the role of Downtown, the need for workforce housing, and job training needs among San Rafael residents. The proposed General Plan 2040 includes new policies for major economic sectors, such as office, industrial, hospitality, health care, and government. Policies on the quality of the City's business areas are mostly carried forward, with an emphasis on creating a supportive environment for business and improving infrastructure and access.
- Equity, Diversity, and Inclusion Element. This is a new element of the proposed General Plan 2040. It includes six goals, beginning with the goal of authentic and inclusive community participation in government affairs. Some of the policies are carried forward from the former General Plan 2020 Governance Element, and others are new. A second goal is to support healthy communities and environmental justice, with new policies emphasizing access to health care, food, parks and open space, and safe spaces for physical activity in lower-income communities. A new goal on housing stability has been added that addresses the prevention of displacement, provisions of healthy homes, and reduction of overcrowding in lower income areas. A new goal on equitable service delivery emphasizes investment in capital facilities and expanded municipal services in lower income areas, recognizing higher levels of need and more limited access to services. A new goal on education and economic opportunity focuses on removing barriers to learning and career advancement. Finally, the Equity, Diversity, and Inclusion Element includes the goal of being an "age friendly" community, where older adults can enjoy a high quality of life and access to services and secure housing.
- Housing Element. This element of General Plan 2020 is unchanged in General Plan 2040, except for minor edits required to maintain internal consistency. As noted earlier, the Housing Element will be comprehensively updated in 2021 in accordance with State requirements.

3.7.1.3 GENERAL PLAN LAND USE CATEGORIES

The discussion below describes the changes to the General Plan land use categories that are proposed as part of the proposed General Plan 2040. Collectively, these changes may influence the types and intensities of land uses permitted on different sites in the city.

Residential Density: Change from Gross to Net

The proposed General Plan 2040 would change how residential density is measured—from "gross" density to "net" density. This shift from gross density to net density is proposed because most of the City's future development is expected on small infill sites, and so that the General Plan land use designations align with Zoning Districts.

These two metrics are described as follows:

- Gross density is the total number of units per acre in a given area that includes the internal streets, easements, common open spaces, and undevelopable areas. Using gross density as a measurement for residential density is appropriate for cities that are growing outward through the addition of large single-family subdivision tracts that construct new roads and set aside land for public parks, schools, and amenities.
- Net density is the total number of units per acre on a given site on which buildings may be constructed and excludes streets, easements, common open spaces, and other undevelopable areas. Using net density for calculating residential density is appropriate for cities like San Rafael, which are largely built out.

Table 3-2 shows a comparison of the gross and net density by land use designation. Although net density is typically 20 to 30 percent higher than gross density, as shown in Table 3-2, the change would not increase the allowable number of units on a given site, and the measurements are roughly equivalent in number of allowed units.

TABLE 3-2 COMPARISON OF GROSS AND NET DENSITIES FOR GENERAL PLAN RESIDENTIAL LAND USE DESIGNATIONS

Residential Land Use Designations	Gross Density (Units per Gross Acre)	Net Density (Units per Net Acre)	Corresponding Zoning Districts
Hillside Residential Resource	0.1 to 0.5	Less than 0.5	R2a
Hillside Residential	0.5 to 2.0	0.5 to 2.2	R1a, R20
Large Lot Residential	0.5 to 2.0	0.5 to 2.2	R1a, R20
Low Density Residential	2.0 to 6.5	2.2 to 8.7	R10, R7.5, R5
Medium Density Residential	6.5 to 15	8.7 to 21.8	MR5, MR3, MR2.5, MR2
High Density Residential	15 to 32	21.8 to 43.6	HR1.8, HR1.5, HR1

Source: City of San Rafael, 2020.

Land Use Designation Consolidation

The proposed General Plan 2040 would consolidate General Plan land use designations to improve consistency between the proposed General Plan and the existing zoning regulations and to streamline General Plan 2040. The proposed General Plan 2040 would reduce the total number of land use designations from 28 in the existing General Plan 2020 to 19 in General Plan 2040.

The proposed consolidation of land use designations is shown in Table 3-3, and a complete list of the 19 land use designations, including the existing (unchanged) and the proposed new land use designations is shown in the following section under subheading “Land Use Designations.” As shown in Table 3-3, no changes to the Zoning Districts are required as a result of the land use designation consolidation except the proposed rezoning associated with the Downtown Precise Plan, which is discussed in Section 3.7.2, Downtown Precise Plan, below.

TABLE 3-3 PROPOSED LAND USE DESIGNATION CONSOLIDATION

General Plan 2020	General Plan 2040	Discussion
Office		
Office	Office Mixed Use	This land use designation would include multiple zoning districts, and the three existing office designations would continue to be used on the City's Zoning Map to distinguish the mix of uses that are appropriate in a given Office Mixed Use area. No rezoning is required.
Office-Retail		
Office-Residential		
Park		
Park	Park, Recreation, and Open Space	This land use designation would allow areas with the same physical characteristics to have the same land use designation. This proposed land use designation would retain the existing Park/Open Space (P/OS) Zoning District. No rezoning is required.
Open Space		
Light Industrial		
Lindaro Mixed Use	Light Industrial-Office	The 13-acre Lindaro Mixed Use land use designation on Lindaro and Jordan Streets would change to the existing Light Industrial-Office land use designation because the Lindaro Mixed Use designation allows the same uses in the Light Industrial-Office designation, except that live-work development is permitted and is not permitted in the other industrial designations (Lindaro Mixed Use or Industrial). The proposed change to the Light Industrial-Office definition states that it includes multiple Zoning Districts, including one intended for the Jordan and Lindaro areas, where live-work is permitted. No rezoning is required.
Light Industrial-Office		
Downtown		
Hetherton Office	Downtown Mixed Use	The proposed Downtown Mixed Use land use designation would apply to all of properties in the Downtown Precise Plan Area except the properties with the Medium Density Residential and High Density Residential land use designations in the vicinity of Latham Street and Hayes Street, and the areas designated as Parks, Recreation, and Open Space. The allowable uses and intensities in this land use designation would be established by the Downtown Precise Plan and Downtown Code that is discussed in Section 3.7.2.4, Downtown Precise Plan Zoning Amendment, of this chapter. A single color is used for the Downtown Mixed-Use area on the General Plan 2040 Land Use Map (see Figure 3-5). The Downtown Mixed Use designation also would apply to a small number of parcels with other General Plan land use designations, including Hillside Resource Residential, Low-Density Residential, High Density Residential, General Commercial, Neighborhood Commercial, Retail Office, Office, Residential Office, Park, Public-Quasi Public, Industrial, and Marine-related. These land use designations will continue to appear on the 2040 Land Use Map in other parts of San Rafael.
Lindaro Mixed Use		
Lindaro Office		
Second/Third Mixed Use		
Fourth Street Commercial Core		
Fifth/Mission Residential/Office		
West End Village		

Source: City of San Rafael, 2020.

Land Use Designations

The proposed General Plan 2040 includes the following three new land use designations:

- **Downtown Mixed Use.** The proposed Downtown Mixed Use land use designation corresponds to properties in the Downtown Precise Plan Area. It includes the highest development densities and intensities in the city, and contains a mix of housing, office, retail, service, and public land uses. Development in the Downtown Precise Plan Area is guided by the Downtown Precise Plan and associated Downtown Code, which includes further detail on building form, development intensity, and allowable uses. The maximum floor area ratio (FAR)[7] is based on a sliding scale that varies with height, starting at 3.0 FAR. There is no residential density limit in this land use designation; however, height limits and other development standards define the maximum building envelope on each site with this designation. These standards are discussed in more detail in Section 3.7.2.4 below.
- **Parks, Recreation, and Open Space.** This land use designation denotes land that is used for parks, recreation, and open space, including City, County, and State parks; common open space within private development; cemeteries; and areas acquired for resource conservation, hazard reduction, and passive recreation such as hiking. Permitted uses include athletic fields, sports facilities, civic buildings with a primarily recreational or social function, and leisure-oriented uses such as picnic areas, boat slips, and tot lots. Land with this designation is further classified in the Parks, Recreation, and Open Space Element of the General Plan 2040 as "improved" or "natural."
- **Sea Level Rise Overlay.** The General Plan 2040 land use map also includes a "Sea Level Rise Overlay." This boundary appears on the Land Use Map as a solid line showing the extent of the area that would be inundated during a 100-year flood when sea levels have risen to 2050 levels forecasted by. Proposed goals, policies, and programs in the General Plan 2040 would provide direction on ways to mitigate future flood hazards in this area.

In addition to the changes listed above, the proposed General Plan 2040 would carry forward the same land use designations from the existing General Plan 2020:

- **Residential.** Hillside Resource Residential, Hillside Residential, Very Low Density Residential, Low Density Residential, Medium Density Residential, and High Density Residential.
- **Mixed Use**. Community Commercial Mixed Use, Neighborhood Commercial Mixed Use, Office Mixed Use, and Marine Related Mixed Use.
- **Industrial.** General Industrial and Light Industrial/Office.
- **Other.** Public/Quasi-Public, Mineral Resources, Conservation, Airport/Recreation, Water, and Undesignated Areas.

[7] Standards of building intensity for non-residential uses are stated as maximum floor-area ratios (FAR). FAR is a ratio of the building square footage permitted on a lot to the square footage of the lot. For example, on a site with 10,000 square feet of land area, a FAR of 1.0 will allow 10,000 square feet of building floor area to be built. On the same site, a FAR of 2.0 would allow 20,000 square feet of floor area. This could take the form of a two-story building with 100 percent lot coverage, or a four-story building with 50 percent lot coverage. A FAR of 0.4 would allow 4,000 square feet of floor area on a 10,000 square-foot lot. In some cases, FAR may also be used to regulate residential development, allowing flexibility and recognizing variations in dwelling unit size.

3.7.1.4 GENERAL PLAN LAND USE MAP AMENDMENTS

The proposed General Plan 2040 would also include revisions to the land use map recommended by City staff that would largely consist of expanding specific land uses, adjusting the map to reflect existing conditions and zoning patterns, and incorporating recently adopted plans. Because these locations are currently developed and the amendments are being made to correct existing errors, these amendments would not result in new development potential at these locations. The following discussion describes the various revisions that are proposed as part of General Plan 2040.

- Correcting Scrivener's Errors. A "scrivener's error" is a land use map designation that is incorrect. These changes are minor and likely occurred when the General Plan 2020 Land Use Map was transferred from paper files to a digital format.
- Expanding Mapping of Public/Quasi-Public Land Uses. General Plan 2020 and General Plan 2040 both have a Public/Quasi-Public land use designation, which includes government or quasi-public buildings and facilities, utilities, and similar facilities owned by public and nonprofit agencies. A few public or quasi-public properties, including public school campuses, were not mapped as Public/Quasi-Public land use designations in General Plan 2020 but would be mapped as such in the proposed General Plan 2040.
- Expanding Mapping of Park and Open Space Land Uses. Park and permanent open space acreage in San Rafael have expanded since General Plan 2020. There are also a few existing parks and permanent open spaces that were shown with other designations in General Plan 2020. The proposed General Plan 2040 would include these locations on the General Plan 2040 land use map.
- Adjusting to Reflect Actual Uses and Densities. These proposed changes are essentially "housekeeping" amendments that align the proposed General Plan 2040 with existing conditions. The proposed General Plan 2040 provides an opportunity to apply a designation that better reflects the current and future use of these parcels.
- Adjusting to Reflect Zoning and Parcel Patterns. These proposed changes reflect areas along the "seam" where different designations abut each other. The amendments adjust the General Plan land use map to reflect the existing uses, parcel patterns, and zoning more accurately.
- Changing Density to Reflect Site Constraints. These proposed changes are for two parcels to change from Residential-Low Density to Hillside Residential because of the physical characteristics of the sites.
- Changing for Consistency with Civic Center Station Area Plan. These changes are proposed for consistency with the adopted 2013 *Civic Center Station Area Plan*.
- Formalizing Prior Council Resolutions. Several General Plan map amendments have been adopted through City Council resolutions between 2004 and 2019. Some of the changes already appear on the City's official General Plan 2020 land use map and some do not. The proposed General Plan 2040 would show all previously approved amendments.

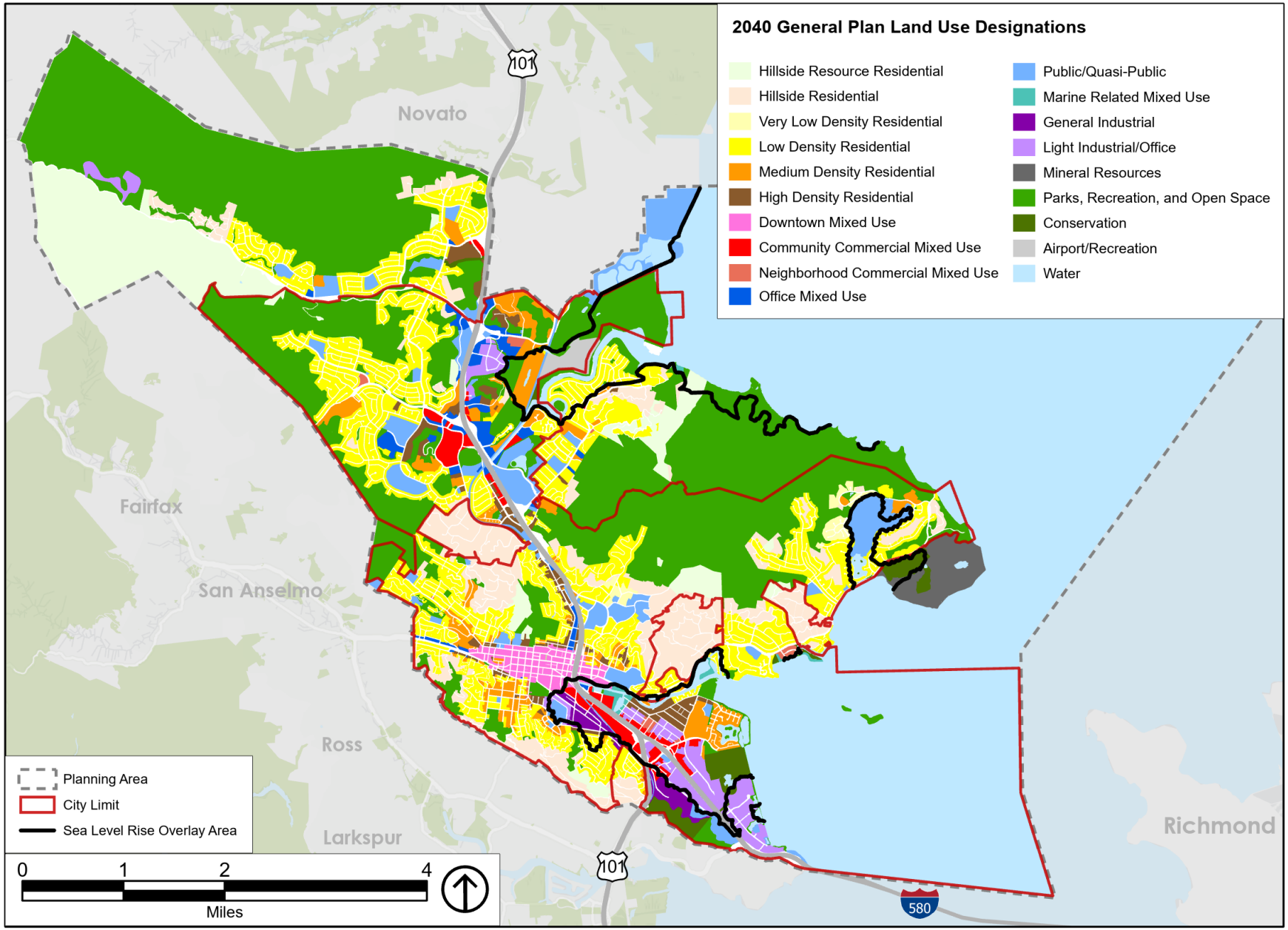
Appendix C of this Draft EIR, Staff Recommended Land Use Map Changes, provides a detailed description of these General Plan amendments.

In addition to the amendments described above, which were proposed by City staff, the proposed General Plan 2040 would include amendments formally requested by property owners. The General Plan Update process provided an opportunity for property owners to petition the City for changes to their current General Plan Land Use Map designations. On April 22, 2019, the City of San Rafael issued a "Call for Amendments" notice to a list of property owners who had previously expressed interest in this opportunity. In addition to sending this notice, the City also prepared a pamphlet and press release advertising the opportunity. Application materials were posted to the project website. A 10-week deadline was provided for amendment submittals. During this time, four formal requests were received for General Plan land use map amendment, and two requests for text changes to General Plan narrative and policies. Staff communicated with the applicants following the June 30, 2019, deadline to discuss each request. The amendments were considered by the Planning Commission and City Council at noticed public hearings, with staff recommendations presented at each hearing. Based on these hearings, the following amendments were accepted and are included in the proposed General Plan 2040:

- 3301 Kerner Boulevard and 150 Bellam Boulevard. This proposed amendment includes two parcels, a 0.91-acre parcel at the corner of Kerner and Bellam Boulevards and a 0.97-acre parcel across the street. The 3301 Kerner site is a three-story, 25,200-square-foot office building constructed in 1983. The site at 150 Bellam includes a restaurant, a travel agency, a recording studio, and several small office tenants. The existing General Plan land use designation on both sites is Light Industrial/Office. The sites are proposed to change to Community Commercial Mixed Use. Office buildings are permitted in both designations, and there would be no change to the status of the existing uses if the proposed amendment is accepted. Community Commercial Mixed Use is more consistent with the character of the Bellam Boulevard corridor than Light Industrial/Office. The Bellam Boulevard corridor is characterized by retail shops, restaurants, and customer-facing services. The proposed new designation would provide the flexibility to convert the sites to housing in the future.
- 86 Culloden Park Road. This is a 1.89-acre property in the Fair Hills neighborhood and has a split General Plan land use designation. The property consists of two legal parcels with the same owner; the larger 1.19-acre parcel has a Low Density Residential land use designation, and the smaller 0.70-acre parcel has a Hillside Resource Residential designation. The property is also in two Zoning Districts (R-20 and PD 1729). The proposed General Plan 2040 would change the smaller parcel's land use designation to Residential-Low Density to match the larger one.

3.7.1.5 GENERAL PLAN 2040 LAND USE MAP

The General Plan land use map demonstrates the location of each land use designation, which is a required component of general plans. The General Plan land use map has been used since the 1960s 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 General Plan land use map reflects a combination of existing conditions and different or more intense uses in locations where change is desired in the next 20 years. The proposed General Plan 2040 land use map is shown on Figure 3-5.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 3-5
Proposed General Plan 2040 Land Use Map

3.7.2 DOWNTOWN PRECISE PLAN

Concurrent with the proposed General Plan 2040, the City prepared the Downtown Precise Plan to guide future Downtown growth through 2040. The Downtown Precise Plan implements the community's vision to create opportunities for reinvestment and future development that is feasible, predictable, and consistent with the community's priorities and aspirations. The Downtown Precise Plan refines existing policies and sets design direction for a variety of topics in coordination with other approved plans and policy documents. The Downtown Precise Plan identifies growth and development opportunities; provides the principles, policies, and strategies to guide investment, and proposes a form-based code to replace the current zoning standards. Once the Downtown Precise Plan is adopted and the San Rafael Zoning Ordinance is amended, the Downtown Precise Plan will serve as the overarching guiding document that provides strategies and recommendations for growth within the Downtown Precise Plan Area. A description of the Downtown Precise Plan is provided below.

3.7.2.1 DOWNTOWN PRECISE PLAN ORGANIZATION

The proposed Downtown Precise Plan is made up of nine chapters, plus a glossary and an appendix. The first three chapters provide the context for the document and describe existing conditions and guiding principles for future development. Chapter 4 provides a design vision for the entire Downtown Precise Plan Area and includes more specific guidance for four sub-areas within the boundary of the Downtown Precise Plan Area. Chapter 5 addresses historic preservation and Chapter 6 addresses circulation. Chapter 7 is an affordable housing and anti-displacement strategy. Chapter 8 covers implementation, including recommended capital projects and economic development strategies. Chapter 9 is the proposed Downtown Code. The appendices include a historic resources inventory, pro formas for prototypical developments,[8] a summary of community outreach efforts, and several reports prepared during the planning process.

3.7.2.2 DOWNTOWN PRECISE PLAN PRINCIPLES

The vision for the Downtown Precise Plan Area is of a vibrant, mixed-use destination with a strong sense of place and history, and one that provides a downtown experience that is varied and rich. The Downtown Precise Plan Area should have a clear hierarchy in its built form and open spaces, reflecting the role and intensity of uses in different parts of downtown. The Downtown Precise Plan Area should provide a setting that invites economic investment while preserving its built heritage and community character.

The design principles to achieve the vision for the Downtown Precise Plan emphasize the following:

- Creating a more distinct identity for each of the four sub-areas that comprise Downtown: West End Village, Downtown Core, Downtown Gateway, and the Montecito Commercial Area.

[8] A pro forma analysis is a set of calculations that projects the financial return that a proposed real estate development is likely to create. It begins by describing the proposed project in quantifiable terms. It then estimates revenues that are likely to be obtained, the costs that will have to be incurred, and the net financial return that the developer expects to achieve. A pro forma is an analysis that developers use to decide whether to move forward with a project.

- Focusing Downtown development on key opportunity sites, while addressing constraints associated with small parcels and fragmented property ownership.
- Reinforcing Downtown gateways, especially around the San Rafael Transit Center.
- Improving pedestrian and bicycle safety as well as transit access.
- Creating safe, attractive public spaces, including new plazas and improved parks.
- Improving the resilience of Downtown businesses to economic shifts and changes in market demand.
- Supporting new mixed-use infill development, with an emphasis on high-density housing.
- Preserving and adaptively reusing historic resources while encouraging compatible design on sites adjacent to such resources.
- Improving parking management.
- Avoiding the displacement of lower income households and ensuring that a substantial number of new housing units are affordable.
- Making Downtown more resilient to natural hazards, especially flooding and sea level rise.

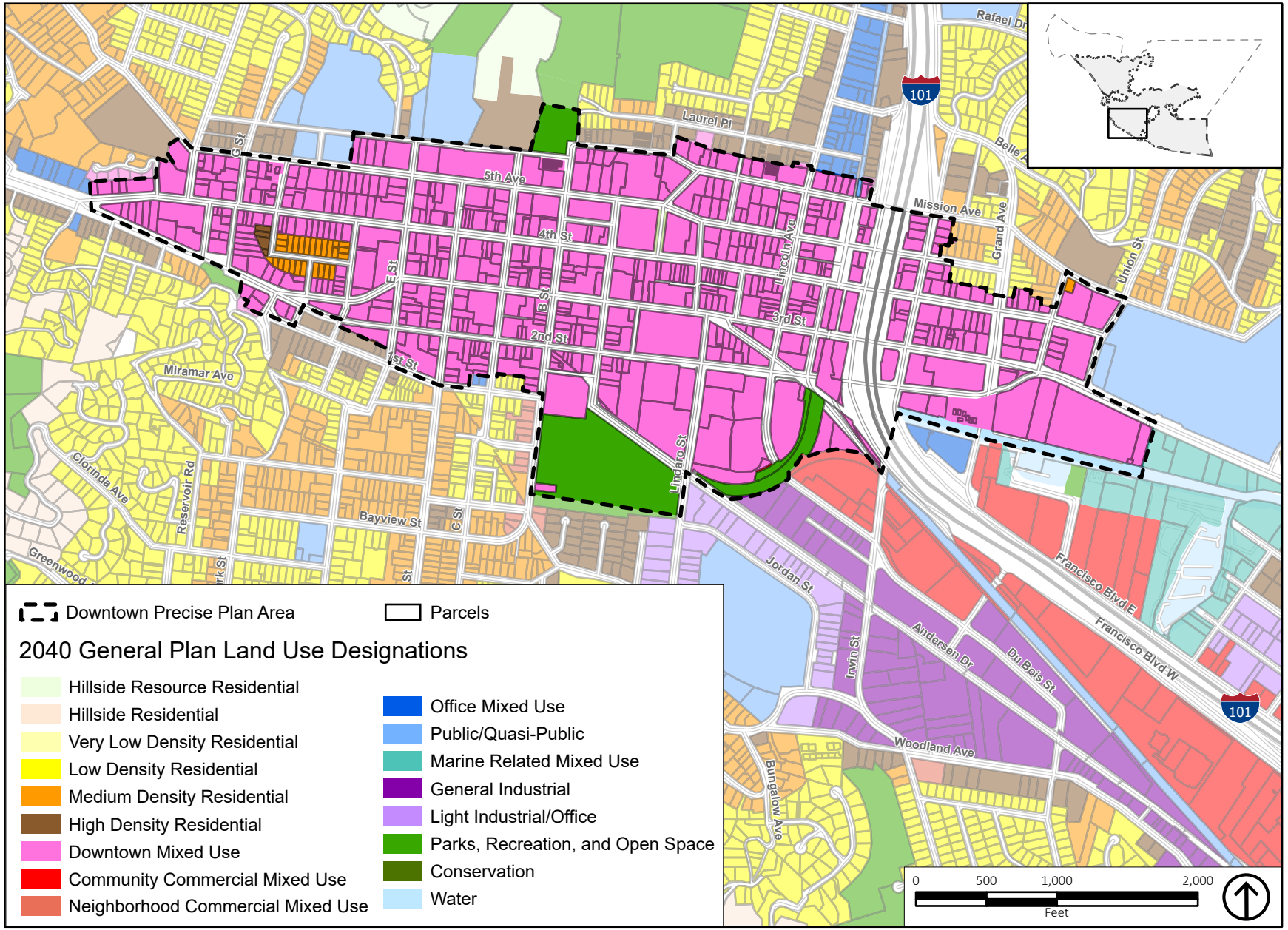
3.7.2.3 DOWNTOWN PRECISE PLAN LAND USE DESIGNATION

As previously discussed in Section 3.7.1.4, General Plan Land Use Map Amendments, the proposed land use designation for the Downtown Precise Plan Area would be Downtown Mixed Use for all properties in the Downtown Precise Plan Area except the properties with the Medium Density Residential and High Density Residential land use designations in the vicinity of Latham Street and Hayes Street and the areas designated as Parks, Recreation, and Open Space. Figure 3-6 shows the proposed land use designations for the Downtown Precise Plan Area and the surrounding properties.

3.7.2.4 DOWNTOWN PRECISE PLAN ZONING AMENDMENT

Downtown Code

The proposed Downtown Precise Plan includes the Downtown Code, which would amend SRMC Title 14, Zoning. The proposed Downtown Code would replace existing zoning regulations for all of the properties in the Downtown Precise Plan Area with the exception of a few parcels in the Latham Street area, which would retain their Multifamily Residential District ([Medium Density] 2,500 square feet per dwelling unit [MR2.5]) zoning designation, and the existing open space zoning designations. The Downtown Code consists of new zoning regulations that would be organized into a coordinated set of articles and incorporated into the Zoning Ordinance. Once adopted, should there be any conflict between the existing Zoning Ordinance and the Downtown Precise Plan, the Downtown Precise Plan shall prevail.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 3-6

Proposed Downtown Precise Plan Land use Map

The proposed Downtown Code is form-based, which is a type of zoning that focuses on the specific "form and design" of new buildings—unlike the existing use-based code that focuses on the specific "activities and uses" of a new building. However, this does not mean that any type of development is allowed in the Downtown Precise Plan Area. The proposed Downtown Code describes the types of uses that are allowed in each zone, which are listed in Table 2.3.070.A. Uses listed in this table include categories such as automotive, commercial, entertainment, food, lodging, medical offices, offices, public assembly, public and quasi-public, residential, temporary uses, transportation, and services. Uses that are not listed are not allowed unless the Community Development Director determines that the proposed use is similar to a listed use. Otherwise, these uses are either allowed by-right, through Administrative Use Permits, Conditional Use Permits, or through a Zoning Administrator. The proposed Downtown Code is intended to reduce regulatory barriers to development and facilitate development by removing abstract and uncoordinated regulations of the existing use-based Zoning Code.

Downtown Zones and Sub-zones

Form-based codes are described by "transects" that are designated with the letter "T" and an associated number that organizes the zones from the most natural setting (T1) to the most urban setting (T6). The transects applied to the Downtown Precise Plan are General Urban (T4) and Urban Center (T5).[9] The Downtown Code also includes sub-zones that are slight variations of base zones. The open sub-zone is denoted with a "-O" and is applied to allow more uses than the base zone allows in specific areas but within the same form and character of the base zone; and/or to more easily allow certain uses that are already allowed in the base zone. In addition, in this way, the open sub-zone can provide additional flexibility to lots at or near intersections that function or can function as a neighborhood node of nonresidential uses. The proposed Downtown Code includes the following base zones and sub-zones:

- T4 Neighborhood (T4N). The intent of this zone is to establish a walkable neighborhood environment of small-to-medium-footprint, moderate-intensity mixed-use buildings and housing choices, supporting and within short walking distance of neighborhood-serving retail and services. This zone provides a transition in scale between the city's downtown core and adjacent residential neighborhoods. The sub-zone is T4N-O.
- T4 Main Street (T4MS). The intent of this zone is to establish a walkable, vibrant district of medium-to-large-footprint, moderate intensity, mixed-use buildings and housing choices, supporting neighborhood and community-serving ground floor shopping, food, and services, including civic, institutional, maker/craft/artisanal businesses (both indoor and outdoor). The sub-zone is T4MS-O.
- T5 Neighborhood (T5N). The intent of this zone is to establish a walkable neighborhood environment of large-footprint, high-intensity mixed-use buildings supporting and within short walking distance of neighborhood shopping, services, and transit. The sub-zone is T5N-O.
- T5 Main Street (T5MS). The intent of this zone is to establish a walkable, urban neighborhood environment with large-footprint, high-intensity mixed-use buildings in close proximity to the multimodal transit station, with neighborhood-serving shopping and services. This zone has no sub-zone.

[9] For additional information visit the Form-Based Codes Institute website at www.formbasedcodes.org.

In addition to the intent and sub-zones described above, the proposed Downtown Code identifies standards for each Zone that include topics such as building placement, encroachments, maximum envelopes, adjacency standards, building form, frontages, parking, and signage.

Figure 3-7a and Figure 3-7b show the proposed Zoning Map, which identifies specific urban design requirements, including further height limitations based on location and intended physical character. Figure 3-8 shows the maximum height envelope allowed in different parts of the Downtown Precise Plan Area (accounting for height bonuses). The Downtown Code includes a Limited Height Overlay that reduces the maximum height envelope on individual parcels that contain or are adjacent to historic resources. Table 3-4 summarizes the development standards for each Downtown Zone by maximum building height and building design, which includes the building form, placement, and frontages within each Downtown Zone in the Downtown Precise Plan Area. A comprehensive list of the regulations in the proposed Downtown Precise Plan's associated Downtown Code is included in Chapter 9 of the proposed Downtown Precise Plan.

TABLE 3-4 DOWNTOWN CODE DEVELOPMENT STANDARDS SUMMARY

Zones		Maximum Building Heights		Building Design		
Base [a]	Sub-zone [b]	Stories [c]	Height [c]	Form	Placement	Frontages
T4N	T4N-O	3 stories (base) 4 stories (bonus)	40 feet (base) 50 feet (bonus)	Primarily house-form (detached)	Small front/side setbacks	Residential and shopfront
T4MS	T4MS-O	4 stories (base) 6 stories (bonus)	50 feet (base) 70 feet (bonus)	Primarily block-form (attached)	Small to no front/side setbacks	Predominantly shopfront
T5N	T5N-O	4 stories (base) 6 stories (bonus)	50 feet (base) 70 feet (bonus)	Primarily block-form (mainly attached)	Small to no front/side setbacks	Residential and shopfront
T5MS	None	6 stories (base) 8 stories (bonus)	70 feet (base) 90 feet (bonus)	Primarily block-form (attached)	Small to no front setbacks, no side setbacks	Predominantly shopfront

Notes:
[a] T4N = T4 Neighborhood, T4MS = T4 Main Street, T5N = T5 Neighborhood, and T5MS = T5 Main Street.
[b] The open sub-zone is applied to allow more uses than the base zone allows but within the same form and character of the base zone; and/or to more easily allow certain uses that are already allowed in the base zone.
[c] The "base" allowance reflects the maximum allowable height for structures in this zone. In the case that a height bonus is applied to proposed development, the "bonus" citation states the maximum allowed number of stories and feet in height. The building height bonuses are only permitted if the additional square footage is dedicated as affordable housing.
Source: Public Review Draft Downtown San Rafael Precise Plan, 2020.

3.7.2.5 DOWNTOWN SUB-AREAS

As noted in the previous section, the Downtown Precise Plan would establish four sub-areas to recognize the existing character and development styles that define different portions of the Downtown Precise Plan Area. By distinguishing the four sub-areas, the Downtown Precise Plan's development approach places a sharper focus on the special features and needs of each sub-area.

From west to east, the four sub-areas, shown on Figure 3-9, are referred to as the West End Village, Downtown Core, Downtown Gateway, and Montecito Commercial Area. Table 3-5 shows the growth potential for each sub-area.

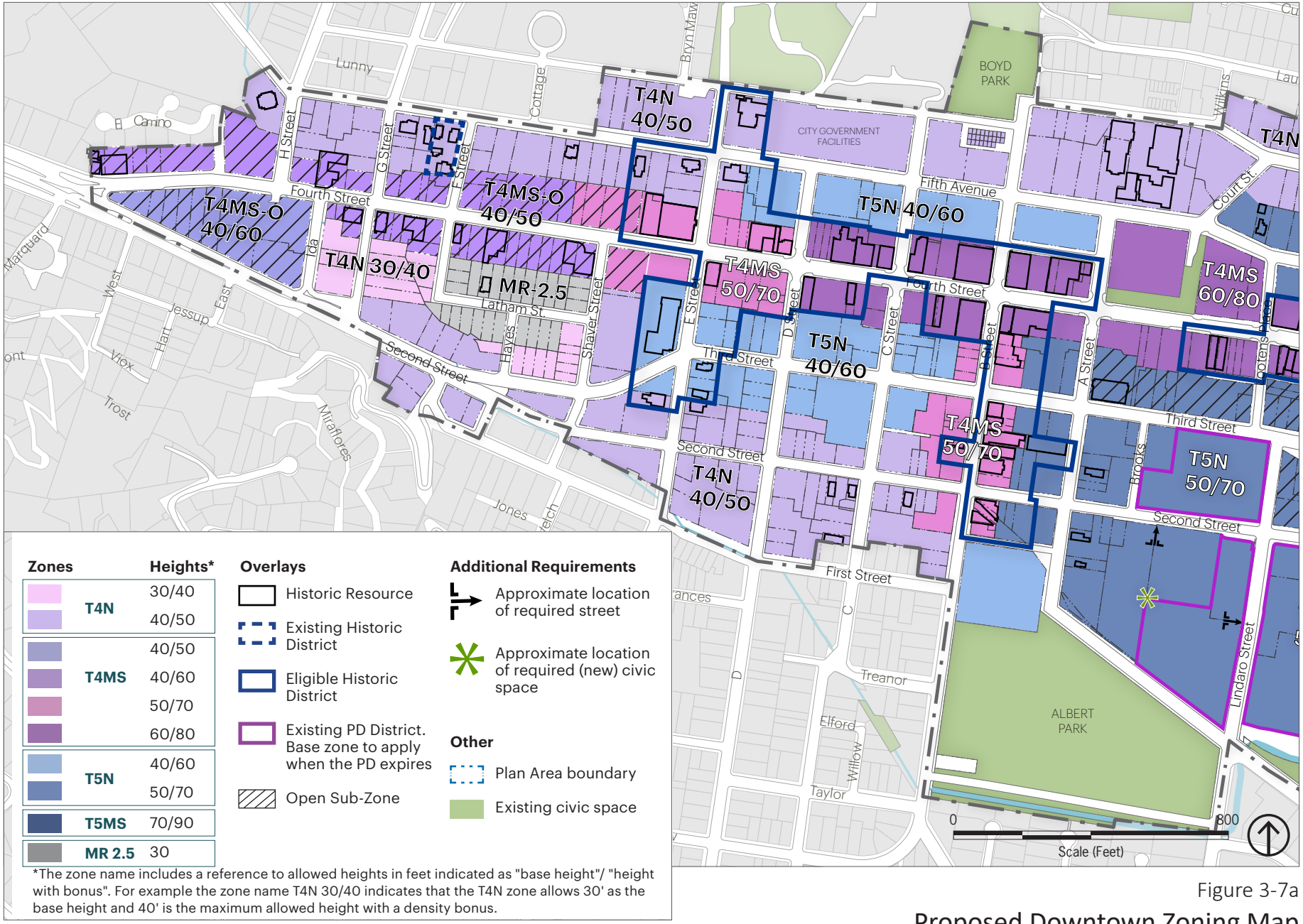
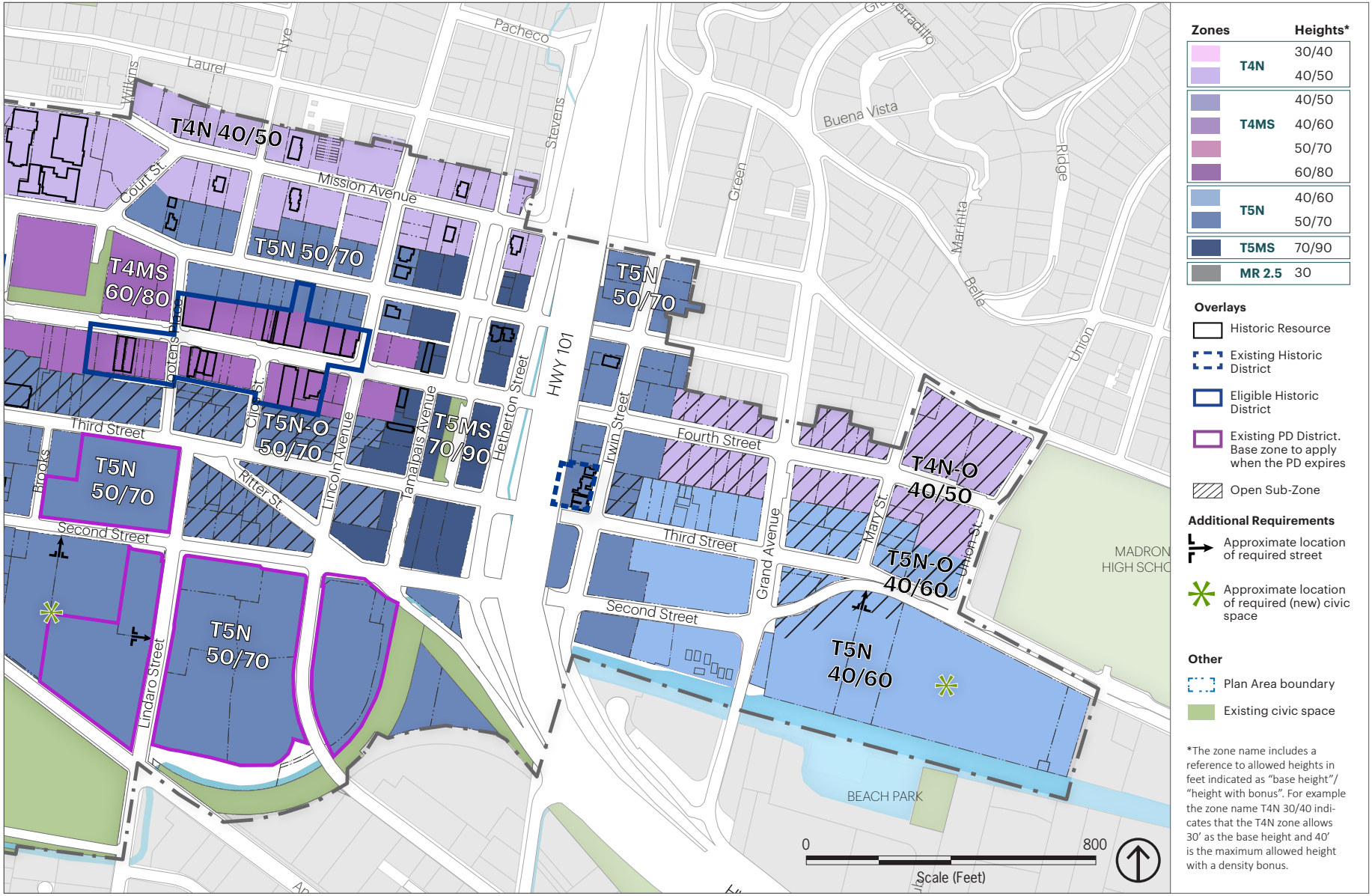


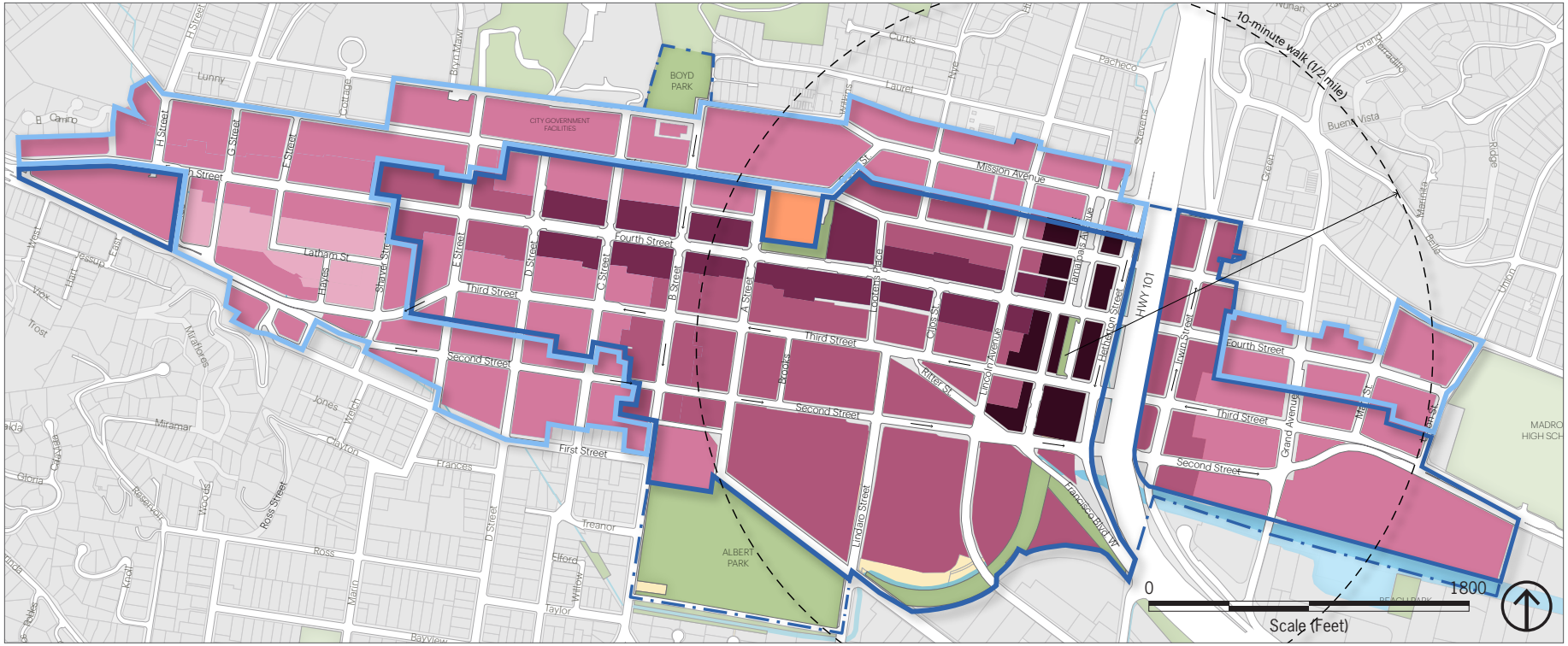
Figure 3-7a
Proposed Downtown Zoning Map

Source: Downtown San Rafael Precise Plan, 2020.



Source: Downtown San Rafael Precise Plan, 2020.

Figure 3-7b
Proposed Downtown Zoning Map



Source: Downtown San Rafael Precise Plan, 2020.

Maximum Base Heights

- 30 feet
- 40 feet
- 50 feet
- 60 feet
- 70 feet
- 102 feet (height bonus not allowed)

Height Bonus Tiers

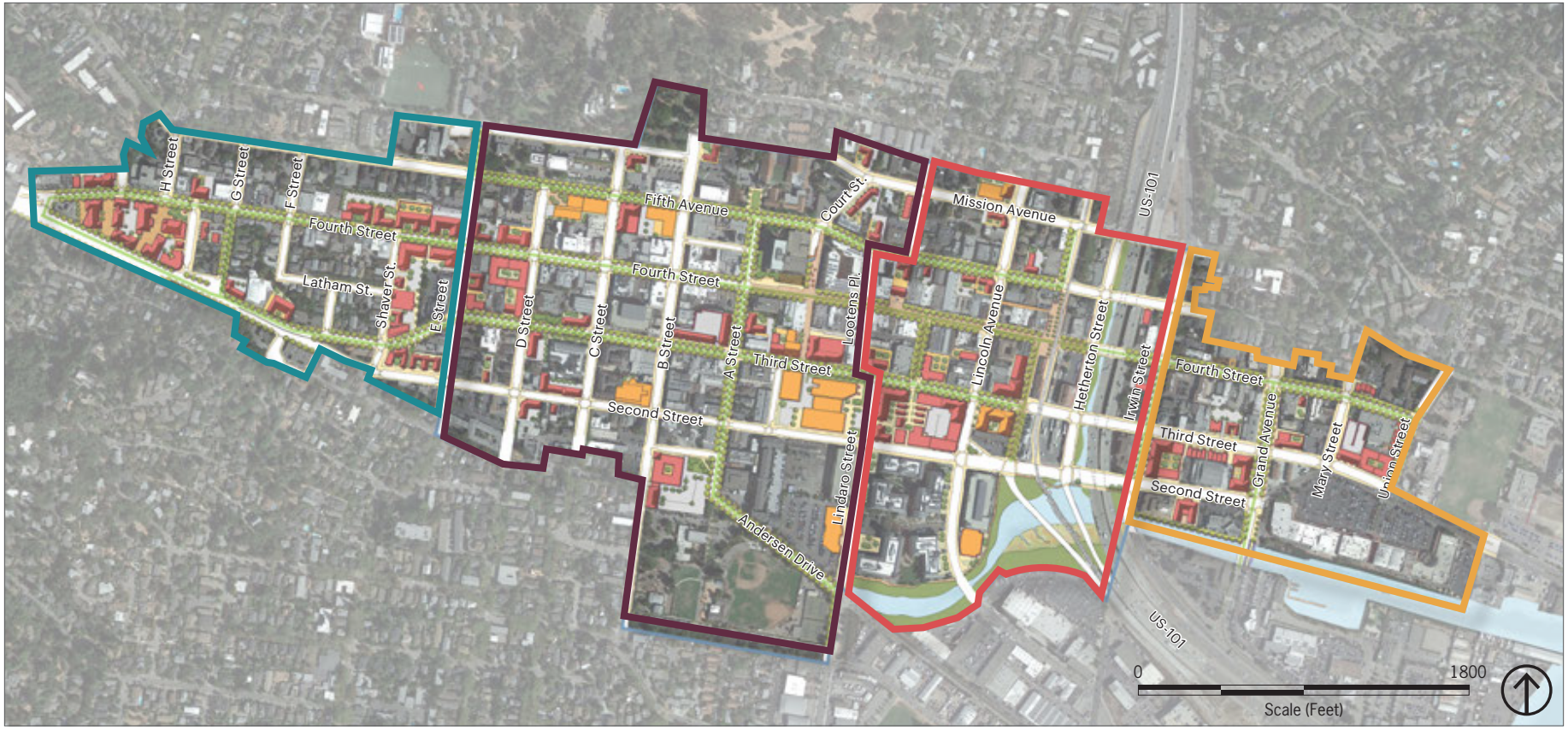
- Tier 1 - 10 feet maximum
- Tier 2 - 20 feet maximum
- Half-mile radius from SMART/ San Rafael Transit Center (AB 1763 applies)

Note:

1. A project using an AB 1763 height bonus is not eligible for any other height bonus.

2. Please refer to Chapter 5, Historic Resources, and Chapter 9, Downtown Form-Based Code, of the Downtown San Rafael Precise Plan, for additional information.

Figure 3-8
Proposed Downtown Building Height Limits



Source: Downtown San Rafael Precise Plan, 2020.

- Downtown Gateway
- Downtown Core
- West End Village
- Montecito Commercial
- Potential infill opportunity sites*
- Buildings entitled/ under construction

* Potential infill projects shown here are conceptual and for illustrative purposes only

Figure 3-9
Downtown Sub-Areas

TABLE 3-5 DOWNTOWN PRECISE PLAN DEVELOPMENT PROGRAM BY SUB-AREA

Downtown Sub-area	Residential		Non-Residential		General Plan Land Use	Zones/ Sub-zone	Maximum Height Limits
	Units [a]	Population [b]	Square Feet [c]	Jobs [c]			
West End Village [d]	360	612	70,000	200	Downtown Mixed Use, Medium and High Density Residential	T4N, T4MS-O, MR 2.5	Six stories (70 feet)
Downtown Core [e]	620	1,054	373,000	1,040	Downtown Mixed Use	T4N, T4MS, T5N, T5N-O	Six stories (70 feet)
Downtown Gateway [f]	830	1,411	210,000	640	Downtown Mixed Use	T4N, T4MS, T5N, T5N-O, T5MS	Eight stories (90 feet)
Montecito Commercial Area [g]	390	663	45,000	140	Downtown Mixed Use	T4N-O, T5N, T5N-O,	Six stories (70 feet)
Total	2,200 [h]	3,740	698,000	2,020			

Notes:
[a] An average residential unit size of 1,000 square feet (gross area) is applied in the Downtown Precise Plan Area.
[b] An average population of 1.7 persons per household is applied in the Downtown Precise Plan Area.
[c] Jobs are calculated by applying a rate of 1 job per 350 square feet of built-up area (gross area), with exceptions as needed for approved projects.
[d] Includes several small, approved infill projects (Shaver Street, Fifth Avenue/ G Street).
[e] Includes 930 Tamalpais, 67 approved units (Eden Housing), 41 units under const (815 B Street); BioMarin, 999 Third Street (207,000 square feet); 755 Lindaro Corporate Center (72,000 square feet); AC Marriott (140 rooms); Public Safety Center (44,000 square feet).
[f] Includes 77 approved assisted-living units at 800 Mission and 120 units at 703 Third Street.
[g] Numbers for the Montecito Commercial Area sub-area do not consider the potential redevelopment of Montecito Plaza.
[h] The 2,200 units correspond to 2,100 households (5 percent vacancy rate).
Source: Public Review Draft Downtown San Rafael Precise Plan, 2020.

The vision and overall buildout intent for each sub-area is described as follows:

- **West End Village.** The West End Village sub-area on the western edge of the Downtown Precise Plan Area has an eclectic feel with a mix of historic homes, newer mixed-use development, and shops along Fourth Street. The West End Village sub-area also has the Victorian Village on Fifth Avenue, one of San Rafael's three historic districts. The West End Village is envisioned as an eclectic downtown neighborhood with a variety of housing choices, small shops, parks, and plazas. Improvements in the West End Village sub-area include the creation of a western gateway at the Second and Fourth Street intersection, addition of neighborhood-scale public space, improvements to bicycle and pedestrian facilities, and new residential development. Potential future development in this sub-area would occur at lower densities than the Downtown Core and Downtown Gateway sub-areas. Improvements to streetscapes and the addition of small plazas or parks are proposed to enhance the public right-of-way and bolster a sense of place unique to the neighborhood.
- **Downtown Core.** The Downtown Core sub-area currently forms the heart of the Downtown Precise Plan Area, largely centered around Fourth Street. This sub-area provides access to stores, offices, restaurants, art galleries, museums, and cultural institutions The Downtown Core sub-area is envisioned to remain the retail, dining, cultural, and entertainment center of San Rafael, offering a diverse set of uses and an authentic, memorable "downtown experience." Improvements in the Downtown Core sub-area include strengthening multimodal travel, increasing safety for bicycles and pedestrians, and protecting historic resources. Improvements to public spaces, including Albert Park

and Court Street Plaza, are proposed. A number of large projects are already in the pipeline in this sub-area, and several more are in conceptual stages.

- Downtown Gateway. The Downtown Gateway sub-area includes several regional transportation hubs, including the Downtown San Rafael SMART Station and the San Rafael Transit Center. This sub-area also includes the north- and southbound on- and off-ramps to US-101 and is a significant gateway to the Downtown Precise Plan Area and central Marin County. The Downtown Gateway sub-area is envisioned as a vibrant, mixed-use gateway that can support new residential mixed-use development, employment opportunities, and civic spaces. Planned improvements in this sub-area include new mixed-use development, reinforcing gateway character, creating public plazas, and improving the safety of bikes and pedestrians. Substantial redevelopment is anticipated in the Downtown Gateway sub-area due to its regional transportation links. The Downtown Precise Plan recommends the promotion of more affordable housing in potential mixed-use development near the SMART station. The text provides flexibility with respect to the San Rafael Transit Center since the final site of the facility has yet to be determined.
- Montecito Commercial Area. The Montecito Commercial Area on the eastern end of the Downtown Precise Plan Area is primarily a retail/service district with a few office and residential buildings. It is envisioned as transforming over time as large retail uses are replaced or augmented by mixed-use projects that include residential uses above ground-floor commercial space. The neighborhood will be better connected to the other Downtown sub-areas via improvements to the area under Highway 101 and along Irwin Creek. It will also be better connected to the San Rafael Canal waterfront through a shoreline paseo and water-oriented development. The Downtown Precise Plan includes a “vignette” that reimagines the 11-acre Montecito Shopping Center as a mixed-use project, but this is envisioned as a longer-term project and is not included in the development program.

3.7.2.6 DOWNTOWN PRECISE PLAN IMPLEMENTATION

Conceptual Priority Improvement Projects

The Downtown Precise Plan would be implemented by facilitating infill development; carrying out short-term pilot and tactical urbanism[10] projects, such as pedestrian plazas and parklets; and investing in capital improvements at key locations. Conceptual priority projects would occur at nodes where they can stimulate private investment and contribute to the Downtown Precise Plan Area's continued role as a mixed-use and cultural destination for the region. The Downtown Precise Plan identifies conceptual priority street and transportation infrastructure improvement projects and conceptual open space improvement projects.

Economic Development Strategies and Actions

The proposed Downtown Precise Plan includes economic development strategies and actions. These aim to support existing businesses, streamline permitting, reduce regulatory barriers, attract new businesses,

[10] Tactical urbanism includes low-cost, temporary changes to the built environment, usually in cities, intended to improve local neighborhoods and city gathering places.

and market the Downtown Precise Plan Area as a great place to visit. The strategies also seek to maintain the Downtown Precise Plan Area's contribution to the fiscal well-being of the City through partnerships with the private sector, financial strategies, and engaging the business community.

The proposed Downtown Precise Plan also includes strategies to aggregate small parcels and reduce development costs. This includes reduced fees, parking requirements, and development incentives on merged lots as well as tax programs such as Mills Act contracts.[11] It also offers ideas to assist local retailers and other small businesses.

Affordable Housing and Anti-displacement Strategies

The City of San Rafael currently implements several citywide programs to support the production of affordable housing and to protect existing tenants from displacement. The Downtown Precise Plan proposes an extension of these policies in the strategies for housing production and tenant protection. It also proposes new strategies such as tenant relocation provisions, a one-for-one replacement program for affordable housing units, and incentives to extend affordability controls.

Historic Resource Management

Historic Preservation Ordinance

The Downtown Precise Plan includes specific recommendations to be considered to strengthen the San Rafael Historic Preservation Ordinance so that it more effectively protects historic resources. This includes preparation of a full Historic Context statement for the Downtown Precise Plan Area, and revised provisions for the review of alterations to historic structures.

Historic Districts

The Downtown Precise Plan describes methods to conserve historic resources that are considered important visual and character-defining resources to maintain the existing fabric. These methods would protect the scale and character of distinct areas and serve as a tool to ensure future infill development complements the traditional neighborhood character, fabric, and setting.

Historic Resources Actions

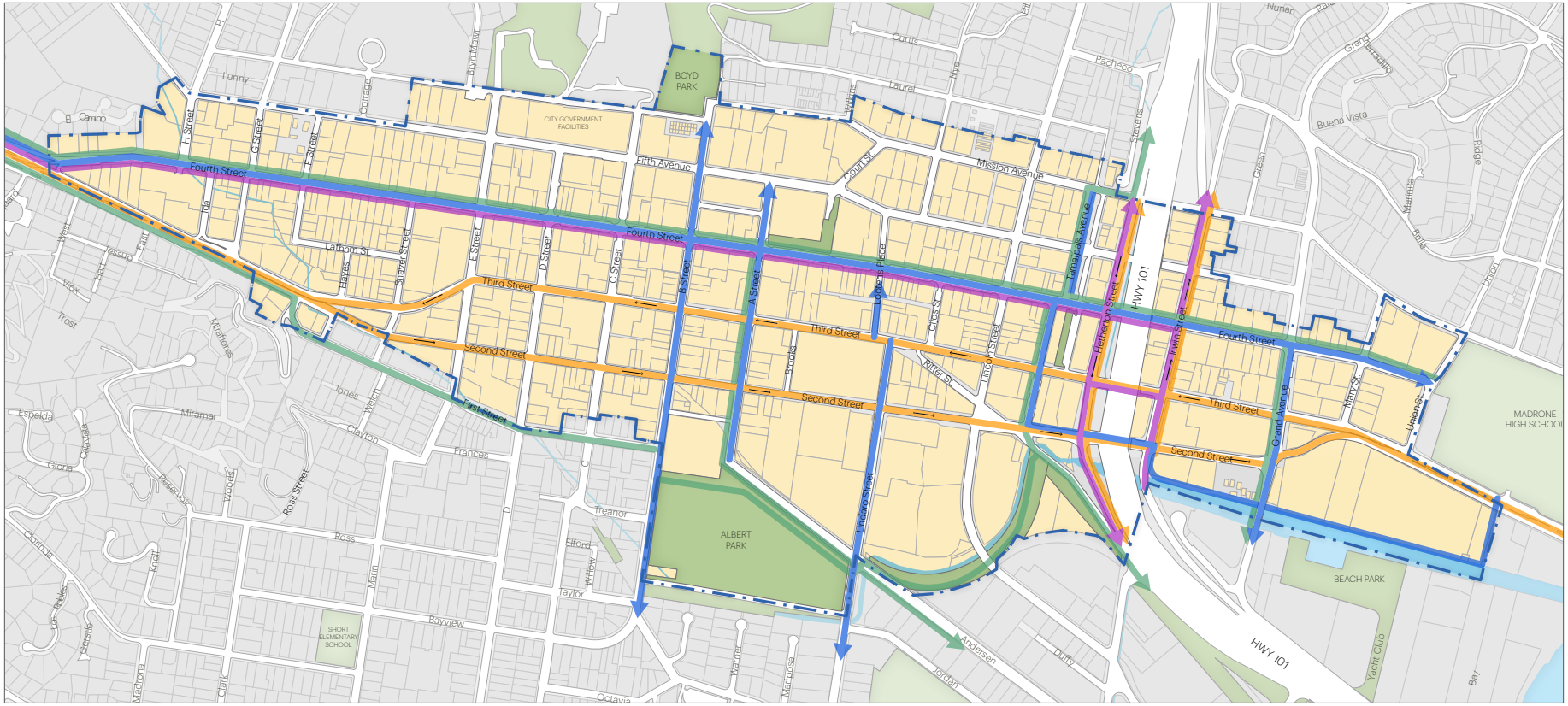
The Downtown Precise Plan includes a set of actions to be considered in the future to advance historic preservation goals. These include creation of additional incentives, a clearer process for local designations, more regular inventory updates, streamlining planning procedures, and developing educational materials.

[11] The Mills Act is a state law allowing cities to enter into contracts with the owners of historic structures. Such contracts require a reduction of property taxes in exchange for the continued preservation of the property.

Transportation and Parking

The Downtown Precise Plan proposes changes to the transportation network that would improve access in and around the Downtown Precise Plan Area for all modes of transportation, improve the safety of intersecting transportation modes, and support an appropriate amount of parking. The proposed Downtown Precise Plan includes strategies and improvements for the street design and operations, pedestrian network, bicycle network, vehicular network, and transit network. Figure 3-10 shows the proposed multimodal transportation network in the Downtown Precise Plan Area. The figure shows that individual streets have clearly defined modal priorities; this will influence future transportation planning and design decisions. The Downtown Precise Plan also includes management strategies for ride-hailing, self-driving vehicles, and micromobility (e.g., bikes, e-bikes, and e-scooters), parking, vehicle travel reduction, and wayfinding. Key elements of the transportation program include:

- Street design and operation principles such as universal design, recognition that streets are public spaces, minimizing conflicts between modes, accommodating goods movement, meeting emergency response needs, and protecting natural systems.
- Strategies to improve and maintain the pedestrian environment include widening sidewalks where feasible and designing them to create different functional zones, upgrading crosswalks, avoiding driveway crossings, improving lighting, and adding wayfinding signage. Specific enhancements are proposed along Fourth Street, along Tamalpais Avenue, at the gateway intersection of Second Street and Fourth Street, and on the cross-streets under US-101.
- Strategies to enhance the bikeway network include new bicycle lanes, upgraded bicycle crossings, reduced driveway cuts, better buffering of bicycles from vehicle traffic and parking lanes, increased bicycle parking, and a bike share program. Bike lane improvements are proposed on Tamalpais Avenue (Mission Avenue to Second Street), Fifth Avenue, Grand Avenue (Second Street to Fourth Street), Second Street (Marquard Avenue to Miramar Avenue), A Street, First Street, and in Albert Park.
- Strategies to improve vehicular traffic flow including intersection improvements, Transportation Demand Management (TDM) programs, new gateway elements, and technology upgrades to traffic signals. Specific improvements include upgrading the US-101 on and off ramps; converting B Street to two-way traffic; converting a segment of Francisco Boulevard West to one-way traffic; and realigning the Second Street/Fourth Street/Marquard Avenue intersection.
- Strategies to improve transit include identifying transit priority corridors (potentially including transit-only lanes) and technology improvements, enhancing transit stop amenities, and exploring the feasibility of a Downtown shuttle.
- Specific street reconfigurations to balance the needs of multiple travel modes are proposed along Fourth Street, Tamalpais Avenue, B Street, and D Street. Conceptual cross-sections are included in the Downtown Precise Plan, showing addition of bike lanes and removal of on-street parking spaces in some instances.
- Strategies to make it easy and possible to find parking through adoption of performance metrics to inform adjustments to parking rates and regulations.



Source: San Rafael Downtown Precise Plan, 2020.

0 1,600
Scale (Feet)

- Plan Area boundary
- Pedestrian priority network
- Bicycle priority network
- Transit priority network
- Vehicular priority network

Figure 3-10
Multimodal Network Plan in the Downtown Precise Plan Area

The Downtown Precise Plan also includes recommendations for vehicle trip reduction (e.g., TDM programs), parking, and curbside management. Some of these recommendations are carried forward from the 2017 *City of San Rafael Downtown Parking and Wayfinding Study*. In general, the emphasis is on maximizing the use of existing parking rather than increasing parking supply. The Downtown Precise Plan supports the dedication of parking that is available for public use within new, privately constructed parking garages. It also supports concepts such as shared parking, dynamic pricing, stacked parking to use space more efficiently, and the use of technology to provide real-time information on where spaces are available. A curbside management strategy is recommended to respond to emerging issues related to delivery vehicles, ridesharing and Transportation Network Company vehicles, and shared vehicles. The Downtown Code reduces off-street parking requirements for new development, recognizing the availability of other travel modes and potential burden of high parking requirements on development.

Utility Infrastructure Improvements

The Downtown Precise Plan includes several infrastructure improvements which are either planned or under consideration, and the Downtown Precise Plan ultimately recommends their implementation. Such improvements include replacement of water supply pipes, construction and maintenance of capital facilities, and replacement of gas pipelines. Recommendations made in the Downtown Precise Plan largely follow that of existing plans.

Adaptation to Climate Change Recommendations

The Downtown Precise Plan recognizes that adaptation to climate change and future sea-level rise are important considerations that are necessary to guide new development as well as infrastructure upgrades over the 20-year buildout horizon of the Downtown Precise Plan.

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 2040 horizon year is generally consistent with other key planning documents, including *Plan Bay Area* 2040, which is the Bay Area's Regional Transportation Plan/Sustainable Community Strategy.[12] *Plan Bay Area* 2040 is the long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area pursuant to Senate Bill 375, the Sustainable Communities and Climate Protection Act.[13]

[12] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. Plan Bay Area, Strategy for a Sustainable Region. March (adopted July 18).

[13] The Act to amend Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588 of, and to add Sections 14522.1, 14522.2, and 65080.01 to, the Government Code, and to amend Section 21061.3 of, to add Section 21159.28 to, and to add Chapter 4.2 (commencing with Section 21155) to Division 13 of, the Public Resources Code, relating to environmental quality.

Under Section 15064(d) of the CEQA Guidelines, "In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project." The projections represent the City's estimation of "reasonably foreseeable" development that could occur over the next 20 years under the General Plan and are used as the basis for the EIR's environmental assessment. See Chapter 4, Environmental Analysis, of this Draft EIR, for a description of environmental analysis scenarios for this EIR. The projections do not presume that every parcel is developed to the maximum level allowed under the General Plan. Rather, they recognize regional demographic and economic forecasts, and the probable share of regional growth that would be captured by San Rafael given its policies and land use regulations. Horizon year (2040) projections within the EIR Study Area are shown in Table 3-6 by total projections, and those specific to the Downtown Precise Plan Area are shown in Table 3-7.

TABLE 3-6 PROPOSED 2040 BUILDOUT PROJECTIONS IN THE EIR STUDY AREA

Category	Existing Conditions (2020)	Projected Growth by Area (2020-2040)		Net Change (2020–2040)	Buildout Estimates (2040)
		City	Unincorporated		
Households	28,132	3,860	390	4,250	32,382
Residential Units	29,529	4,050	410	4,460	33,989
Total Population	75,751	8,010	900	8,910	84,661
Employees	44,200	4,050	65	4,115	48,315

Source: City of San Rafael, 2020.

TABLE 3-7 PROPOSED 2040 BUILDOUT PROJECTIONS IN THE DOWNTOWN PRECISE PLAN AREA

Category	Existing Conditions (2020)	Net Change (2020–2040)	Buildout Estimates (2040)
Households	1,496	2,100	3,596
Residential Units	1,571	2,200	3,771
Total Population	2,315	3,570	5,885
Employees	11,000	2,020	13,020

Source: City of San Rafael, 2020.

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, 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.

Projects successive to this Draft EIR include, but are not limited to, the following:

- Approval and funding of major public projects and capital improvements.
- Issuance of permits and other approvals necessary for implementation of the proposed project.
- Property rezoning consistent with the proposed General Plan.
- Development plan approvals, such as tentative maps, variances, conditional use permits, planned developments, and other land use permits.
- Permit issuances and other approvals necessary for public and private development projects.
- Development agreement processes and approvals.

The 2040 population and employment forecasts in this Draft EIR will serve as parameters for environmental analysis for future development projects within San Rafael. In the event that proposed development in the city would exceed the buildout projections used in this Draft EIR, the Director of Community Development shall require environmental review for any subsequent development to address growth impacts that would occur as a result of development exceeding the General Plan projections and related Draft EIR assumptions. This does not preclude the City, as lead agency, from determining that an EIR would be required for any development under the relevant provisions of CEQA (e.g., Section 21166 and related guidelines).

3.10 REQUIRED PERMITS AND APPROVALS

The proposed project would require adoption by the San Rafael City Council. The Planning Commission and other decision-making bodies 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 General Plan Update adoption. However, subsequent development under the General Plan Update may require approval of State, federal, responsible, and trustee agencies that may rely on the programmatic EIR for decisions in their areas of permitting.

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4. Environmental Analysis

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

CHAPTER ORGANIZATION

This chapter of the Draft EIR is made up of 18 subchapters that evaluate the direct, indirect, and cumulative environmental impacts of the proposed project. In accordance with Appendix F, Energy Conservation, and Appendix G, Environmental Checklist, of the CEQA Guidelines, the potential environmental effects of the proposed project are analyzed for potential significant impacts in the following 18 environmental issue areas, which are organized with the listed abbreviations:

4.1	Aesthetics (AES)	4.10	Hydrology and Water Quality (HYD)
4.2	Agriculture and Forestry Resources (AGF)	4.11	Land Use (LU)
4.3	Air Quality (AIR)	4.12	Mineral Resources (MIN)
4.4	Biological Resources (BIO)	4.13	Noise (NOISE)
4.5	Cultural and Tribal Resources (CULT)	4.14	Population and Housing (POP)
4.6	Energy (ENE)	4.15	Public Services and Recreation (PS)
4.7	Geology and Soils (GEO)	4.16	Transportation (TRANS)
4.8	Greenhouse Gas Emissions (GHG)	4.17	Utilities and Service Systems (UTIL)
4.9	Hazards and Hazardous Materials (HAZ)	4.18	Wildfire (FIRE)

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.
- Standards of Significance refer to the quantitative or qualitative standards, performance levels, or criteria used to evaluate the existing setting with and without the proposed project to determine whether the impact is significant. These thresholds are based primarily on the CEQA Guidelines, and also may reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.
- Impact Discussion gives an overview of the potential impacts of the proposed project and explains why impacts are found to be significant or less than significant prior to mitigation. As appropriate, impacts are first addressed for General Plan 2040 and then for the Downtown Precise Plan, clearly denoted with separate headings. This subsection also includes a discussion of cumulative impacts related to the proposed project. Impacts and mitigation measures are numbered consecutively within each topical analysis and begin with an acronym or abbreviated reference to the impact section.

STANDARDS OF SIGNIFICANCE

As stated above, significance criteria are identified before the impact discussion subsection, under the subsection, "Standards of Significance." For each impact identified, a level of significance is determined using the following classifications:

- Significant (S). A significant impact includes a description of the circumstances 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 mitigated below such thresholds.
- No Impact. A no impact conclusion describes circumstances where there is no adverse effect on the environment.
- Significant and Unavoidable (SU). For each impact identified as being significant, the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If one or more mitigation measure(s) would reduce the impact to a less-than-significant level successfully, this is stated in the EIR. Significant and unavoidable impacts are described where mitigation measures would not diminish these effects to less-than-significant levels. The identification of 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.

EVALUATION METHODOLOGY

Under CEQA, the decision as to whether an environmental effect should be considered significant is reserved to the discretion of the City of San Rafael, acting as the lead agency, based on substantial evidence in the record as a whole, including views held by members of the public. An ironclad definition of significant effect is not always possible because the significance of an activity may vary based on the setting. The analysis in the Draft EIR is based on scientific and factual data that has been reviewed by the lead agency and represents the lead agency's independent judgment and conclusions.[1] This section describes the methodology for the program-level evaluation in Chapters 4.1 through 4.18 with respect to the horizon year, the baseline, the application of the proposed General Plan 2040 policies and Downtown Code, potential future projects in a priority development area (PDA) or a transit priority area (TPA), parking impacts, effects of the environment on the project, and cumulative impacts.

2040 HORIZON DEVELOPMENT POTENTIAL

As discussed in Chapter 3, Project Description, of the Draft EIR, the proposed project includes two long-range planning documents; 1) General Plan 2040 and 2) The Downtown San Rafael Precise Plan. The environmental analysis in this EIR discusses the potential for adverse impacts to occur from extending the buildout potential in the EIR Study Area to horizon year 2040; increasing the buildout potential in the EIR Study Area; General Plan land use designation changes; new and modified General Plan goals, policies,

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15064(b).

and programs; and new Zoning designations and Downtown Code regulations in the Downtown Precise Plan Area.

The 2040 horizon development potential under the proposed project includes the net increase of maximum development potential for the Downtown Precise Plan Area, plus the development potential for the remainder of the city. As shown in Tables 3-6 and 3-7 in Chapter 3, Project Description, of this Draft EIR, this combined projected new growth in the entire EIR Study Area for the 2040 horizon year includes 4,250 new households, 4,460 new residential units, 8,910 new residents, and 4,155 new employees by 2040. Of these, up to 2,100 new households, 2,200 new residential units, 3,570 new residents, and 2,020 new employees would be within the Downtown Precise Plan Area.

Because the proposed project consists of two long-term policy documents that are intended to guide future development activities and City actions, and because no specific development projects are proposed as part of the project, it is reasonable to assume that future development would occur incrementally or gradually over the 20-year buildout horizon (e.g., 2020 to 2040). However, while this assumption describes the long-range nature of the proposed project, it does not prohibit or restrict when development can occur over the horizon period.

BASELINE

As discussed in Chapter 3, Project Description, of this Draft EIR, 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. As shown in Table 4-1, the baseline represents the existing conditions on the ground ("physical conditions"), as described in Table 3-6 and Table 3-7 in Chapter 3, Project Description.

TABLE 4-1 EXISTING BASELINE CONDITIONS

Category	Downtown Precise Plan Area	Remainder of the EIR Study Area	Total EIR Study Area
Households	1,496	26,636	28,132
Residential Units	1,571	27,958	29,529
Total Population	2,315	73,436	75,751
Employees	11,000	33,200	44,200

Note: As described in Chapter 3, Project Description, of this Draft EIR, the EIR Study Area includes is the planning area, sphere of influence, and the city limits. The EIR Study Area is shown on Figure 3-2.
Source: City of San Rafael, 2020.

GENERAL PLAN 2040 POLICIES AND DOWNTOWN CODE

As discussed in Chapter 3, Project Description, a comprehensive list of goals, policies, and programs is provided in Appendix B, Proposed General Plan Goals, Policies, and Programs, of this Draft EIR. The proposed goals, policies, and programs aim to reduce vehicle miles traveled, greenhouse gas emissions, air and water pollutants, energy consumption, water demand, and solid waste generation by promoting

infill development; increase opportunities for alternative modes of transportation, pedestrian and bicycle access and connectivity, and local jobs; protect open space; conserve natural resources; and require adherence to green building practices. General Plan policies aim to avoid hazardous conditions and facilitate a healthy and safe environment for residents and visitors to San Rafael. In addition, General Plan policies aim to protect cultural resources, including historic buildings, and ensure new development and redevelopment is compatible with neighboring land uses. While the proposed policies and programs in Appendix B aim to reduce environmental impact, the EIR process provided an additional opportunity to modify the policies and programs to ensure they adequately reduce impacts from potential future projects in San Rafael.

Additionally, the proposed Downtown Code, which would replace existing zoning regulations for all of the properties in the Downtown Precise Plan Area with the exception of a few parcels in the Latham Street area, which would retain their Multifamily Residential District ([Medium Density] 2,500 square feet per dwelling unit [MR2.5]) zoning designation, and the existing open space zoning designations. The changes to General Plan 2020 goals, policies, and programs include both substantive and nonsubstantive changes, while the Downtown Code would consist of new zoning regulations for the Downtown Precise Plan Area.

Substantive General Plan policy and program changes include addition, removal, or functional revisions (i.e., not purely semantic) in ways that have the potential to result in a physical impact on the environment. Discussions of how substantive policy changes and the new Downtown Code may result in adverse physical changes are included in the analyses under each impact criterion in the Impact Discussion section in Chapters 4.1 through 4.18 of the Draft EIR. Amended and new policies collectively reflect the changes to the current General Plan 2020. The proposed goals, policies, and programs have been carefully reviewed for their adequacy in reducing and/or avoiding impacts to the environment that could occur from future development in the city. The proposed General Plan goals, policies, and programs are listed in the impact discussions of Chapters 4.1 through 4.18 to illustrate where they would reduce impacts from potential future development in San Rafael.

The content of the General Plan 2040 policies and the Downtown Code is directly integrated with and reflective of the proposed project as a whole. Therefore, impact discussions for the effects of the proposed project necessarily encompass analysis of the effects of these policies and the Downtown Code as a whole, and policies and code sections with relevance to CEQA topics are discussed in the appropriate chapters. Nonsubstantive changes include the renumbering of policies or minor text revisions, which do not have the potential to result in a physical change to the environment.

PRIORITY DEVELOPMENT AREAS AND TRANSIT PRIORITY AREAS

The Metropolitan Transportation Commission's and Association of Bay Area Governments' (ABAG) *Plan Bay Area* is the San Francisco Bay Area's Regional Transportation Plan/Sustainable Community Strategy. *Plan Bay Area* is the long-range integrated transportation and land use/housing strategy through 2040 for the Bay Area, pursuant to Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act. *Plan Bay Area* lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation vehicle miles traveled (VMT) (excluding goods movement) beyond the per capita reduction targets identified by the California Air Resources Board. *Plan Bay Area* 2040 is a

limited and focused update to the *Plan Bay Area* 2013, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years.[2] The existing *Plan Bay Area* 2040 is currently being updated to extend the planning horizon to 2050.[3]

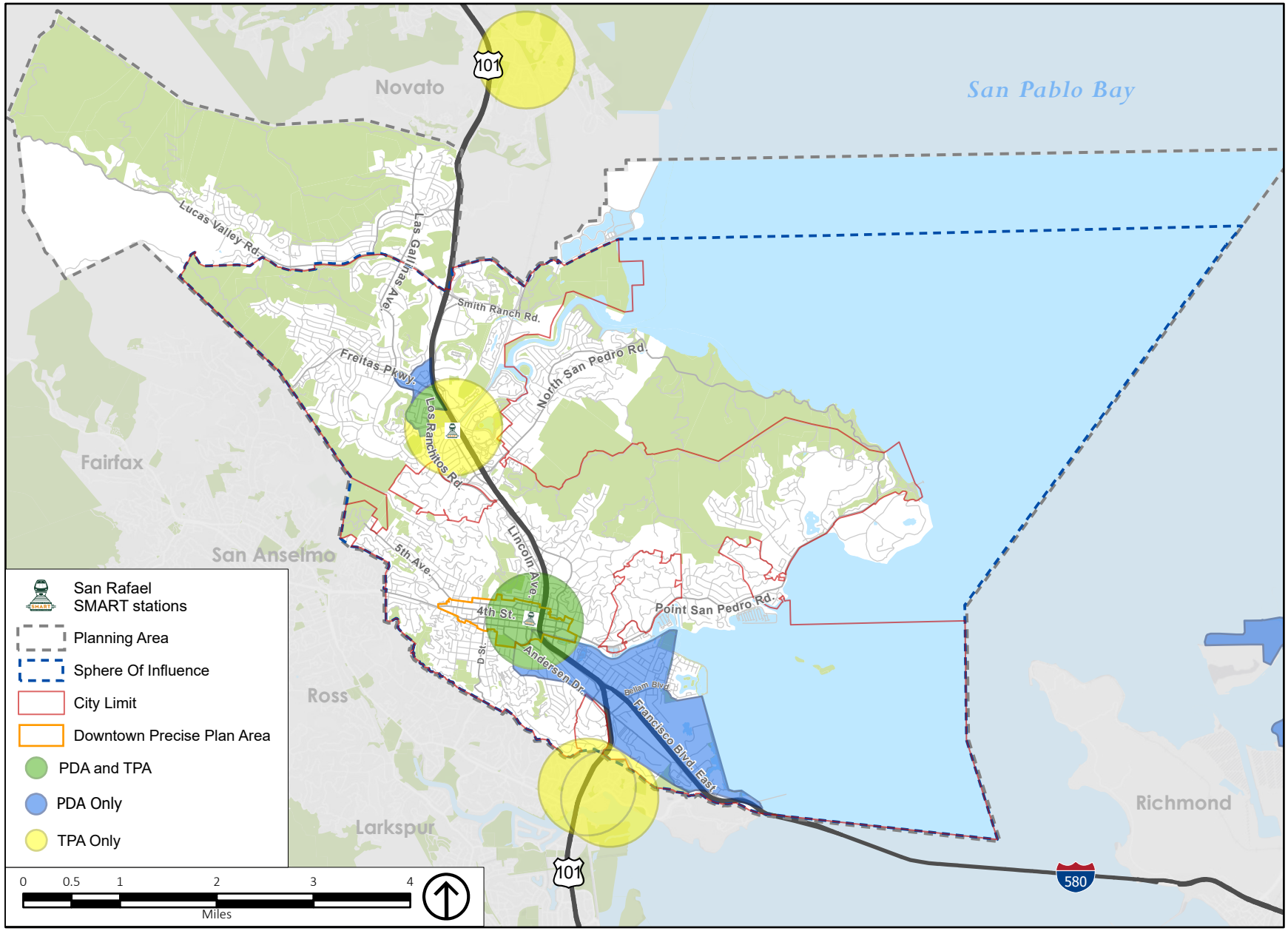
As part of the implementing framework for *Plan Bay Area*, PDAs and TPAs are identified as areas where concentrated development can have beneficial environmental effects and reduce adverse environmental impacts. As shown on Figure 4-1, the EIR Study Area has the following three PDAs and three TPAs:

- North San Rafael PDA. This is the northernmost PDA in the Terra Linda neighborhood. This PDA includes the Northgate Mall, Northgate I Centre, Northgate III, and the Las Gallinas office and gas station areas. As shown on Figure 4-2, this PDA overlaps with the Civic Center Smart Station TPA.
- Civic Center Smart Station TPA. This TPA, also shown on Figure 4-2, is in northern San Rafael and encompasses the 0.5-mile radius surrounding the Marin Civic Center SMART Station. This TPA overlaps with the North San Rafael PDA.
- Southeast San Rafael / Canal PDA. This is the southernmost PDA in San Rafael and includes the southeast part of the city, including the Canal neighborhood. As shown on Figure 4-3, this PDA shares a border with the Downtown San Rafael SMART Station PDA and TPA and the Larkspur TPA.
- Downtown San Rafael SMART Station PDA and TPA. As shown on Figure 4-4, the Downtown San Rafael SMART Station PDA and TPA is partially located in the Downtown Precise Plan Area. This PDA/TPA includes 503 acres surrounding the San Rafael Transit Center. About 200 acres of the Downtown Precise Plan Area is within 0.25 miles, or within a 10-minute walking distance, of the San Rafael Transit Center. This PDA/TPA is a designated "City Center PDA," which is defined as a subregional center of economic and cultural activity served by frequent, dedicated regional transit with connections to frequent subregional and local service. Objectives of City Center PDAs, in conjunction with TPAs, are to reduce GHG emissions, improve public health, alleviate the housing crisis, and facilitate economic development through coordinated land use and transportation planning. ABAG indicates that this PDA is expected to absorb about 40 percent of the city's household growth in the next 20 years, although General Plan 2040 is anticipating an even higher capture rate.[4]
- Larkspur TPA. A very small portion of this TPA that surrounds the Larkspur SMART Station is in the southern boundary of the San Rafael city limits. See Figure 4-1.

[2] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Final, http://2040.planbayarea.org/, accessed on March 12, 2019.

[3] To read more about *Plan Bay Area,* go to www.planbayarea.org.

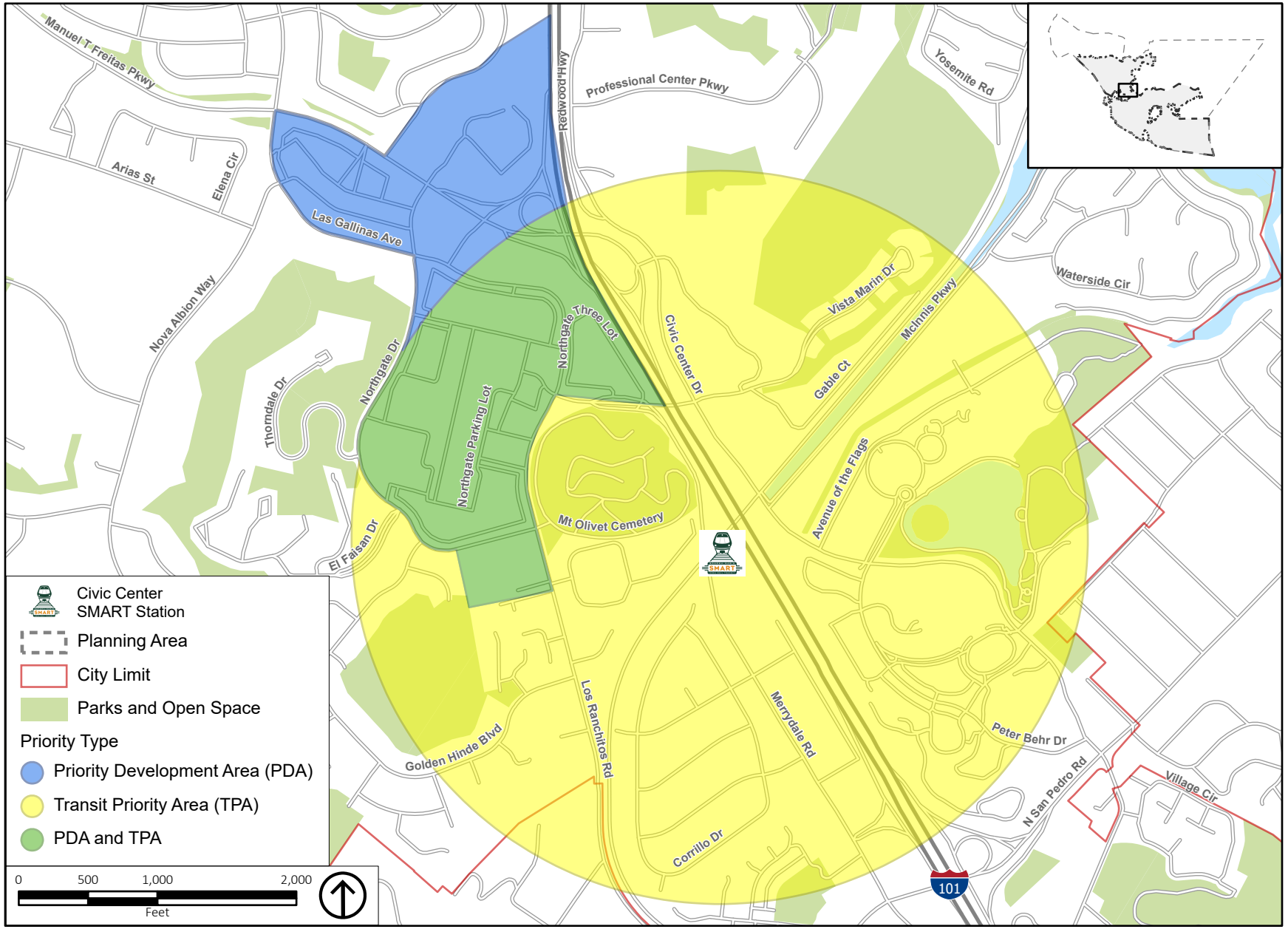
[4] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, *Plan Bay Area* 2040 Plan.



Source: ABAG/MTC, 2017; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4-1

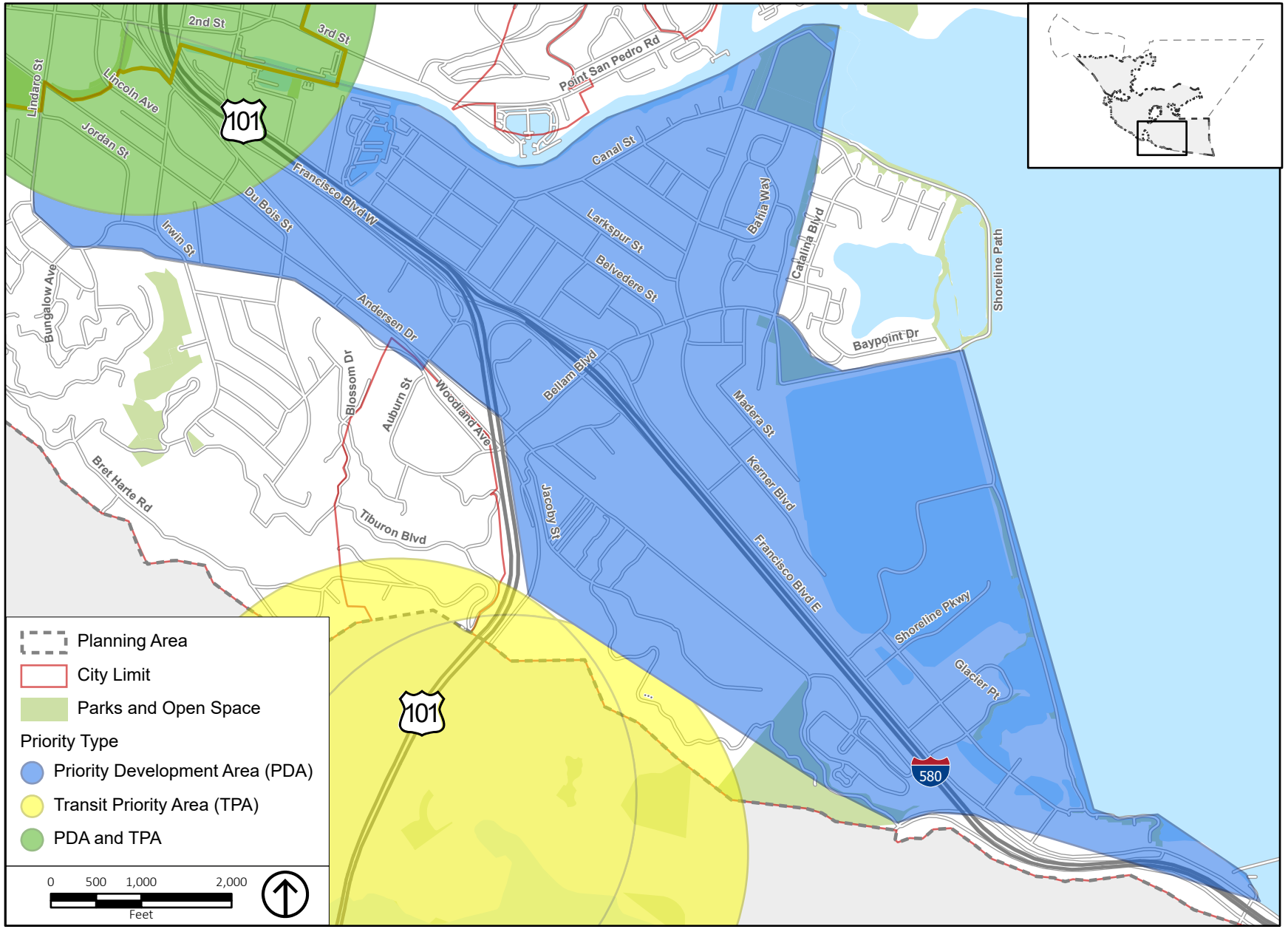
Priority Development Area and Transit Priority Areas



Source: ABAG/MTC, 2017; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

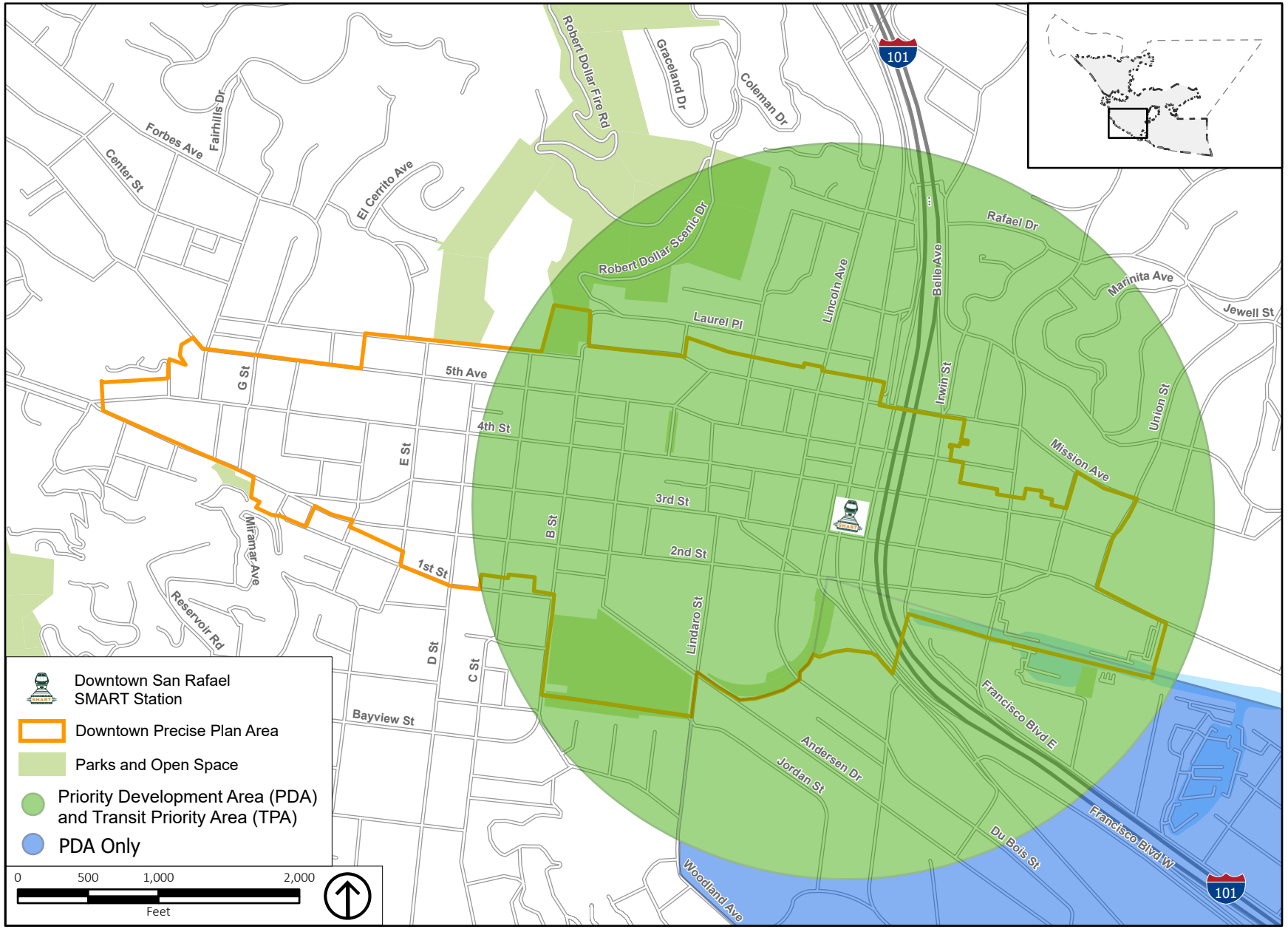
Figure 4-2

North San Rafael PDA and San Rafael Civic Center SMART Station TPA



Source: ABAG/MTC, 2017; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4-3
Southeast San Rafael / Canal PDA



Source: ABAG/MTC, 2017; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4-4
Downtown San Rafael SMART Station PDA and TPA

PRIORITY DEVELOPMENT AREAS

A PDA is a place that has convenient public transit service, often referred to as "transit-oriented," that is prioritized by local governments, such as San Rafael, for housing, jobs, and services within existing communities. A PDA is a funding and planning tool. If a local jurisdiction voluntarily nominates an area for PDA designation, the designation provides the local jurisdiction with access to funds and grants to develop and adopt area plans to plan for, design, and regulate future growth of the area; and constructed needed and/or planned infrastructure improvements.[5] PDAs are voluntarily nominated by the local jurisdiction. Further, the local jurisdiction has the full discretion to set the boundaries of the PDA within the eligible PDA areas that have been identified by *Plan Bay Area*. Overall, well over two-thirds of all regional growth in the San Francisco Bay Area by 2040 is projected to occur in PDAs. The PDAs identified in *Plan Bay Area* 2040 were projected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs in the region. Development in PDAs leverage existing infrastructure and therefore can minimize development in green field (undeveloped) areas and maximize growth in transit-rich communities to help lower VMT and consequently reduce GHG emissions, air quality pollutants, and noise from vehicles with internal combustion engines dependent on fossil fuels. Additionally, due to the location, infill development in PDAs result in fewer impacts related to agricultural, forestry, mineral, archaeological, and biological resources, energy, geology and soils, hydrology and water quality, and wildfire. Impacts related to concentrated development in the PDAs is discussed throughout this Draft EIR, and specific quantified impacts are described in Chapter 4.3, Air Quality, Chapter 4.8, Greenhouse Gas Emissions, and Chapter 4.16, Transportation, of this Draft EIR.

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

TRANSIT PRIORITY AREAS

In addition to PDAs, *Plan Bay Area* 2040 also identifies TPAs, which 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[6] 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.

[5] City of San Rafael, Community Development, Planning Division, Priority Development Areas. https://www.cityofsanrafael.org/priority-development-areas-2020/, Accessed December 29, 2020.

[6] A project in a transit priority area is referred to as a transit priority project sometimes referred to as a TPP development.

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." 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 with qualified urban uses."
- Is a residential, mixed-use residential, or an employment-center project.
- 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 or Section 450.322 of Title 23 of the Code of Federal Regulations."

Accordingly, in compliance with SB 743, no significant aesthetic or parking impacts can be made in this environmental analysis for potential future development in the Civic Center Smart Station TPA and the Downtown San Rafael SMART Station TPA, which is also a PDA as shown on Figure 4-4. Aesthetic and parking impacts are not discussed further in this EIR with respect to potential future development in these designated TPAs. As appropriate, aesthetic impacts are considered for potential future development outside of these areas.

PARKING

Effective in 2010, parking inadequacy as a significant environmental impact was eliminated from the CEQA Guidelines by The Governor's Office of Planning and Research, which is the entity charged with drafting guidelines to help agencies implement CEQA. Accordingly, parking adequacy in the EIR Study Area is not discussed further in this EIR.

POTENTIAL EFFECTS OF THE PROJECT ON THE ENVIRONMENT

The California Supreme Court concluded in the *California Building Industry Association vs. Bay Area Air Quality Management District* (CBIA vs. BAAQMD) case that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." The CBIA vs. BAAQMD ruling provided for several exceptions to the general rule where an analysis of the project on the environment is warranted: 1) if the project would exacerbate existing environmental hazards (such as exposing hazardous waste that is currently buried); 2) if the project qualifies for certain specific specified exemptions (certain housing projects and transportation priority projects per Public Resource Code (PRC)

21159.21 (f),(h); 21159.22 (a),(b)(3); 21159.23 (a)(2)(A); 21159.24 (a)(1),(3);or 21155.1 (a)(4),(6)); 3) if the project is exposed to potential noise and safety impacts on projects due to proximity to an airport (per PRC 21096); and 4) school projects require specific assessment of certain environmental hazards (per PRC 21151.8). Therefore, the evaluation of the significance of project impacts under CEQA focuses on the potential impacts of the proposed project on the environment, including whether the proposed project may exacerbate any existing environmental hazards. Existing environmental hazards in San Rafael include, but are not limited to, seismic hazards, sea level rise, and wildfire. Therefore, while the effects of these hazards on the proposed project are not subject to CEQA review following the *CBIA* case,[7] the City recognizes that seismic, wildfire, and flooding hazards from sea level rise are issues of local issues of concern. Therefore, a discussion of the project's potential to exacerbate these hazardous conditions, is provided in Chapter 4.7, Geology and Soils, Chapter 4.9, Hazards and Hazardous Materials, and Chapter 4.10, Hydrology and Water Quality, of this Draft EIR.

CUMULATIVE IMPACT ANALYSIS

A cumulative impact consists of an impact created as a result of the combination of the project evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts. 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." Used in this context, cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. In the case of a long-range plan such as the General Plan and the Downtown Precise 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 CEQA Guidelines state that a lead agency has discretion to determine if a project's contribution to a significant cumulative impact is cumulatively considerable.

The cumulative discussions in Chapters 4.1 through 4.18 of this Draft EIR explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, county, watershed, or air basin). 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 basinwide projections of emissions are the best tool for determining the cumulative impact. In assessing aesthetic impacts, on the other hand, only development within the local area of change would contribute to a cumulative visual effect since the area of change is only visible in its vicinity.

[7] *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369.

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.

The cumulative impact analysis in this Draft EIR relies on a projections approach and takes into account growth from the proposed project within the EIR Study in combination with impacts from projected growth in the rest of Marin County and the surrounding region, as forecast by *Plan Bay Area* 2040. The following provides a summary of the cumulative impact setting for each impact area:

- Aesthetics: The cumulative setting for visual impacts includes potential future development under the proposed project combined with effects of development on lands adjacent to the city in Novato to the north, San Anselmo and Ross to the west, and Larkspur and the unincorporated Marin County communities to the south.
- Agricultural and Forestry Resources: The geographic scope of the cumulative analysis for agricultural and forestry resources considers those agriculture and forestry resources deemed to be resources of Statewide importance in the surrounding incorporated and unincorporated lands, the region, and the state.
- Air Quality: Cumulative air quality impacts could occur from a combination of the proposed project with regional growth within the San Francisco Bay Area Air Basin.
- Biological Resources: The geographic scope of the cumulative analysis for biological resources considers the surrounding incorporated and unincorporated lands and the region.
- Cultural and Tribal Resources: Cumulative impacts to cultural resources could occur from projected growth in the surrounding region.
- Energy: Cumulative impacts to energy resources could occur from the estimated growth in the energy provider's service area.
- Geology and Soils: Potential cumulative geological impacts could arise from future growth in the immediate vicinity of the adjoining jurisdictions.
- Greenhouse Gas Emissions: The cumulative impact analyses for greenhouse gas (GHG) emissions are related to the entire region. Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the cumulative impact analysis focuses on the global impacts and thus, is by its nature cumulative.
- Hazards and Hazardous Materials: The cumulative analysis considers the effects growth in the rest of Marin County and surrounding region.
- Hydrology and Water Quality: The geographic context used for the cumulative assessment of hydrology and water quality impacts, including the potential to exacerbate the potential for flooding, considers the watersheds that encompass San Rafael.

- Land Use and Planning: The geographic context for the cumulative land use and planning effects considers impacts from projected growth in the rest of Marin County and the surrounding region, as forecast in *Plan Bay Area* 2040.
- Mineral Resources: The geographic scope of the cumulative analysis for mineral resources considers the potential loss of a known regionally or locally significant mineral resource in the surrounding incorporated and unincorporated lands, the region, and the State.
- Noise: The traffic noise levels are based on cumulative traffic conditions that take into account cumulative development in the region.
- Population and Housing: Impacts from cumulative growth are considered in the context of their consistency with regional planning efforts.
- Public Services and Recreation: 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* 2040, and contiguous with the service area boundaries of the service providers evaluated in this section.
- Transportation: The analysis of the proposed project addresses cumulative impacts to the transportation network in the surrounding area.
- Utilities and Service Systems: Cumulative impacts are considered in the context of the estimated growth in each utility's service area.
- Wildfire: The analysis of the proposed project includes a discussion of how cumulative development in the region may exacerbate wildfire risk in San Rafael and the surrounding area.

4.1 AESTHETICS

This chapter describes the existing aesthetic character of the Environmental Impact Report (EIR) Study Area and evaluates the potential environmental consequences on visual resources from future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts related to implementation of the proposed project.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

State Regulations

California State Scenic Highways Program

California's Scenic Highway Program was created by the State of California legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State laws governing the Scenic Highways Program are found in the Streets and Highways Code, Sections 260 through 263. The California Scenic Highway Program is maintained by the California Department of Transportation (Caltrans). Caltrans has not designated any highway within the city of San Rafael as a State Scenic Highway. Furthermore, there are no officially designated State Scenic Highways in the county of Marin.[1]

California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The City of San Rafael regularly adopts each new CBC update under the San Rafael Municipal Code (SRMC) Chapter 12.100, Adopted Codes. The CBC includes standards for outdoor lighting that are intended to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

California Building Code: CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code, also known as CALGreen. As part of the CBC, CALGreen is in Part 11 of Title 24. CALGreen establishes building standards aimed at enhancing the design and construction of buildings using building concepts that reduce negative impacts and increase positive environmental impacts by encouraging sustainable

[1] California Department of Transportation, 2019, California Scenic Highway Mapping System, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed on April 26, 2019.

construction practices. Specifically, Section 5.106.8, Light Pollution Reduction, establishes backlight, uplight, and glare ratings to minimize the effects of light pollution for nonresidential development. The local building permit process enforces the mandatory provisions of CALGreen. The City of San Rafael has regularly adopted each new CALGreen update under the SRMC Chapter 12.100, Adopted Codes.

Senate Bill 743

As described in Chapter 4, Environmental Analysis, of this Draft EIR, Senate Bill (SB) 743, which became effective on January 1, 2014, 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."

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 with qualified urban uses."
- Is a residential, mixed-use residential, or an employment-center project.
- 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 or Section 450.322 of Title 23 of the Code of Federal Regulations."

Accordingly, in compliance with SB 743, no significant aesthetic impact findings can be made in this environmental analysis for potential future development in the TPAs surrounding the Civic Center SMART Station and the Downtown San Rafael SMART Station (see Figure 4-2 and Figure 4-4 in Chapter 4, respectively). Aesthetic impacts are not discussed further in this EIR with respect to potential future development in these designated TPAs. As appropriate, aesthetic impacts are only considered for potential future development outside of these areas.

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs relevant to aesthetics are primarily in the Land Use, Housing, Neighborhoods, and Community Design Elements. As part of the proposed project, some existing General Plan goals, policies, and programs would be amended, substantially changed, or 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 Section 4.1.3, Impact Discussion.

San Rafael Municipal Code

The SRMC includes various directives to minimize adverse impacts to visual resources in San Rafael. The SRMC is organized by title, chapter, and section. Most provisions related to aesthetics impacts are included in Title 2, Administration, and Title 14, Zoning, as follows:

- Chapter 2.18, Historic Preservation. This chapter is relevant to the preservation of structures, sites, and areas of special character or special historical, architectural, or aesthetic interest or value that contribute to the visual setting in San Rafael. Among other requirements, this chapter requires the protection, enhancement, perpetuation, and use of structures, sites, and areas that are significant examples of architectural styles of the past or are landmarks in the history of architecture.
- Title 14, Zoning. In addition to the General Plan, the Zoning Ordinance is the primary tool that shapes the form and character of physical development in San Rafael. The Zoning Ordinance contains all the Zoning Districts, and identifies land use standards, site development regulations, and other general provisions that ensure consistency between the General Plan and proposed development projects. Section 14.01.030, Purposes, states that the San Rafael Zoning Ordinance is, among other things, intended to reduce or remove negative impacts caused by inappropriate location, use, or design of buildings and improvements, promote design quality in all development, and preserve and enhance key visual features in the community, including the bay shoreline, canal, wetlands, and hillsides. The Zoning Ordinance sets forth the development standards, including those related to visual resources, as follows:
- Chapter 14.12, Hillside Development Overlay District (-H). In addition to the general purposes listed in Section 14.01.030, one of the key purposes of the hillside development overlay district is the implementation of the *Hillside Residential Design Guidelines* to ensure that future development displays sensitivity to the natural hillside setting and compatibility with nearby hillside neighborhoods.
- Chapter 14.15, Canalfront Review Overlay District (-C). Section 14.15.010, Specific Purposes, and Section 14.15.050, Canalfront Design Criteria, provide site design, architecture, and colors and materials design criteria that are intended to protect the unique characteristics of the San Rafael Canalfront area, which is designated by an overlay zone. These criteria work to enhance orientation of existing structures and to ensure new development is oriented with existing development. These sections also serve to improve and enhance public views and access in the San Rafael Canalfront area and promote design excellence through innovative use of materials and creative architecture.
- Chapter 14.16, Site and Use Regulations. Section 14.16.210, Historic Preservation, requires that the alteration of a structure on a landmark site or in a historic district may be subject to a certificate of appropriateness and review by the planning commission, consistent with the requirements of SRMC Chapter 2.18, Historic Preservation. Section 14.16.200, Hillside Residential Development Standards, regulates building heights on hillsides. Section 14.16.227, Light and Glare, regulates the type of colors, materials, and lighting to avoid creating undue off-site light and glare impacts. New or amended building or site colors, materials, and lighting would be required to comply with the standards, subject to review and recommendation by the police department, public works department, and community development department, described in this section. Further requirements include discouraging use of reflective or glossy materials, and the shielding of light fixtures and minimization of foot-candle intensity to minimize impacts on adjacent development. Section 14.16.360, Wireless Communication

Facilities, includes standards to regulate the design and placement of towers, antennas, and other wireless communication transmission and/or reception facilities. Section 14.16.361, Small Wireless Facilities, sets standards, requirements, and procedures for the installation of small wireless facilities.

- Chapter 14.18, Parking. Section 14.18.160, Parking Lot Screening and Landscaping, regulates the type of landscaping and trees for parking lots. Section 14.18.170, Lighting, states that lights provided to illuminate any parking facility or paved area shall be designed to reflect away from residential use and motorists. It is the intent to maintain light standards in a low-profile design, as well as to be compatible to the architectural design and landscape plan. Light fixtures (e.g., pole and wall-mount) should be selected and spaced to minimize conflicts with tree placement and growth.
- Chapter 14.19, Signs. Section 14.19.101, Purpose, states that this chapter is intended to regulate the location, size, type, and number of signs that are permitted in the city. These regulations are in part intended to preserve the visual appearance of the city. Section 14.19.046, Sign Programs, illustrates the City's establishment of a sign program intended to create design standards and provisions to regulate signs used for larger complexes, commercial centers, or buildings with multiple tenants, to achieve aesthetic compatibility between all signs proposed in a project, and with signs on adjacent properties. These standards include design continuity that requires all signs be of a common design theme and placement, use common materials, colors, and illumination. Section 14.19.055, Illumination Standards, further restricts the type of signs that may be permitted. This section minimizes the allowance of signs illuminated by an artificial source so as to influence light and glare on adjacent properties. This section outlines specific design criteria and restrictions for these signs, including an outline of which types of illuminated signs are prohibited within the city.
- Chapter 14.25, Environmental and Design Review Permits. This chapter implements General Plan policies concerning the environment and design by guiding the location, functions, and appearance of development. The key environmental and design goal of the City is to respect and protect the natural environment and ensure that development is harmoniously integrated with the existing qualities of the city. The permits aim to maintain the balance between the natural and built environment, ensure development materials are compatible with the surrounding environment and promote design excellence, contribute to the attractiveness of the city, preserve neighborhood integrity, enhance views from public property, and protect the right for citizens to conduct residential structure modifications while reducing the impacts to the neighboring residences. Section 14.25.050, Design Review Criteria, specifically identifies the standards for site design in Section 14.25.050(E). Section 14.25.050(E)(1), Views, states that major views of the San Pablo Bay, wetlands, bay frontage, the Canal, Mount Tamalpais, and the hills should be preserved and enhanced from public streets and public vantage points. In addition, respect views of St. Raphael's Church up "A" Street. Section 14.25.050(E)(2), Site Features, requires the City to respect site features and recognize site constraints by minimizing grading, erosion, and removal of natural vegetation. Sensitive areas such as highly visible hillsides, steep, unstable or hazardous slopes, creeks and drainageways, and wildlife habitat should be preserved and respected.

San Rafael Design Guidelines

The City adopted the interim *San Rafael Design Guidelines* (Design Guidelines) for residential and non-residential structures to ensure the design of new buildings and additions are compatible with their

surroundings. The Design Guidelines reflect what the City considers to be desirable design and are applicable in all areas except those that are amended by subsequent plans. Design Guidelines specific to both residential and non-residential developments include, but are not limited to, building design, scale, building height, roof shapes, and lighting. Review of projects is conducted by City staff and the Design Review Board to evaluate the quality of project design. In addition, in 2017, the City commissioned an effort by local architects, Design Review Board, and Planning Commissioners to evaluate current design guidelines and other design-related policies to define the elements of good design for projects in Downtown as a way to provide guidance for decision makers and developers. This document is called *Good Design Guidelines for Downtown*.

The Historic and Architecturally Significant Buildings section of the Design Guidelines applies to development in the immediate vicinity of buildings designated by the City of San Rafael as being historically or architecturally significant resources. The list of resources is based on a September 1986 survey. Design Guidelines prescribed for historically or architecturally significant resources in, but are not limited to, pattern and scale, transition, horizontal lines, proportions, materials, differentiation between ground floor and upper floors, roof shapes, and views of the St. Raphael Church spire. The Design Guidelines specifically require a view evaluation for locations in the viewshed of the spire if a future development is over one story.

Hillside Design Guidelines Manual

The *Hillside Design Guidelines Manual*, adopted in October 1991, establishes an environmental and design review process for residential development proposed on hillsides to ensure new development is compatible with neighboring development and that new development would not have a physical or visual impact on the natural setting of the hillside. The *Hillside Design Guidelines Manual* outlines design guidelines that are intended to provide the foundation for the Hillside Residential and Hillside Resource Residential General Plan land use designation, as guidelines for the environmental and design review process, and as guidelines for development on hillsides that does not fall into a hillside land use designation. The design guidelines provided in the *Hillside Design Guidelines Manual* include, but are not limited to, maximum density, maximum building height, additional height limits, preserve mature trees, and preserve unique vegetation. The *Hillside Design Guidelines Manual* outlines guidelines for removal of significant trees, hillside grading and drainage, as well as architectural standards with specific criteria for use of materials and colors.

Conceptual Plans

Canalfront Conceptual Plan and Design Guidelines

The *San Rafael Canalfront Conceptual Plan* (Canalfront Conceptual Plan) and associated *San Rafael Canalfront Design Guidelines* (Canalfront Design Guidelines) are two separate documents, adopted in December 2009. The Canalfront Conceptual Plan recommends the City improve access to the water's edge, which includes providing clear and open views toward the open space of the San Rafael Canal. The Canalfront Design Guidelines provide an architectural framework for future development and redevelopment. The Canalfront Design Guidelines are split into two sections, one that applies design guidelines to the entire canalfront, and a second that applies design guidelines to specific subareas within

the canalfront. The Canalfront Design Guidelines include reference to the water's edge, building scale and mass, building character and articulation, architectural style and materials, among others.

North San Rafael Vision Promenade Conceptual Plan

The *North San Rafael Vision*, completed in 1997, summarizes the community-wide effort for the vision of north San Rafael. The *North San Rafael Vision Promenade Conceptual Plan* (Promenade Conceptual Plan), adopted in November 2002, expands on the *North San Rafael Vision* and includes recommendations for pedestrian and bicycle ways, promenade amenities, and unified promenade themes. The Promenade Conceptual Plan includes criteria and recommendations for architectural elements, signage, lighting, landscaping, and the protection of views applicable to future development in north San Rafael.

Station Area Plans

There are two Station Area Plans, each for the immediate area around the existing SMART (Sonoma-Marin Area Rail Transit) Stations; one adjacent to the Downtown Transit Center and one near the Marin County Civic Center.

Downtown Station Area Plan

The *Downtown Station Area Plan* (Downtown SAP), adopted June 2012, encompasses the area within 0.5 miles of the Downtown San Rafael SMART Station. The Downtown SAP seeks to foster development and site improvements that promote a strong sense of place, to serve as a gateway to downtown San Rafael. The Downtown SAP includes implementation actions for streetscape treatments, pedestrian amenities, artwork, public gathering spaces, restored natural features, and high-quality architecture and design. Downtown SAP Chapter 3, Land Use and Building Design, specifically discusses building design to ensure new development around the station is vibrant and attractive, and complimentary to the characteristics of the area.

Civic Center Station Area Plan

The *Civic Center Station Area Plan* (Civic Center SAP), adopted August 2012 and amended September 2013, establishes land uses and regulations that would enhance the desirable character of the area, ensuring future development does not disrupt the existing character. The Civic Center SAP includes street orientation, building scale and massing, building configuration, parking, setbacks, and ground-level uses.

Shoreline Plans

The *Shoreline Park Master Plan*, completed in September 1989, and the *Shoreline Enhancement Plan*, completed in August 1991, are intended to guide the development of the Shoreline Park, an area of approximately 27.5 acres of land between Pickleweed Park and Point San Quentin on the eastern boundary of the EIR Study Area. The Shoreline Park trail is dedicated for public access and has been undergoing various improvements since the adoption of the *Shoreline Park Master Plan* and the *Shoreline Enhancement Plan*. The *Shoreline Park Master Plan* includes design details and policies that are related to trail materials, fence materials, landscaping, signage, picnic tables, benches and other seating, bollards, trash receptacles, barbeques, and rip rap. The *Shoreline Enhancement Plan* serves as an implementation

document that outlines the quantity and cost of materials and labor to implement the *Shoreline Park Master Plan*.

4.1.1.2 EXISTING CONDITIONS

EIR Study Area

Visual Character

Scenic Resources

Key elements that contribute to the visual character of the EIR Study Area include ridgelines, hillsides, and the waters of the San Francisco Bay, which includes San Pablo Bay and San Rafael Bay. San Rafael is nestled between hilly terrain to the north, west, south, and east, as well as the waters of the San Pablo Bay and San Rafael Bay to the east. Defining ridgelines visible from many vantage points in the EIR Study Area include Big Rock Ridge to the north, Red Hill to the west, Mount Tamalpais to the southwest, and San Pedro Mountain to the east. Development in the EIR Study Area has generally occurred in natural valleys bounded by the hilly terrain. Most neighborhoods in the EIR Study Area are in valleys, providing unique short-, medium-, and long-range views. Additional views from within the EIR Study Area include the Richmond-San Rafael Bridge, which is visible from China Camp State Park, from various mountains and hillsides, and from hillside neighborhoods facing southeast. Some outdoor open space has unobstructed views of portions of the city of San Francisco, including from San Pedro Mountain and from China Camp State Park, among others.

Several water features define the EIR Study Area, particularly along the eastern edge. The San Pablo Bay and San Rafael Bay provide estuary habitats, as well as far-field views of water and western Contra Costa County, along the eastern edge of the EIR Study Area. Several creeks run through the valleys of the EIR Study Area. The Gallinas Creek in northeastern San Rafael splits into two forks, with the north fork running through the Terra Linda and Smith Ranch neighborhoods, and the south fork flowing through and underneath the San Rafael Meadows and Santa Venetia neighborhoods.

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 EIR Study Area. However, General Plan 2020 identifies the following natural and built resources as visually significant, to the extent they are visible from public streets, parks, and public pathways:

- Mountains and Hillsides. Scenic views from the EIR Study Area to short- and long-range ridgelines and hillside open space include those of Mount Tamalpais, San Rafael Hill, San Pedro Ridge and Big Rock Ridge.

- San Pablo Bay and San Rafael Bay and Bay Wetlands. Both the San Pablo Bay and San Rafael Bay are prominent natural features on the eastern edge of the EIR Study Area, providing wetlands, extensive wildlife habitat, and open space.
- Offshore islands. Several offshore islands serve as wildlife habitat and are visible from higher elevations and limited shoreline areas within the EIR Study Area.
- Mission San Rafael Arcangel. The bell tower of the Mission San Rafael Arcangel in the Downtown Precise Plan Area is visible from some downtown locations, from adjacent hillsides, and from limited portions of I-580 and US-101.
- Marin Civic Center. The Marin Civic Center, designed by renowned architect Frank Lloyd Wright, is a prominent historic structure.
- San Rafael Canal. The San Rafael Canal is a defining water feature to the east of the Downtown Precise Plan Area. Several marinas, walking paths, parks, homes, and businesses are adjacent to the canal.

Neighborhoods

In addition to natural and built scenic resources, the city of San Rafael is known for its varied neighborhoods, each with their own unique visual character. Every neighborhood in the EIR Study Area is unique in its character, design, and physical amenities, each contributing to the diversity and vitality of the community. Some neighborhoods have significant defining features, such as the Eichler homes in the Lucas Valley, Marinwood, and Terra Linda neighborhoods, while others are more generally defined by natural features, such as tree-lined streets and hilly terrain as in the Los Ranchitos, Sun Valley, Fairhills, Lincoln San Rafael Hill, Gerstle Park, Picnic Valley, Bret Harte, and California Park neighborhoods. Several neighborhoods are adjacent to large amounts of open space, such as the Lucas Valley, Marinwood, Smith Ranch, Terra Linda, Los Ranchitos, Santa Venetia, Glenwood, Peacock Gap, Loch Lomond, Bayside Acres, Country Club, Dominican Black Canyon, and Gerstle Park neighborhoods. Each of these neighborhoods are in areas of the EIR Study Area that possess natural environments that define the visual setting of the EIR Study Area.

Neighborhoods in the EIR Study Area can also be distinguished by their commercial areas and density. Low-density neighborhoods with diverse retail include the Terra Linda, North San Rafael Commercial Center, Smith Ranch, Rafael Meadows, Civic Center, Lincoln San Rafael Hills, West End, Downtown, Montecito Happy Valley, Francisco Boulevard West, and the Canal neighborhoods. Neighborhoods that contain higher-density multifamily units include Terra Linda, the eastern edge of the Civic Center, and the Lincoln San Rafael Hill, Downtown, and Canal neighborhoods. Large commercial retail development exists in the Terra Linda and North San Rafael Commercial Centers, and in southeast San Rafael.

Light and Glare

Light pollution refers to all forms of unwanted light in the night sky around and above developed urban areas, including glare, light trespass, sky glow, and over lighting. Views of the night sky are an important part of the natural environment. Excessive light and glare can also be visually disruptive to humans and nocturnal animal species, and often reflects an unnecessarily high level of energy consumption. Light

pollution has the potential to become an issue of increasing concern as new development contributes additional outdoor lighting installed for safety and other reasons.

The EIR Study Area includes several urbanized areas with a variety of residential, commercial, and public uses. Existing sources of light and glare in the EIR Study Area are similar to those that would be found in any urbanized area, and include streetlamps, parking lot lighting, storefront and signage lighting, car headlamps, and interior lighting visible through windows. Light pollution is primarily limited to urban areas of the EIR Study Area, which are largely surrounded by large areas of open space.

Transit Priority Areas

As described in Section 4.1.1.1, Regulatory Framework, of this chapter, the TPA surrounding the San Rafael Civic Center Smart Station and the portion of the TPA surrounding the Downtown San Rafael SMART Station outside the Downtown Precise Plan Area (see Figure 4-2 and Figure 4-4 in Chapter 4, Environmental Analysis) are areas where no significant aesthetic impact findings can be made in this or future environmental analysis, pursuant to SB 743.

Downtown Precise Plan Area

Visual Character

Scenic Resources

Key elements that contribute to the visual character of the Downtown Precise Plan Area are associated with its historic fabric, density and scale, walkability, and its aesthetically rich architecture and natural environment. The northern boundary of the Downtown Precise Plan Area is located on the southern base of the Lincoln San Rafael Hill, a physical barrier between the Downtown Precise Plan Area and north San Rafael, and a backdrop for the Mission San Rafael Arcangel. The primary long-range ridgeline visible from the Downtown Precise Plan Area is Mount Tamalpais to the south. Although there are some views of Mount Tamalpais from the Downtown Precise Plan Area, long-range views of the Mount Tamalpais ridgeline are often obstructed by existing development in some areas and are not holistically visible from all portions of the area. While views of Mount Tamalpais are prominent from higher-elevation streets that are on the border of the Downtown Precise Plan Area such as Mission Avenue, this area is within the TPA surrounding the Downtown San Rafael SMART Station where no significant aesthetic impact findings can be made in this environmental analysis, pursuant to SB 743.

Natural features that contribute to the visual character of the Downtown Precise Plan Area include San Rafael Creek, Irwin Creek, and the San Rafael Canal. The San Rafael Creek is fed by tributaries from San Pedro Mountain to the east and ridgelines to the west of the Downtown Precise Plan Area. The creek flows along the southern boundary of the Downtown Precise Plan Area from Albert Park eastward. San Rafael Creek drains into the San Francisco Bay through the San Rafael Canal. A second water feature, Irwin Creek, splits off the San Rafael Creek at the western end of the San Rafael Canal, and runs underneath US-101 in a combination of culverts and open-air ditches. Although Irwin Creek is a water resource in the Downtown Precise Plan Area, the high-traffic Hetherton thoroughfare to the west, parking lots on top of,

and miscellaneous development to the east of Irwin Creek means that this water resource does not contribute to the visual character of the Downtown Precise Plan Area to the extent that it might.

As discussed previously, General Plan 2020 identifies several specific natural and built resources that are considered visually significant when seen from public rights-of-way. Specific resources in the Downtown Precise Plan Area that are determined to be visually significant in General Plan 2020 include:

- Mission San Rafael Arcangel. The bell tower of the Mission in the Downtown Precise Plan Area is visible from some downtown locations, from adjacent hillsides, and from limited portions of I-580 and US-101.
- San Rafael Canal. The San Rafael Canal is a defining water feature to the east of the Downtown Precise Plan Area. Several marinas, walking paths, parks, homes, and businesses are adjacent to the canal.
- Mountains and Hillsides. Scenic views from the Downtown Precise Plan Area to short- and long-range views of ridgelines and hillside includes views of Mount Tamalpais.

Neighborhoods

General Plan 2020 recognizes the Downtown Precise Plan Area as one of the most culturally and visually significant neighborhoods in the city. Non-native American settlement in San Rafael's Downtown Core began with the establishment of the Mission San Rafael Arcangel in 1817. The area surrounding the Mission grew steadily, following a grid pattern, until the city's incorporation in 1874, which spurred accelerated growth and development in the Downtown Precise Plan Area. Thus, the Downtown Precise Plan Area is partially characterized by its eclectic historic structures. Refer to Chapter 4.5, Cultural and Tribal Cultural Resources, of this Draft EIR, for more information on the historic structures in the Downtown Precise Plan Area.

Downtown San Rafael is currently organized by seven distinct districts that each have their own neighborhood identities and are characterized as:

- The West End District located on the west boundary of the Downtown Precise Plan Area, is characterized by commercial and residential buildings 2- to 3-stories in height, with scattered single-family homes surrounding it.
- The Fifth/ Mission District is home to many commercial service businesses as well as civic properties such as City Hall and the San Rafael Public library. This District is generally characterized by 1- to 4-story buildings and includes the Mission San Rafael Archangel.
- The Fourth Street District is the commercial core of the Downtown Precise Plan Area, as well as a cultural and gathering location. This District has many unique architectural styles from various historic resources. Buildings heights in this District generally range between 2- to 5-stories in height; however, this District includes one building that is 9 to 10 stories in Courthouse Square.
- The Second/Third District encompasses the two major east-west thoroughfares in the Downtown Precise Plan Area which connects west Marin County to US-101. This District contains many single-story commercial retail buildings and is scattered with office and commercial residential mixed-use buildings ranging from 2- to 4-stories in height.

- The Lindaro District contains the San Rafael Corporate Center which consists of 3- and 5-story buildings, with some buildings being over 70 feet tall. Development surrounding the San Rafael Corporate Center is primarily one story in height.
- The Hetherton District is the primary north-south thoroughfare in the Downtown Precis Plan Area, starting in the north by the US-101 off-ramp and ending in the south at the US-101 south on-ramp. The Hetherton district is highly auto oriented and parallels the SMART rail line and station.
- The Montecito District, located on the east end of the Downtown Precise Plan Area, is characterized by commercial uses which range from 1- to 2-stories in height.

Light and Glare

The Downtown Precise Plan Area is designated as urban and built out with a variety of residential, commercial, and public uses. Existing sources of light and glare in the Downtown Precise Plan Area are similar to those that would be found in any urbanized area, and include streetlamps, parking lot lighting, storefront and signage lighting, car headlamps, and interior lighting visible through windows.

Transit Priority Area

As described in Section 4.1.1.1, Regulatory Framework, and shown on Figure 4-4 in Chapter 4, Environmental Analysis, of this Draft EIR, the TPA surrounding the Downtown San Rafael SMART Station is an area where no significant aesthetic impacts findings can be identified in this environmental analysis pursuant to SB 743. As described in Chapter 4, Environmental Analysis, of this Draft EIR, the TPA surrounding the Downtown San Rafael SMART Station includes 503 acres surrounding the San Rafael Transit Center. About 200 acres of the Downtown Precise Plan Area is within 0.25 miles, or within a 10-minute walking distance, of the San Rafael Transit Center. As shown on Figure 4-4, because the TPA only covers the Downtown Precise Plan Area from roughly D Street to the eastern border of the Downtown Precise Plan Area, aesthetic impacts are only considered for potential future development in the area west of D Street. These areas include the proposed West End Village sub-area and portions of the Downtown Core sub-area as proposed in the Downtown Precise Plan (see Figure 3-9 in Chapter 3, Project Description).

Under the existing General Plan 2020 and zoning, the maximum heights allowed in the western portion of this area, which under existing conditions includes portions of the West End District, the Fifth/Mission District, the Fourth Street District, and the Second/Third District, are 30, 36, and 42 feet. Views that are visible from public locations in the West End Village sub-area include medium-range views of the Mount Tamalpais ridgeline and San Rafael Hill.

Heights allowed in the Downtown Precise Plan Area that are not in the TPA surrounding the Downtown San Rafael SMART Station range from 36 to 42 feet. Views that are visible from public locations in this area include medium-range views of the Mount Tamalpais ridgeline.

4.1.2 STANDARDS OF SIGNIFICANCE

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 point). 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 Section 21071, Urbanized Area Definition, has several metrics by which a city be defined as an urban area. CEQA Section 21071(a)(2) states that a city can be classified as an urban area if the city has a population of less than 100,000 persons and if the population of that city, and not more than two contiguous incorporated cities combined, equals at least 100,000 persons. As described in Chapter 3, Project Description, of this Draft EIR, the population of the EIR Study Area (including unincorporated urbanized areas) is 75,751. Two contiguous cities, Larkspur to the south of the EIR Study Area with 12,253 residents, and San Anselmo to the west of the EIR Study Area with 12,757 residents, brings the total population of the three contiguous cities to 100,761. Therefore, San Rafael is considered an urban area under CEQA Guidelines Section 21071 and this impact discussion is based on the second half of the CEQA standard number three.

4.1.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to aesthetics. The evaluation of aesthetics and aesthetic impacts is highly subjective. It requires the application of a process that objectively identifies the visual features of the environment and their importance. Aesthetic description involves identifying existing visual character, including visual resources and scenic vistas unique to San Rafael (see Section 4.1.1.2, Environmental Setting). Changes to aesthetic resources due to implementation of the proposed project are identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewer's sensitivity. Project-related aesthetic impacts are determined using the threshold criteria discussed in Section 4.1.2, Standards of Significance.

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

General Plan 2040

Future development under the proposed General Plan 2040 would have the potential to affect scenic vistas and/or scenic corridors if new or intensified development blocked views of areas that provide or contribute to such visual resources. Potential effects could include blocking views of a scenic vista/corridor from specific publicly accessible vantage points or the alteration of the overall scenic vista/corridor itself. Such alterations could be positive or negative, depending on the characteristics of individual future developments and the subjective perception of observers.

Future development consistent with the proposed General Plan 2040 could potentially result in an adverse impact to a scenic vista or corridor. Future development would have the potential to affect scenic vistas and/or scenic corridors if new or intensified development blocked views of areas that provide or contribute to such vistas. Potential effects could include blocking views of a scenic vista/corridor from specific publicly accessible vantage points or the alteration of the overall scenic vista/corridor itself. Such alterations could be positive or negative, depending on the characteristics of individual future developments and the subjective perception of observers.

The proposed Community Design and Preservation (CDP) and Conservation and Climate Change (C) Elements 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 CDP-1: A Beautiful City. Preserve and strengthen San Rafael's natural and built features to enhance the appearance and livability of the city.

- Policy CDP-1.1: City Image. Reinforce San Rafael's image by respecting the city's natural features, protecting its historic resources, and strengthening its focal points, gateways, corridors, and neighborhoods.
- Policy CDP-1.2: Natural Features. Recognize and protect the key natural features that shape San Rafael's identity, including the Bay, local hills and ridgelines, creeks and wetlands, tree cover, and views of Mt. Tamalpais and other natural landmarks. Height limits and other building standards should respect San Rafael's natural topography and reinforce its sense of place, including the character and boundaries of individual neighborhoods.
- Policy CDP-1.3: Hillside Protection. Protect the visual integrity and character of San Rafael's hillsides and ridgelines.
  - Program CDP-1.3A: Hillside Design Guidelines. Continue to implement hillside design guidelines through the design review process, as well as larger lot size requirements where there are access limitations or natural hazards. Update the design guidelines as needed.
- Policy CDP-1.4: Waterfront Identity. Strengthen San Rafael's identity as a waterfront city, providing improved visual and physical access to San Pablo Bay, San Rafael Bay, and the San Rafael Canal.

- Program CDP-1.4A: Canalfront Design Plan. Implement the Canalfront Conceptual Design Plan (2009) recommendations. Development near the shoreline should maximize views to the water and public access to the shoreline.
- Program CDP-1.4B: Canal Promenade. Pursue development of a continuous pathway or promenade along the Canal waterfront.

- Policy CDP-1.5: Views. Respect and enhance to the greatest extent possible, views to the Bay and its islands; wetlands, marinas, and canal waterfront; hillsides and ridgelines; Mt. Tamalpais; Marin Civic Center; and St. Raphael's bell tower; as seen from streets, parks, and public pathways.
  - Program CDP-1.5A: Evaluating View Impacts. Consider the impact of proposed development on views, especially views of Mt Tamalpais and nearby ridgelines. Where feasible, new development should frame views of ridges and mountains and minimize reduction of views, privacy, and solar access.
  - Program CDP-1.5B: Guidance on View Protection. Establish clearer, more objective City guidelines and standards on view protection, privacy, and solar access for new development, additions, and alterations.
  - Program CDP-1.5C: Downtown Height Profile. Develop zoning and design tools that encourage both continuity and variation in building heights, along with improved solar access and interesting roof elements such as domes, cupolas, and corner towers. Views of Downtown should be accented by memorable building elements, rather than a flat profile of buildings of uniform height.

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.10: Hillside Preservation. Encourage preservation of hillsides, ridgelines, and other open areas that serve as habitat and erosion protection as well as visual backdrops to urban areas.
  - Program C-1.10A: Hillside Design Guidelines. Continue to implement Hillside Design Guidelines as well as management practices that promote ecological health, hazard reduction, and climate change mitigation.

In addition to the proposed General Plan 2040 goals, polices, and programs listed, as described in Chapter 3, Project Description, of this Draft EIR, the proposed Community Design and Preservation Element was reorganized as part of the proposed General Plan 2040 update and addresses five primary goals: a beautiful city, a sense of place, an improved public realm, quality construction and design, and protected cultural heritage. The policies emphasize protection of natural features, views, and the waterfront; improvements to gateways and corridors; and upgrades to plazas, public spaces, and streetscapes. This element also covers street trees, landscaping, and wayfinding signage more comprehensively than General Plan 2020 did. Furthermore, principles of good design have been incorporated.

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development under the proposed General Plan 2040 is expected to occur in existing urban 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 future development would have a lesser impact on scenic vistas. The proposed General Plan 2040 reinforces existing uses, heights, and densities in most locations, with allowances for greater intensity only in a limited number of locations that support the goal of a more sustainable, less auto-oriented city. Specifically, areas of concentrated

growth would occur in areas such as the North San Rafael PDA and San Rafael Civic Center SMART Station TPA. As described in Section 4.1.1.1., Regulatory Framework, under subheading "Senate Bill 743" and shown on Figure 4-2 in Chapter 4, Environmental Analysis, potential future development in the TPA surrounding the San Rafael Civic Center SMART Station would be exempt from aesthetics evaluation. Therefore, similar views would continue to be visible between elements of the built environment and over lower-intensity areas and no new impacts to views of the existing scenic resources described in Section 4.1.2.1, Existing Conditions, under subheading "Scenic Resource" would occur under the proposed General Plan 2040.

All potential future development that is subject to discretionary approval would be required to undergo environmental and design review prior to project approval pursuant to SRMC Chapter 14.25, Major Environmental and Design Review Permits, as necessary. SRMC Chapter 14.25 identifies three levels of environmental and design review that occur on varying intensities of development. The environmental and design review process serves to preserve and enhance views from other buildings and public property (see SRMC Section 14.25.010, Specific Purposes), thereby reducing 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 Section 4.1.1, Regulatory Framework. This includes the *San Rafael Design Guidelines*, the *Hillside Design Guidelines Manual, San Rafael Canalfront Conceptual Plan, San Rafael Canalfront Design Guidelines, Downtown Station Area Plan, Civic Center Station Area Plan, Shoreline Park Master Plan,* and the neighborhood-specific design policies meant to enhance and preserve the visual integrity of San Rafael's unique neighborhoods as new development is proposed.

As such, development and design review on the proposal of potential future development would limit the significant adverse impact that potential future development could have on a scenic vista or corridor. Compliance with SRMC Chapter 14.25, along with implementation of the proposed General Plan 2040 goals, policies, and programs, would ensure any impacts to scenic vistas and/or corridors would be *less-than-significant.*

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As described in Chapter 3, Project Description, of this Draft EIR, roughly half of the potential future development anticipated to occur throughout 2040 would occur in the Downtown Precise Plan Area, which is primarily built out. Therefore, potential future development 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 future development would have a lesser impact on scenic vistas.

As previously described in Section 4.1.1.1, Regulatory Framework, under subheading "Senate Bill 743" and shown on Figure 4-4 in Chapter 4, Environmental Analysis, the TPA surrounding the Downtown San Rafael SMART Station is an area where no significant aesthetic impact findings can be made in this environmental analysis or from potential future development pursuant to SB 743. Therefore, this discussion only addresses potential future development from roughly D Street to the western border of

the Downtown Precise Plan Area. This area includes the Downtown Precise Plan's West End Village sub-area and the western portion of the Downtown Core sub-area (see Figure 3-9 in Chapter 3, Project Description). The following discussion describes the potential for impacts to views of scenic resources from potential future development in these two sub-areas.

West End Village Sub-Area

As described in Section 4.1.1.2, Existing Conditions, the maximum heights allowed in the West End Village sub-area and pursuant to General Plan 2020 are up to 42 feet with up to two additional stories (i.e., 20 feet) when height bonuses are granted under certain conditions, for a total maximum height of 62 feet after a potential height bonus is granted. A 30-foot maximum height exists in the central portion of the West End Village sub-area, while the 42-foot height allowance lies above Fourth Street. The 36-foot height allowance is located on both the northern and southern edge of the West End Village sub-area. The 30-foot height limit generally maintains the small-scale character of the West End Village sub-area.

The West End Village sub-area is the only sub-area that is entirely outside of the boundary of the Downtown San Rafael SMART Station TPA. As shown on Figure 3-8 in Chapter 3, Project Description, of this Draft EIR, there are three maximum base heights in the West End Village sub-area: 30 feet, 40 feet, and 50 feet. As with the existing General Plan 2020, height bonuses can be granted under certain conditions which can potentially extend the maximum heights allowed in this sub-area. Figure 3-8 shows two tiers of height bonuses- Tier 1 which allows a height bonus of 10 feet in the northern and central portions of the West End Village sub-area, and Tier 2 which allows a height bonus of 20 feet in the eastern portion of the West End Village sub-area. Therefore, with potential height bonuses, the northern and southern portions of the sub-area have a maximum height allowance of 50 feet, the central portion has a maximum height allowance of 40 feet, and select properties in the eastern portion of the sub-area have a maximum height allowance of 70 feet. The central portion of the West End Village sub-area is currently zoned for Medium-Density Residential (MR 2.5) development and would remain as is and heights would not be modified (maximum of 40 feet after a height bonus is applied). Overall, the maximum height allowance in the West End Village sub-area would increase from 62 feet to 70 feet.

Views that are visible from public locations at street level in the West End Village sub-area include intermittent medium-range views of the Mount Tamalpais ridgeline and San Rafael Hill to the north. As described in Section 4.1.1.2, Existing Conditions, under subheading "Neighborhoods" in the Downtown Precise Plan Area, the areas currently identified as the West End District, the Fifth/Mission District, the Fourth Street District, and the Second/Third District, currently include a mix of buildings that range from 1 to 5 stories in height. Assuming an average of 10 feet per story, existing buildings range from 10 to 50 feet tall. Pedestrian-level views of the Mount Tamalpais ridgeline and San Rafael Hill from public viewing locations are currently obstructed due to the natural topography, existing mature trees, and existing buildings. While some views may exist through vacant or underutilized sites, existing regulations on such sites already permit buildings up to 42 feet in height with up to two stories or roughly 20 feet of additional height when height bonuses are granted. Because maximum building heights are currently permitted up to roughly 62 feet, the potential for new building heights to be permitted up to 70 feet in some portions of the West End Village sub-area would not create a greater obstruction of views of the Mount Tamalpais ridgeline or San Rafael Hill. Furthermore, as discussed in Section 4.1.1.2, Existing Conditions, there are no designated publicly accessible viewing locations for Mount Tamalpais or San Rafael Hill in the West End

Village sub-area. Additionally, as stated above, potential future development would be required to comply with the provisions of the Downtown Code requiring building stepbacks, as well as the proposed General Plan 2040 goals, policies, and programs and with the SRMC Chapter 14.25 provisions, which reduce impacts that potential future development could have on scenic views. Specifically, Section 14.25.050(E)(1), Views, states that major views of the Mount Tamalpais and the hills should be preserved and enhanced from public streets and public vantage points. Therefore, the increase in maximum height allowed in the West End Village sub-area as a result of implementation of the Downtown Precise Plan would be *less than significant*.

Downtown Core Sub-Area

There is a small portion of the Downtown Core sub-area that is not within the Downtown San Rafael SMART Station TPA, located from the east of E Street to slightly east of D Street. Like the West End Village sub-area described above, the maximum heights currently allowed in the area outside of the TPA in the Downtown Core sub-area are up to 42 feet with up to two additional stories (i.e., 20 feet) when height bonuses are granted under certain conditions. Heights up to 36 feet are currently allowed along the northern edge of this area and up to 42 feet in the core all the way to the southern edge. The proposed Downtown Code would allow heights up to 60 feet and up to 80 feet where height bonuses are granted under certain conditions. Therefore, the maximum height allowed in this area with height bonuses would increase from roughly 62 feet to 80 feet. As shown on Figure 3-8, the proposed 80-foot height maximum that is outside of the TPA is on select parcels only.

Views that are visible from public locations in the part of the Downtown Core sub-area that is outside of the TPA include similar intermittent medium-range views of the Mount Tamalpais ridgeline and San Rafael Hill. Like the description of the existing conditions in the West End Village sub-area, existing buildings include a mix of 1- to 5-story (10 to 50 feet tall) buildings and current regulations permit maximum heights of up to 62 feet when height bonuses are granted. Current views of Mount Tamalpais ridgeline and San Rafael Hill are likewise currently obstructed due to the natural topography, existing mature trees, and existing buildings. As potential future development in the West End Village, the potential for new building heights to be permitted up to 65 feet from 62 feet in some portions of this area would not create a greater obstruction of views of the Mount Tamalpais ridgeline or San Rafael Hill. Potential future development would be required to comply with the provisions of the Downtown Code requiring building stepbacks, as well as the proposed General Plan 2040 goals, policies, and programs and with the SRMC Chapter 14.25 provisions, specifically, Section 14.25.050(E)(1), Views, which states that major views of the Mount Tamalpais and the hills should be preserved and enhanced from public streets and public vantage points. Therefore, the increase in maximum height allowed in the part of the Downtown Core sub-area that is outside of the TPA as a result of implementation of the Downtown Precise Plan would be *less than significant*. Significance without Mitigation: Less than significant.

AES-2 Implementation of the proposed 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 Section 4.1.1.1, Regulatory Framework, there are no State-designated scenic highways within, or in the vicinity of, the EIR Study Area. Therefore, implementation of the proposed project would not damage existing scenic resources within a state scenic highway and *no impact* would occur.

Significance without Mitigation: No impact.

AES-3 Implementation of the proposed project in an urbanized area could conflict with applicable zoning and other regulations governing scenic quality.

General Plan 2040

As described in Impact Discussion AES-1, no impacts associated with State regulations governing designated State scenic highways would occur.

The proposed General Plan 2040 is the primary planning document for the city of San Rafael. The proposed update is intended to ensure consistency between the General Plan, Zoning Ordinance, and State law. 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 2020 and the Zoning Ordinance in the Downtown Precise Plan Area to improve consistency, adoption and implementation of the proposed General Plan would have no impact with respect to being inconsistent with policies or regulations governing scenic quality.

In addition to the goals, policies, and programs listed in Impact Discussion AES-1, the proposed Community Design and Preservation (CDP) Element contains goals, policies, and programs that require local planning and development decisions to consider impacts that development could have on existing visual character. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts on scenic quality:

Goal CDP-4: Quality Construction and Design. Encourage quality construction and design that enhances San Rafael's character and creates places of lasting value.

- Policy CDP-4.1: Design Guidelines and Standards. Use design guidelines and standards to strengthen the visual and functional qualities of San Rafael's neighborhoods, districts, and centers. Guidelines and standards should ensure that new construction, additions, and alterations are compatible with the surrounding neighborhoods while still allowing for innovative, affordable design.
  - Program CDP-4.1A: Design Guidelines. Maintain design guidelines for residential, non- residential, and mixed-use construction. Guidelines should define the elements of good design and encourage compatible building patterns, scale, mass, and transitions between areas. Design guidelines should be periodically updated to respond to construction trends, neighborhood feedback, and changes in the way people live, work, and travel.

- Policy CDP-4.3: Creative Architecture and Design. Encourage creative architecture while respecting the context of each site.
  - Program CDP-4.3A: Reinforcing Design Context. Ensure that design guidelines recognize the distinct characteristics of San Rafael neighborhoods. Guidelines should ensure that new development respects the character-defining elements of neighborhoods, including height, scale, materials, and setbacks.

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development under the proposed General Plan 2040 is expected to occur in existing urban 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. As described in Impact Discussion AES-1, all potential future development that is subject to discretionary approval would be required to undergo environmental and design review prior to project approval, as necessary. The development review process would rely on the goals, policies, and programs in the proposed General Plan 2040, ordinances in the SRMC, and additional regulations governing scenic quality that would be implemented at site-specific locations through the various plans the City has adopted and approved, as listed in Section 4.1.1.1, Regulatory Framework. These include the *San Rafael Design Guidelines*, the *Hillside Design Guidelines Manual, San Rafael Canalfront Conceptual Plan, San Rafael Canalfront Design Guidelines, Downtown Station Area Plan, Civic Center Station Area Plan, Shoreline Park Master Plan,* and the neighborhood-specific design policies meant to enhance and preserve the visual integrity of San Rafael's unique neighborhoods as new development is proposed. While development resulting from implementation of General Plan 2040 could potentially impact scenic quality in the EIR Study Area, such development would be required to adhere to the proposed goals, policies, and programs, with adopted zoning regulations, and with additional adopted plans; therefore, implementation of General Plan 2040 would not conflict with applicable zoning or other regulations governing scenic quality and the impact is *less than significant.*

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Same as the discussion for the proposed General Plan 2040, as described in Chapter 3, Project Description, of this Draft EIR, the proposed Downtown Code would amend SRMC Title 14, Zoning, and replace existing zoning regulations for all of the properties in the Downtown Precise Plan Area with the exception of a few parcels in the Latham Street area, which would retain their Multifamily Residential District ([Medium-Density] 2,500 square feet per dwelling unit [MR2.5]) zoning designation, and the existing open space zoning designations. Once adopted, should there be any conflict between the existing Zoning Ordinance and the Downtown Precise Plan, the Downtown Precise Plan shall prevail. Therefore, implementation of the Downtown Precise Plan would not conflict with applicable zoning or other regulations governing scenic quality and the impact is found to be *less than significant.*

Significance without Mitigation: Less than significant.

AES-4 Implementation of the proposed project could create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

General Plan 2040

Nighttime illumination and glare impacts are the effects of a development's exterior lighting upon adjoining uses and areas. Light and glare impacts are determined through a comparison of the existing light sources with the lighting plans or policies incorporated in development proposals.

Currently, the EIR Study Area contains many existing sources of nighttime illumination. These include street and parking area lights, security lighting, and exterior lighting on existing residential, commercial, and institutional buildings. Additional on-site light and glare is caused by surrounding land uses and traffic on US-101 and I-580.

As discussed under Impact Discussion AES-1, the goals, policies, and programs included in the proposed General Plan 2040 were determined not to cause an adverse physical change that could create aesthetic impacts in the EIR Study Area. Individual developments would continue to be subject to General Plan policies and SRMC provisions related to aesthetics, including potential project-level design review requirements.

Implementation of General Plan 2040 would result in potential future development, which would intensify related lighting sources. In addition to new building, security, and lighting for parking areas, buildout of the EIR Study Area would also include lighting that would illuminate future development locations. Because the proposed General Plan 2040 anticipates an increase in development throughout the EIR Study Area, its implementation would result in more development, which would introduce more exterior glazing (i.e., windows and doors) that could result in new sources of glare.

The proposed Community Design and Preservation (CDP) Element, the proposed Conservation and Climate Change (C) Element, and the proposed Community Services and Design Element contain goals, policies, and programs that require local planning and development decisions to consider impacts related to an increase in light and glare. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts as a result of new sources of light and glare:

Goal CDP-4: Quality Construction and Design. Encourage quality construction and design that enhances San Rafael's character and creates places of lasting value.

- Policy CDP-4.11: Lighting. Encourage lighting for safety and security while preventing excessive light spillover and glare. Lighting should complement building and landscape design.
  - Program CDP-4.11A: Lighting Plans. Continue to require lighting plans for projects proposing exterior lighting. The design review process should be used to evaluate lighting for safety, consistency with dark sky objectives, and potential mitigation to reduce negative impacts on nearby properties.

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.19: Light Pollution. Reduce light pollution and other adverse effects associated with night lighting from streets and urban uses.
  - Program C-1.19A: Dark Sky Ordinance. Adopt a dark sky ordinance, including lighting standards and enforcement provisions that reduce light pollution. In the interim, refer to guidelines from the International Dark Sky Association during the review of major projects involving night lighting.
  - Program CSI-4.7D: Street Lighting Program. Continue efforts to improve street lighting, staying mindful of the need to balance financial, public safety, and environmental objectives.

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 SRMC provisions that ensure new land uses do not generate excessive light levels. The City's General Plan goals, policies, and programs also require reducing light and glare spillover from future development to surrounding land uses by buffering or shading new development. Furthermore, future development would occur in existing urban 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 EIR Study Area or its surroundings and impacts relating to light and glare would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Same as the potential future development in the remainder of the EIR Study Area, the potential future development in the Downtown Precise Plan Area would also occur in existing urban 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. Potential future development would also be required to comply with the general best management practices that require lighting that is context sensitive in style and intensity pursuant to CALGreen.

Table 1.1.040.A, of the Downtown Precise Plan Downtown Code indicates that SRMC Sections 14.18.170 (Lighting), 14.16.227 (Light and Glare), and 14.19.055 (Illumination Standards) would not be replaced upon adoption of the Downtown Code and the existing regulations on light and glare would remain. Therefore, individual developments that occur as a result of implementation of the Downtown Precise Plan would be subject to General Plan policies and SRMC provisions related to lighting, including potential project-level design review requirements. As such, development that occurs as a result of implementation of the Downtown Precise Plan would not substantially increase nighttime light and glare within the Downtown Precise Plan Area or its surroundings and impacts relating to light and glare would be *less than significant*.

Significance without Mitigation: Less than significant.

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

As discussed in Chapter 4, Environmental Analysis, of this Draft EIR, the cumulative setting includes growth within the EIR Study 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 both the proposed General Plan 2040 and the Downtown Precise Plan, combined with effects of development on lands adjacent to the EIR Study 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, and programs or the Downtown Precise Plan, or the provisions stated in the SRMC.

Because of the developed nature of the projected areas of growth in San Rafael, future development under General Plan 2040 and the Downtown Precise Plan, in combination with other new development, would not negatively impact the visual character of the city or the surrounding communities. Furthermore, the proposed project would not constitute a significant adverse impact because new development and redevelopment within the EIR Study Area is anticipated to occur as growth occurs.

The proposed General Plan 2040 goals, policies, and programs listed in Impact Discussion AES-1 would not cause adverse physical changes that could create aesthetic impacts in San Rafael. Individual developments would continue to be subject to General Plan goals, policies, and programs and the SRMC provisions related to aesthetics, including potential project-level design review requirements. Additionally, as part of the approval process, potential new development as a result of implementation of the proposed project 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 San Rafael or the surrounding communities. Therefore, the proposed project would not result in a cumulatively considerable impact to aesthetic resources and cumulative impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

4.2 AGRICULTURE AND FORESTRY RESOURCES

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to agricultural and forestry resources. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 REGULATORY FRAMEWORK

State Regulations

Farmland Mapping and Monitoring Program

The California Natural Resources Agency is charged with restoring, protecting, and maintaining the State's natural, cultural, and historical resources. Within it, the State Department of Conservation provides technical services and information to promote informed land use decisions and sound management of the State's natural resources. The Department of Conservation manages the Farmland Mapping and Monitoring Program, which supports agriculture throughout California by developing maps and statistical data for analyzing land use impacts to farmland. Every two years, the Farmland Mapping and Monitoring Program publishes a field report for each county in the state. The most recent field report for Marin County was published in 2016. The Marin County Important Farmland 2016 categorizes land by agricultural production potential, according to the following classifications:[1]

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agriculture production at some time during the four years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland, but with minor shortcomings, such as steeper slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been farmed at some time during the four years prior to the mapping date.
- Farmland of Local Importance includes land that is not irrigated but is cultivated or has the potential for cultivation.
- Grazing Land is the land on which the existing vegetation is suited to the grazing of livestock.

[1] State of California Department of Conservation, Farmland Mapping and Monitoring Program, Marin County, https://www.conservation.ca.gov/dlrp/fmmp/Pages/Marin.aspx, accessed on August 15, 2019.

- Urban and Built-Up Land is occupied by structures with a building density of at least one unit per 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential structures, industrial structures, commercial structures, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment structures, and water control structures.
- Other Land is land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as "other" land.
- Water is used to describe perennial water bodies with an extent of at least 40 acres.

Williamson Act

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

Public Resources Code Section 12220(g)

This section of the Public Resources Code defines "forest land" for the purposes of CEQA. According to the Public Resources Code Section 12220(g), "forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water-quality, recreation, and other public benefits.

Government Code Section 51104

This section of the Government Codes defines "Timber," "Timberland," and "Timberland Production Zone" for the purposes of CEQA and "Timberland Preserve Zone," which may be used in city and county general plans.

- Timber means trees of any species maintained for eventual harvest for forest production purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock.
- Timberland means privately owned land, or land acquired for State forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.

- Timberland Production Zone or "TPZ" means an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "Timberland Preserve Zone" means "Timberland Production Zone."

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan does not include goals, policies, or programs relevant to agriculture or forestry resources as there are no such resources in the City of San Rafael Planning Area.

San Rafael Municipal Code

The San Rafael Municipal Code (SRMC) does not include specific regulations that pertain to minimizing impacts to agricultural or forestry resources. There are no zoning designations specific to either agriculture or forestry lands in the EIR Study Area. SRMC Section 14.13.030, Land Use Regulations, includes agriculture and cultivation of crops as a conditional use in the Wetland Overlay zone (-WO). However, the -WO zone does not outline specific provisions for the use of wetlands as agriculture and crop cultivation land. These uses are, however, included in the definition of the Open Space zone in SRMC Section 19.10.020 as follows: any parcel or area of land or water which is essentially unimproved natural landscape area, such as rivers, streams, watershed and shoreline lands, forest and agricultural lands, ridges, hilltops, canyons and other scenic areas, acquired and/or leased by the city for open space purposes.

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 San Rafael's city limit but within the EIR Study Area. The *Marin Countywide Plan* includes the following agricultural (AG) policies identified in the Natural Systems and Agriculture Element:

- AG-1.1 Limit Residential Use. Maintain agricultural production as the principal use on agricultural lands by limiting residential development to that which is reasonably related to agriculture.
- AG-1.2 Encourage Contractual Protection. Facilitate agricultural conservation easements, land and transfer of development rights between willing owners when used to preserve agricultural lands and resources.
- AG-1.4 Limit Non-Agricultural Zoning. Apply non-agricultural zoning only in areas where conflict with agricultural uses will be minimized, and ensure that development standards preserve and enhance nearby agricultural uses.
- AG-1.5 Restrict Subdivision of Agricultural Lands Within the Coastal, Inland Rural, and Bayland Corridors. Require that the subdivision of agricultural lands shall only be allowed upon demonstration that long-term productivity on each parcel created would be enhanced as a result of subdivision. In the City-Centered Corridor, subdivision on agricultural lands shall only be allowed upon demonstration that the overall agricultural productivity of the subdivided parcels would not be reduced as a result of the subdivision. In considering subdivisions in all corridors, the County may

approve fewer parcels than the maximum number of parcels allowed by applicable Countywide Plan land use designation and by the Development Code, based on site characteristics such as topography, soil, water availability, and the capacity to sustain viable agricultural operations.

- AG-1.6 Limit Non-Agricultural Development. Limit non-agricultural development in the Agricultural Production Zone to allowed residential and accessory uses ancillary to compatible with agricultural production. Require dwellings and other non-agricultural development to be limited in size and grouped together in building envelopes covering no more than 5 percent of the property or as determined through a site-specific analysis of agricultural and environmental constraints and resources, with the remainder preserved for agricultural production. Residential and non-agricultural development on very large parcels may be limited to less than five percent of the land area.
- AG-1.7 Limit Ancillary Non-Agricultural Land Uses. Require non-agricultural lands to be ancillary to and compatible with agricultural land uses, agricultural production, and the rural character of the area, and to enhance the economic viability of agricultural operations.
- AG-1.8 Maintain the Agricultural Land Base. Encourage private and public owners of lands that have traditionally been used for agriculture to keep land in agricultural use by continuing existing agricultural uses, developing compatible new agricultural uses, and/or leasing lands to agricultural operators.
- AG-1.9 Continue Agricultural Uses on Federal Land. Encourage continuation of agricultural operations and uses in the pastoral zones of the Point Reyes National Seashore and the Golden Gate National Recreation Area through long-term tenure agreements (leases) with agricultural operators.
- AG-1.10 Protect Productive Agricultural Soils. Discourage or prohibit non-agricultural buildings, impermeable surfaces, or other non-agricultural uses on soils classified by the Natural Resources Conservation Service as Prime Farmland soils or Farmland soils of Statewide Importance.
- AG-1.11 Preserve Rangeland Forage. Discourage the conversion of rangeland to non-agricultural uses.
- AG-1.12 Support Sustainable Water Supplies. Explore opportunities to provide sustainable water supplies, such as water conservation, collection, treatment, and reuse, to support small-scale agricultural diversification in a manner that does not adversely affect aquatic or other resources.
- AG-1.13 Protect Water Quality to Keep Mariculture Viable. Protect and enhance the quality of waters used for mariculture through cooperation with other stakeholders, and outreach and education.

4.2.1.2 EXISTING CONDITIONS

The EIR Study Area includes lands identified as Farmland of Local Importance and Grazing Land as defined by the California Department of Conservation (CDC). Farmland of Local Importance includes land which is not irrigated, but is cultivated or has the potential for cultivation. The CDC has designated approximately 2,000 acres of land as agricultural in the EIR Study Area, specifically used as grazing. Grazing Land is land defined by the CDC as having vegetation suitable to the grazing of livestock. This agricultural land is in the EIR Study Area north of the San Rafael city limits and west of US-101 along Lucas Valley Road, as well as on privately owned land in the China Camp State Park area in the eastern portion of the EIR Study Area. Grazing Land is protected through the Lucas Valley Preserve, which is operated by the Marin County Parks District[2] and the Lucas Valley Homeowners Association.[3] The Downtown Precise Plan Area is classified by

[2] Lucas Valley Preserve, Marin County Parks, 2019, https://www.marincountyparks.org/parkspreserves/preserves/lucas-valley, accessed on August 15, 2019.

the California Department of Conservation as Urban and Built-Up land and therefore there are no lands designated as agriculture or agriculture-related use. There are no lands under a Williamson Contract agricultural easement,[4] nor are there any forestlands designated for timber production or preservation in the EIR Study Area.[5]

4.2.2 STANDARDS OF SIGNIFICANCE

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

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
3. Conflict with existing zoning for, or cause rezoning of, forestland (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)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.
6. Result in significant cumulative impacts to agricultural and forestry resources.

4.2.3 IMPACT DISCUSSION

AGF-1	**Implementation of the proposed project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.**

General Plan 2040

There are no lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the EIR Study Area. Per the Marin County Important Farmland Map, land within the EIR Study Area is primarily classified as Urban and Built-Up Land, with some grazing land to the northwest of

[3] Lucas Valley Homeowners Association, Covenants, Conditions, and Restrictions (CC&R), Common Area 13, 2002, http://www.lvha.org/, accessed on August 15, 2019.

[4] California Department of Conservation, Division of Land Resource Protection, 2016, Marin County Williamson Act FY 2015/2016.

[5] California Department of Conservation, Division of Land Resource Protection, 2016, Marin County Williamson Act FY 2015/2016.

and some Farmland of Local Importance to the northeast and southeast.[6] Additionally, no land use changes are proposed that would result in conversion of land used for grazing or land designated Farmland of Local Importance within the vicinity of the EIR Study Area. Further, the proposed Land Use (LU) Element includes Policy LU-1.5, Development Beyond the Urban Service Area, would retain areas outside of San Rafael's Urban Service Area, but within the Planning Area, as agricultural or open space uses. As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development in the EIR Study Area would occur in existing urban 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 residential and residential-serving development. Therefore, implementation of General Plan 2040 would have *no impact* on conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.

Significance without Mitigation: No impact.

Downtown Precise Plan

Like potential future development in the remainder of the EIR Study Area, potential future development in the Downtown Precise Plan Area would occur in existing urban 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 residential and residential-serving development. Therefore, implementation of the Downtown Precise Plan would have *no impact* regarding the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.

Significance without Mitigation: No impact.

AGF-2 Implementation of the proposed project could conflict with existing zoning for agricultural use or with a Williamson Act contract.

General Plan 2040

Title 19 of the SRMC defines the Open Space designation as an open space area, such as a parcel or area of land, which can include forest and agricultural lands. Additionally, the Wetland Overlay Zone includes agriculture and cultivation of crops as a conditional use. However, there is no zoning designation within the SRMC specific to agriculture or that governs use of lands solely for agricultural purposes. Implementation of the proposed project would not include changing of zoning on any lands designated as Open Space or which have a Wetland Overlay. Furthermore, lands within the county of Marin that are protected under a Williamson Act contract are located outside the EIR Study Area. Therefore, implementation of General Plan 2040 would have *no impact* to lands zoned for agricultural use or under a Williamson Act contract.

Significance without Mitigation: No impact.

[6] State of California, 2016, Farmland Mapping and Monitoring Program, Marin County Important Farmland.

Downtown Precise Plan

There are no lands in or adjacent to the Downtown Precise Plan Area that are zoned for agricultural use or protected under a Williamson Act contract. Therefore, same as potential future development in the remainder of the EIR Study Area, potential future development in the Downtown Precise Plan Area would have a *no impact* to lands zoned for agricultural use or under a Williamson Act contract.

Significance without Mitigation: No impact.

AGF-3	**Implementation of the proposed project could conflict with existing zoning for, or cause rezoning of, forestland (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)).**

General Plan 2040

There are no lands within or adjacent to the EIR Study Area designated as forestland or timberland, nor are there any lands zoned timberland production. There are lands in the EIR Study Area that contain Oak Woodland and Oak/Bay Woodland in China Camp State Park, as well as on lands to the west and adjacent to the EIR Study Area. However, potential future development from implementation of General Plan 2040 would occur in existing urban 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. Implementation of General Plan 2040 would not include any land use changes to any naturally preserved lands within or adjacent to the EIR Study Area. Therefore, implementation of General Plan 2040 would have *no impact* on forestland, timberland, or land zoned for timberland production.

Significance without Mitigation: No impact.

Downtown Precise Plan

The Downtown Precise Plan Area is within the same setting described above, therefore, like the remainder of the EIR Study Area, potential future development in the Downtown Precise Plan Area would have *no impact* on forestland, timberland, or land zoned timberland production.

Significance without Mitigation: No impact.

AGF-4	**Implementation of the proposed project could result in the loss of forest land or conversion of forest land to non-forest use.**

General Plan 2040

As stated in Impact Discussion AGF-3, there are no lands within or adjacent to the EIR Study Area designated as forestland. Further, potential future development would occur in existing urban 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 residential and residential serving development and would not result in the loss of forest land or conversion of forest land to non-forest uses. Therefore, no loss or conversion of forest land to non-forest uses would occur, and implementation of the General Plan 2040 would have *no impact.*

Significance without Mitigation: No impact.

Downtown Precise Plan

As stated above, there are no lands within or adjacent to the EIR Study Area designated as forestland, thus same as potential future development in the remainder of the EIR Study Area, potential future development in the Downtown Precise Plan Area would not result in the loss of forestland, and *no impact* would occur.

Significance without Mitigation: No impact.

AGF-5	**Implementation of the proposed project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.**

General Plan 2040

As discussed in Chapter 3, Project Description, of this Draft EIR, proposed land use changes are concentrated in urbanized locations of the EIR Study Area and other developed sites. Implementation of General Plan 2040 would not result in converting any land that is currently open space, farmland, or forestland to an urban use. Therefore, implementation of General Plan 2040 would have a *no impact* regarding the conversion of farmland or timberland of any type to a nonagricultural or non-forestry use.

Significance without Mitigation: No impact.

Downtown Precise Plan

Same as land use changes in the remainder of the EIR Study Area under General Plan 2040, the proposed land use changes in the Downtown Precise Plan Area are concentrated in urbanized locations and other developed sites. Implementation of the Downtown Precise Plan would not result in converting any land that is currently open space, farmland, or forestland to an urban use. Therefore, implementation of the Downtown Precise Plan would have a *no impact* to agricultural and forestry resources.

Significance without Mitigation: No impact.

AGF-6 Implementation of the proposed project could result in a cumulatively considerable impact to agricultural or forestry resources.

As discussed in Chapter 4, Environmental Analysis of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected growth in the rest of Marin County and the surrounding region, as forecast by the *Plan Bay Area* 2040. The geographic scope of the cumulative analysis for agricultural and forestry resources considers the surrounding incorporated and unincorporated lands, as well as the state.

Cumulative impacts would occur when a series of actions leads to a loss of agricultural or forestry resources that are of statewide importance, which occurs when agricultural or forest lands are converted to nonagricultural and non-forest uses. This typically occurs in newly urbanized areas where development encroaches on agricultural or forested areas through general plan land use and zoning amendments, leading to the long-term conversion of agricultural or forested lands.

According to the California Department of Food and Agriculture, if current development trends continue, 1.3 million acres of California agricultural land, including 670,000 acres of prime, unique and statewide important farmland, will be developed by 2050.[7] The California Department of Forestry and Fire Protection (CAL FIRE) enforces the laws that regulate logging on privately owned lands in California. The Forest Practice Act was enacted in 1973 to ensure that logging is done in a manner that will preserve and protect our fish, wildlife, forests and streams. According to CAL FIRE, there has been a major decline in timber harvesting that has resulted in a 72 percent decrease in volume since 1955 and generally, the volume of timber harvested has declined steadily from a high in 1988.[8]

As discussed in Impact Discussion AGF-1 through AGF-5 above, implementation of the proposed project would not result in the conversion of land from agricultural or forestry resources to land designated for development. Future development is expected to occur in existing urban 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 residential and residential-serving development, and does not include any lands with uses designated for agricultural or forestry purposes. Therefore, the proposed project would not result in a cumulatively considerable impact to agricultural and forestry resources and no cumulative impact would occur.

Significance without Mitigation: No impact.

[7] California Department of Food and Agriculture, https://www.cdfa.ca.gov/agvision/docs/Agricultural_Loss_and_Conservation.pdf.

[8] California Department of Forestry and Fire Protection, Annual Report 2019, page 16.

AGRICULTURE AND FORESTRY RESOURCES

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4.3 AIR QUALITY

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to air quality. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project. Greenhouse gas (GHG) emissions impacts are addressed in Chapter 4.8, Greenhouse Gas Emissions, of this Draft Environmental Impact Report (EIR).

The evaluation in this chapter is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. In this chapter "emissions" refers to the actual quantity of pollutant, measured in pounds per day (lbs/day) and "concentrations" refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).

The analysis in this chapter is based on buildout of the proposed General Plan 2040, which includes the buildout of the Downtown Precise Plan Area. The proposed buildout is modeled using the California Air Resources Board's (CARB) 2017 Emissions Factor Model (EMFAC2017); the Off-Road Emissions Factor Model (OFFROAD2017); natural gas use provided by Pacific Gas and Electric (PG&E) compiled for the City's recent GHG emissions inventory; and trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers. Trip generation is available as Appendix I, Transportation Data, and VMT calculation are in Chapter 4.16, Transportation, of this Draft EIR. The criteria air pollutant emissions modeling is included in Appendix D, Air Quality and Greenhouse Gas Emissions Data, of this Draft EIR.

4.3.1 ENVIRONMENTAL SETTING

4.3.1.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law under the federal Clean Air Act ("National") and California Clean Air Act, respectively. The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from a specific source; secondary air pollutants occur through chemical reactions. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Each of the primary and secondary criteria air pollutants and its known health effects are described next, and Table 4.3-1 summarizes the potential health effects associated with the criteria air pollutants.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.[1]
- **Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, the BAAQMD has established a significance threshold for this pollutant.
- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major components of NO_x are nitric oxide (NO) and NO_2. The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.[5] NO_2 acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).
- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When SO_2 forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.[2]
- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. In the San Francisco Bay Area Air Basin (SFBAAB), most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities,

[1] Bay Area Air Quality Management District, 2017, Revised. *California Environmental Quality Act Air Quality Guidelines*.
[2] Bay Area Air Quality Management District, 2017, Revised. *California Environmental Quality Act Air Quality Guidelines*.

and motor vehicles. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch). Diesel particulate matter (DPM) is also classified a carcinogen by the Air Resources Board.

Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The United States Environmental Protection Agency (USEPA) scientific review concluded that $PM_{2.5}$ penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM_{10} standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates.[7]

- **Ozone (O_3)** is commonly referred to as "smog" and is a gas that is formed when ROGs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O_3 levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics.[3]
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Because emissions of lead are found only in projects that are permitted by the BAAQMD, lead is not an air quality of concern for the proposed project.

[3] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on March 12, 2019.

TABLE 4.3-1 CRITERIA AIR POLLUTANT HEALTH EFFECTS SUMMARY

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

Sources: California Air Resources Board. 2009, December 2. ARB Fact Sheet: Air Pollution and Health. Accessed on February 21, 2019. https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm; South Coast Air Quality Management District. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf

Toxic Air Contaminants

The California Health and Safety Code defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code Section 7412[b]) is a toxic air contaminant. People exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems.[4] At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[5] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control measures. The majority of the estimated health risks from TACs can be attributed to relatively few compounds. The most important compounds are particulate matter from diesel-fueled engines.

[4] United States Environmental Protection Agency. 2019. Health and Environmental Effects of Hazardous Air Pollutants. https://www.epa.gov/haps/health-and-environmental-effects-hazardous-air-pollutants

[5] California Air Resources Board, 1999. Final Staff Report: Update to the Toxic Air Contaminant List.

In 1998, CARB identified Diesel Particulate Matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. According to the BAAQMD, PM emitted from diesel engines contributes to more than 85 percent of the cancer risk in the SFBAAB. Cancer risk from TACs is highest near major DPM sources.[6]

4.3.1.2 REGULATORY FRAMEWORK

Federal, State, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the city is subject to the rules and regulations imposed by the USEPA, CARB, the California Environmental Protection Agency (CalEPA), and BAAQMD. The regulatory framework that is potentially applicable to the proposed project is also summarized below.

Federal and State Regulations

AAQS have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and State governments regulate the release of TACs. San Rafael is in the SFBAAB and is subject to the rules and regulations imposed by the BAAQMD, the national AAQS adopted by the USEPA, and the California AAQS adopted by CARB. Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Ambient Air Quality Standards

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

Both California and the federal government have established health based AAQS for seven air pollutants, which are shown in Table 4.3-2. These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are

[6] Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013), April.

observed. California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:[7]

- Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards
- Heavy-Duty (Tractor-Trailer) GHG Regulation.
- SB 1078 and SB 107: Renewables Portfolio Standards.
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

TABLE 4.3-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard [a]	Federal Primary Standard [b]	Major Pollutant Sources
Ozone (O_3) [c]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$) [d]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	

[7] See Chapter 4.8, Greenhouse Gas Emissions, of this Draft EIR for a description of regulations that reduce emissions including Assembly Bill 32, also known as the Global Warming Solutions Act, Senate Bill 375, also known as the Sustainable Communities and Climate Protection Act. See Chapter 4.16, Transportation, for a description on Senate Bill 743, and how it relates to reducing vehicle miles traveled or "VMT".

TABLE 4.3-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard [a]	Federal Primary Standard [b]	Major Pollutant Sources
	Calendar Quarter	*	1.5 µg/m^3	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4) [e]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter; *Standard has not been established for this pollutant/duration by this entity.
[a] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[b] National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
[c] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[d] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
[e] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
Source: California Air Resources Board, 2017, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed on October 24, 2018.

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

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and reduce exposure to these contaminants to protect public health. A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code Section 7412[b]) is a toxic air contaminant. Under State law, CalEPA, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

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

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities[8] are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

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

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Regional Regulations

Bay Area Air Quality Management District

The BAAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the SFBAAB. Air quality conditions in the SFBAAB have improved significantly since the

[8] Each district is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In the Bay Area, facilities that generate a cancer risk of greater or equal to 10 in a million and a non-cancer chronic or acute risk greater or equal to 10 in a million are high priority facilities. Types of facilities that have the potential to generate risks of this level include refineries, other heavy industrial manufacturing/industrial processes, and fueling stations.

BAAQMD was created in 1955.[9] The BAAQMD prepares air quality management plans (AQMP) to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans for the National O_3 standard and clean air plans for the California O_3 standard. The BAAQMD prepares these air quality management plans in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) to ensure consistent assumptions about regional growth.

2017 Clean Air Plan

The BAAQMD adopted the 2017 *Clean Air Plan, Spare the Air, Cool the Climate* (2017 Clean Air Plan) on April 19, 2017, making it the most recent adopted comprehensive plan. The 2017 Clean Air Plan incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2017 Clean Air Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues to provide the framework for SFBAAB to achieve attainment of the California and National AAQS. The 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California Clean Air Act. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent between 2015 and 2020. Furthermore 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 that encompasses the following: [10]

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

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

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Increase efficiency of the energy and transportation systems.
- Reduce demand for vehicle travel and high-carbon goods and services.

[9] Bay Area Air Quality Management District, 2010 (Revised 2017), Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[10] Bay Area Air Quality Management District, 2017, April 19, Final 2017 *Clean Air Plan*, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area, http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans, accessed on March 18, 2019.

- Decarbonize the energy system.
- Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

Community Air Risk Evaluation Program

The BAAQMD Community Air Risk Evaluation program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area, primarily DPM. The last update to this program was conducted in 2014. Based on findings of the 2014 report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant cancer risks: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk–weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). Overall, cancer risk from TACs dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions.[11]

The major contributor to acute and chronic noncancer health effects in the SFBAAB is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.[12] Currently CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.[13]

Assembly Bill 617 Community Action Plans

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

On September 27, 2018, CARB approved BAAQMD's recommended communities for monitoring and emission-reduction planning. The State approved communities for year 1 of the program as well as

[11] Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program Retrospective & Path Forward (2004 – 2013), http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx, accessed on March 12, 2019.

[12] Bay Area Air Quality Management District, 2006, Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area, https://www.baaqmd.gov/~/media/files/planning-and-research/care-program/care_p1_findings_recommendations_v2.pdf, accessed on March 12, 2019.

[13] Bay Area Air Quality Management District, 2010, Air Toxics NSR Program, Health Risk Screening Analysis Guidelines. http://www.baaqmd.gov/~/media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, accessed on March 12, 2019.

communities that would move forward over the next five years. Bay Area recommendations included all the Community Air Risk Evaluation areas as well as areas with large sources of air pollution (refineries, seaports, airports, etc.), areas identified via statewide screening tools as having pollution and/or health burden vulnerability, and areas with low life expectancy.[14]

- Year 1 Communities:
  - West Oakland. The West Oakland community was selected for BAAQMD's first Community Action Plan. In 2017, cancer risk from sources in West Oakland (local sources) was 204 in a million. The primary sources of air pollution in West Oakland include heavy trucks and cars, port and rail sources, large industries, and, to a lesser extent, other sources such as residential sources (i.e., wood burning). The majority (over 90 percent) of cancer risk is from $DPM_{2.5}$.[15]
  - Richmond. Richmond was selected for a community monitoring plan in year 1 of the AB 617 program. The Richmond area is in western Contra Costa County and includes most of the City of Richmond and portions of El Cerrito. It also includes communities just north and east of Richmond, such as San Pablo and several unincorporated communities, including North Richmond. The primary goals of the Richmond monitoring effort are to leverage historical and current monitoring studies, to better characterize the area's mix of sources, and to more fully understand the associated air quality and pollution impact.[16]
- Year 2 to 5 Communities: East Oakland/San Leandro, Eastern San Francisco, the Pittsburg-Bay Point area, San Jose, Tri-Valley, and Vallejo are slated for action in years 2 to 5 of the AB 617 program.[17]

As identified above, AB 617 is not directly applicable to San Rafael since BAAQMD has not currently designated the City of San Rafael or communities within the City as disproportionally impacted by air pollution in either the Year 1 or Year 2-to-5 communities.

Air District Rules and Regulations

Regulation 7, Odorous Substances

Sources of objectionable odors may occur within the city. The BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under the BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business

[14] BAAQMD. 2019, April 16. San Francisco Bay Area Community Health Protection Program. https://www.baaqmd.gov/~/media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en

[15] BAAQMD. 2019, October 2. West Oakland Community Action Plan. https://www.baaqmd.gov/community-health/community-health-protection-program/west-oakland-community-action-plan

[16] BAAQMD. 2019, April 16. San Francisco Bay Area Community Health Protection Program. https://www.baaqmd.gov/~/media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en

[17] BAAQMD. 2019, April 16. San Francisco Bay Area Community Health Protection Program. https://www.baaqmd.gov/~/media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en

or property." Under the BAAQMD 's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other Air District Regulations

In addition to the plans and programs described above, the BAAQMD administers several specific regulations on various sources of pollutant emissions that would apply to potential future development constructed over the buildout of the proposed General Plan 2040 and Downtown Precise Plan, including:

- Regulation 2, Rule 2, New Source Review
- Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- Regulation 6, Rule 1, General Requirements
- Regulation 6, Rule 2, Commercial Cooking Equipment
- Regulation 8, Rule 3, Architectural Coatings
- Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- Regulation 8, Rule 7, Gasoline Dispensing Facilities
- Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)
- Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities

Transportation Authority of Marin

The Transportation Authority of Marin (TAM) is the congestion management agency for Marin County. TAM is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision making and air quality plans. TAM's latest congestion management program (CMP) is the Marin County Congestion Management Program 2017 Update. TAM's countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, TAM's updated CMP includes multimodal performance standards and trip reduction and transportation demand management strategies consistent with the goal of reducing regional VMT in accordance with Senate Bill 375 (SB 375). Strategies identified in the 2013 CMP for Marin County, where local jurisdictions are responsible agencies, include:

- Designated Roadway System. Establish and maintain the designated CMP roadway system that allows performance monitoring in terms of established level-of-service LOS standards.
- Roadway System Level of Service. Establish level-of-service standards using the Transportation Research Board's Highway Capacity Manual or an accepted alternative.
- System Performance. Establish performance measures to evaluate current and future multimodal system performance for the movement of people and goods.
- Travel Demand Management. Promote alternative transportation methods to reduce traffic congestion, increase use of park-and-ride lots, improvements in the balance between jobs and housing, and other strategies for reducing vehicle trips, including flexible work hours, telecommuting, and parking management programs.

- Land Use Analysis. Analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system (both highways and transit).
- Travel Demand Model. Develop a uniform database on traffic impacts for use in a countywide travel demand.
- Capital Improvement Program. Include a seven-year Capital Improvement Program to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land Use Analysis Program.
- Deficiency Plan Procedures. Determine every two years whether Marin County and cities and towns within the county conform to the requirements of the CMP based on information obtained through monitoring.

Plan Bay Area 2040

As described in Chapter 4, Environmental Evaluation, of this Draft EIR, ABAG and 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 (RTP/SCS), known as *Plan Bay Area*. The 2040 update to *Plan Bay Area* was adopted jointly by the ABAG and MTC on July 26, 2017. *Plan Bay Area* incorporates the region's SCS, which is required pursuant to SB 375 to reduce per capita VMT and associated GHG emissions. As part of the implementing framework for *Plan Bay Area*, local governments have identified Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. TPAs are half-mile buffers surrounding major transit stops or terminals. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated within PDAs. As shown on Figure 4-1, in Chapter 4.0, Environmental Evaluation, the EIR Study Area has three PDAs and three TPAs.[18]

Local Regulations[19]

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs that are relevant to the protection of air quality are primarily in the Air and Water Quality Element, which cross-references the Circulation Element. As part of the proposed project, some existing General Plan goals, policies, and programs would be amended, substantially changed, or new policies would be added. A comprehensive list of goal, policy, and program 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

[18] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Final, http://2040.planbayarea.org/, accessed on March 12, 2019.

[19] The current San Rafael Climate Change Action Plan (2019 CCAP) was approved and adopted by the City on May 20, 2019. While the 2019 CCAP includes measures that reduce emissions, the 2019 CCPC is not directly applicable to criteria air pollutants and air toxics (i.e., the focus of the air quality analysis). Please see Chapter 4.8, Greenhouse Gas Emissions, of this Draft EIR, for a discussion on how the 2019 CCAP relates to reduced emissions.

and potential to result in an adverse physical impact later in this chapter under Section 4.3.3, impact discussion.

San Rafael Municipal Code

The San Rafael Municipal Code (SRMC) includes various directives to minimize adverse impacts to air quality. The SRMC is organized by title, chapter, and section. Most provisions related to air quality impacts are included in Title 5, Traffic Regulations, Title 9, Health and Sanitation, Title 10, Business, Professions, Occupations, Industries, and Trades, Title 12, Building Regulations, and Title 14, Zoning, as follows

- Chapter 5.81, Trip Reduction and Travel Demand Requirements. Requires the City to implement a trip reduction and travel demand ordinance (Ord. 1657 Section 1 (part), 1994).
- Chapter 9.19, Refuse and Recycling Materials Collection and Disposal. The burning of solid waste is prohibited without a permit from the City and government body or agency responsible for fire protection, air pollution, or public health and safety.
- Chapter 10.92, Prohibits Polystyrene Foam Disposal Food Packaging. Retail food vendors are prohibited from providing prepared food or take-out food to customers in, on, or with disposable food packaging that includes polystyrene foam.
- Chapter 12.345, Wood-Burning Appliances. Prohibits non-EPA Phase II-certified wood heaters or wood-burning fireplaces to be installed in new construction, additions, or remodels of any size. The conversion of a gas fireplace to a wood-burning fireplace is prohibited.
- Chapter 14.16, Site and Use Regulations. Section 14.16.305, Small Wind Energy Systems, establishes standards to regulate the design and placement of small wind energy systems on public and private property to minimize the potential safety and aesthetic impacts on neighboring property owners and the community. Section 14.16.307, Solar Installations, identifies requirements for solar installations on developed properties (e.g., rooftop solar) and solar energy production facilities for off-site power distribution.
- Chapter 14.18, Parking Standards. Section 14.18.45, Designated Parking for Clean Air Vehicles, requires parking spaces serving new nonresidential buildings be designated for low-emitting, fuel-efficient, and carpool/van pool vehicles, as defined by Section 5.102 of CALGreen. Section 14.18.090, Bicycle Parking, requires bicycle parking be provided for new nonresidential buildings and major renovations of nonresidential buildings that have 30 or more parking spaces, and for all public/quasi-public uses.

4.3.1.3 EXISTING CONDITIONS

San Francisco Bay Area Air Basin Conditions

The SFBAAB comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County.

Air quality in the SFBAAB is determined by such natural factors as topography, meteorology, and climate in addition to the presence of existing air pollution sources and ambient conditions, as described below.[20]:

- Meteorology: The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, that distort normal wind flow patterns. The Coast Range[21] splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley. The climate is dominated by the strength and location of a semipermanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.
- Wind Patterns: During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San José when it meets the East Bay hills. Wind speeds may be strong locally in areas where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon, and the sea breeze deepens and increases in velocity while spreading inland. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. In the winter, stormy conditions with moderate to strong winds are frequent, as are periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing because of little or no wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.
- Wind Circulation: Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak—namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

[20] Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines.
[21] The Coast Ranges traverses California's west coast from Humboldt County to Santa Barbara County.

- **Inversions:** An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly. Elevation inversions[22] are more common in the summer and fall, and radiation inversions[23] are more common during the winter. The highest air pollutant concentrations generally occur during inversions.
- **Temperature:** Summer temperatures are determined in large part by the effect of differential heating between land and water surfaces. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed. During the day the temperature contrast between the coast and inland areas is small, and at night it is large.
- **Precipitation:** The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants disperse more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.

Attainment Status of the SFBAAB

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

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

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

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

The attainment status for the SFBAAB is shown in Table 4.3-3. The SFBAAB is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS.

TABLE 4.3-3 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment (marginal) [a]
PM_{10} – 24-hour	Nonattainment	Unclassified/ Attainment [b]
$PM_{2.5}$ – 24-hour and Annual	Nonattainment	Nonattainment
CO – 8-hour and 1-hour	Attainment	Attainment
NO_2 – 1-hour	Attainment	Unclassified
SO_2 – 24-hour and 1-hour	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

a. Severity classification current as of February 13, 2017.
b. In December 2014, US EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ National AAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
Source: California Air Resources Board, 2017, Area Designations Maps: State and National, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on October 24, 2018; Bay Area Air Quality Management District. 2017. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen, accessed on October 22, 2018.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the city have been documented and measured by the BAAQMD. In 2019 BAAQMD had 31 operational monitoring stations around the Bay Area.[24] The nearest station is the San Rafael Monitoring Station at 534 Fourth Street. Data from this station is summarized in Table 4.3-4. The data show regular violations of the State and federal PM_{10} standards and federal $PM_{2.5}$ standard. Based on BAAQMD's Planning Healthy Places, the City of San Rafael is within a 24-hour $PM_{2.5}$ exceedance area.[25]

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Disadvantaged communities identified by CalEnviroScreen 3.0 (i.e., environmental justice communities) may be disproportionately affected by

[24] BAAQMD. 2019. July 1. 2109 Air Monitoring Network Plan. https://www.baaqmd.gov/~/media/files/technical-services/2019_network_plan-pdf.pdf?la=en

[25] BAAQMD. 2016, May 20. Planning Health Places, A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning. https://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

and vulnerable to poor air quality.[26] Figure 4.3-1 shows the communities that may be disproportionately affected by poor air quality in the city. The CalEnviroScreen cumulative score is a cumulative measure of overall environmental justice burden based on 24 indicators, including pollution, social, and health indicators, four of which are specifically having to do with air quality or air pollution.

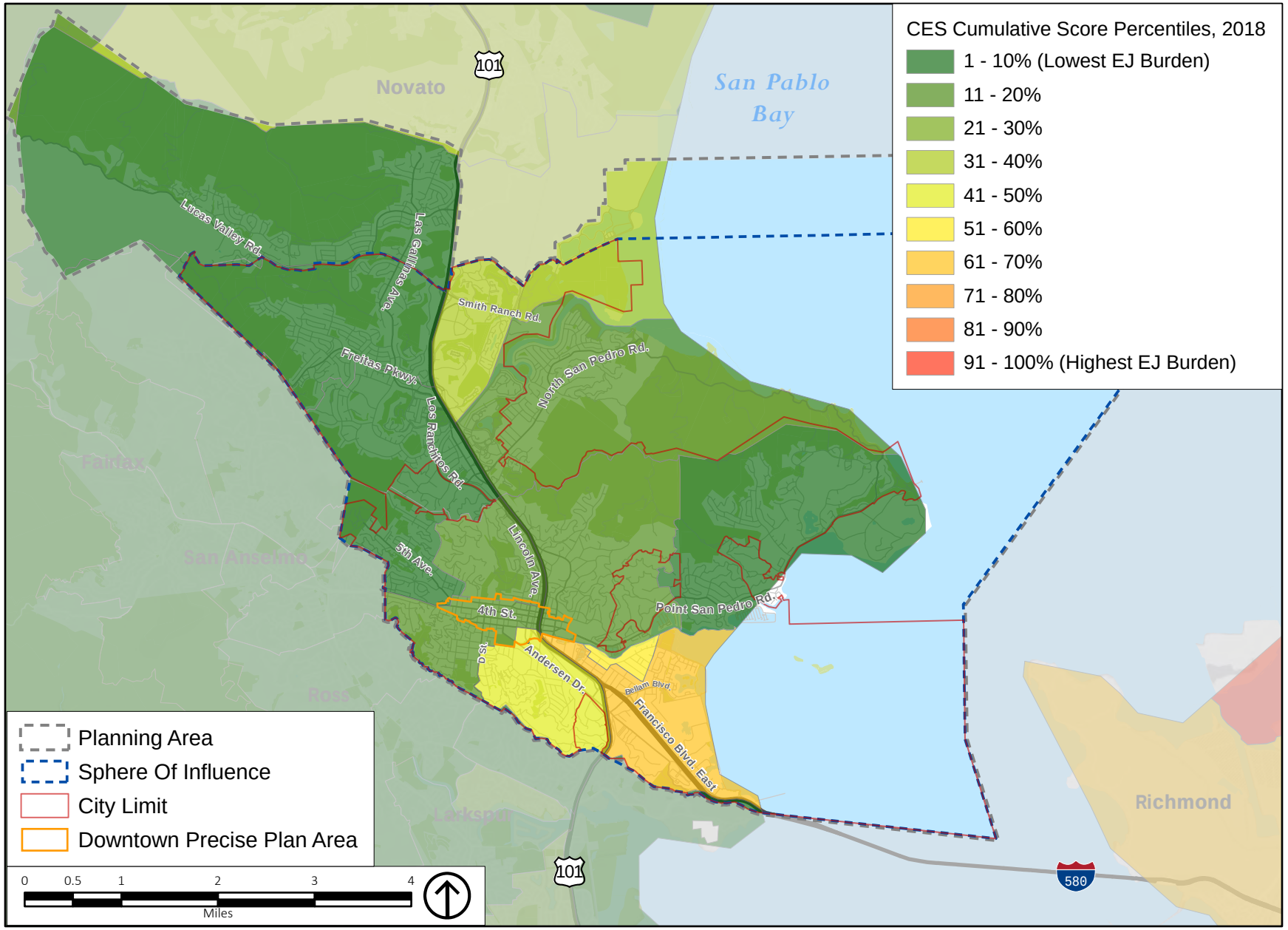
Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals,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

TABLE 4.3-4 AMBIENT AIR QUALITY MONITORING SUMMARY

	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
Pollutant/Standard	**2014**	**2015**	**2016**	**2017**	**2018**
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	0	0	0	0	0
State 8-hour ≥ 0.07 ppm	0	0	0	0	0
Federal 8-Hour > 0.075 ppm	0	0	0	0	0
Maximum 1-Hour Conc. (ppm)	0.088	0.081	0.088	0.088	0.072
Maximum 8-Hour Conc. (ppm)	0.068	0.070	0.067	0.063	0.053
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	0.0624	0.0440	0.0455	0.0534	0.0553
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m^3	0	0	0	2	2
Federal 24-Hour > 150 µg/m^3	0	0	0	0	1
Maximum 24-Hour Conc. (µg/ m^3)	39.0	42.2	26.6	91.5	160.0
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	1	2	0	8	13
Maximum 24-Hour Conc. (µg/m^3)	38.1	36.3	15.6	74.7	167.6

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter. Data from the San Rafael Monitoring Station.
Source: California Air Resources Board, 2020, Air Pollution Data Monitoring Cards (2014, 2015, 2016, 2017, and 2018), http://www.arb.ca.gov/adam/index.html, accessed on March 1, 2020.

[26] Under Senate Bill 535, disadvantaged communities are defined as the top 25% scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations.



Source: CalEnviroScreen, 2018; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.3-1
CalEnviroScreen 3.0 Cumulative Score by Percentile

Placement of New Sensitive Receptors

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

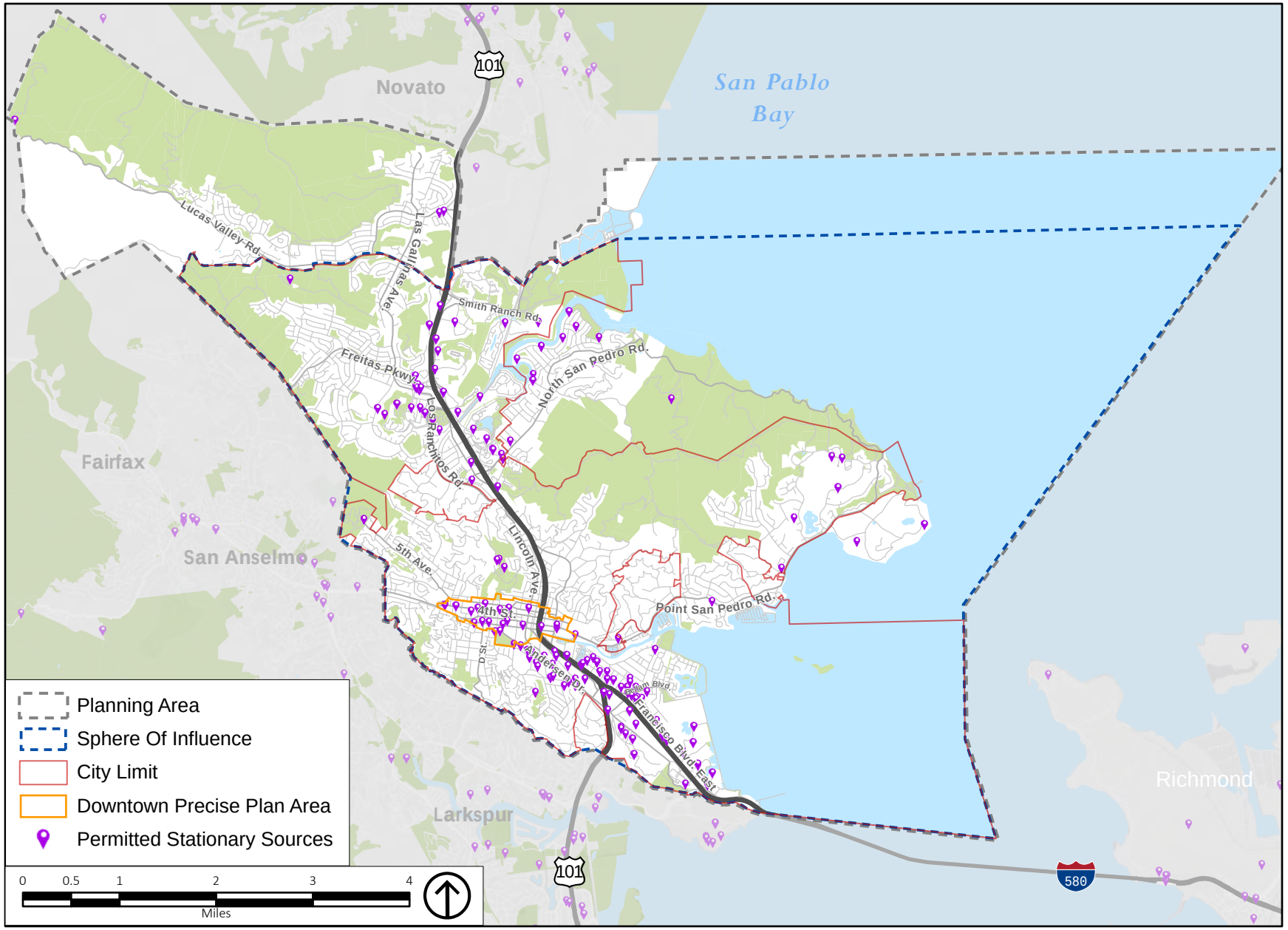
CARB's recommendations on the siting of new sensitive land uses identified in Table 4.3-5 were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks and benzene and 1,3-butadiene from passenger vehicles.

TABLE 4.3-5 CARB RECOMMENDATIONS FOR SITING NEW SENSITIVE LAND USES

Source/Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: California Air Resources Board, May 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*.

Figure 4.3-2 identifies stationary sources (BAAQMD-permitted sources) in the city as well as major roadways where BAAQMD recommends either implementation of best management practices to reduce risk or preparation of site-specific analysis to ensure air quality compatibility.



Source: BAAQMD, 2018; ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.3-2

BAAQMD Air Quality Compatibility Siting Recommendations for San Rafael

Existing Emissions

Criteria Air Pollutant Emissions Inventory

Table 4.3-6 identifies the existing criteria air pollutant emissions inventory using emission rates for year 2019 (current conditions). The inventories are based on existing land uses in the City and SOI. The Year 2019 inventory represents the projected emissions currently generated by existing land uses using the baseline year 2019 emission factors for on-road vehicles.

Stationary Sources

Stationary sources of air pollution—including complex sources such as metal smelting, wastewater treatment plants, and refineries as well as smaller facilities such as diesel generators, gasoline dispensing facilities (GDFs or gas stations), and boilers—are regulated and subject to permit conditions established by the BAAQMD.[27] Stationary sources in the city are shown on Figure 4.3-2.

TABLE 4.3-6 EXISTING SAN RAFAEL CITY AND SOI REGIONAL CRITERIA AIR POLLUTANT EMISSIONS INVENTORY

	2019 EIR Study Area Criteria Air Pollutant Emissions (pounds per day)					
Pollutant/Standard	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Transportation [a]	140	878	1,416	4	398	166
Energy [b]	52	451	219	3	36	36
Off-Road Equipment [c]	82	110	3,854	0	17	13
Consumer Products [d]	1,142	0	0	0	0	0
Total	**1,416**	**1,439**	**5,490**	**7**	**451**	**216**
	2019 EIR Study Area Criteria Air Pollutant Emissions (tons per year)					
Pollutant/Standard	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Transportation [a]	24	152	246	1	69	29
Energy [b]	10	82	40	1	7	7
Off-Road Equipment [c]	15	20	703	0	3	2
Consumer Products [d]	208	0	0	0	0	0
Total	**257**	**255**	**989**	**1**	**79**	**38**

Notes:
a. On-road transportation VMT is provided by VMT and modeled with EMFAC2017. VMT for the General Plan is based on the "project's effect" of VMT in the City and SOI. As a result, unlike the Climate Change Action Plan inventory, the inventory conducted for the proposed General Plan 2040 includes the full trip length of intrajurisdictional trips.
b. Building electricity and natural gas are based on data provided by the City for the GHG emissions inventory conducted for their Climate Change Action Plan from PG&E and MCE. The electricity rates were adjusted to reflect the increase in housing units and employment within the City.
c. On-road vehicles and equipment are based on the OFFROAD2017 emissions inventory and include construction equipment and commercial equipment.
d. Residential consumer product use based on the emissions factors in the CalEEMod Users Guide Version 2016.3.2.
Source: PlaceWorks, 2020.

[27] Permitted facilities are mapped by BAAQMD and can be found at: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Odors

The city of San Rafael has a solid waste transfer station and two wastewater treatment plants that have the potential to generate odors. Odors are also associated with certain manufacturing processes and with some commercial operations (restaurants, etc.) that may be located near residential uses. Nuisance odors are regulated by under BAAQMD Regulation 7, Odorous Substances, and Regulation 1, Rule 1-301, Public Nuisance. Under the BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

4.3.2 STANDARDS OF SIGNIFICANCE

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

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under 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.
5. Result in significant cumulative air quality impact.

4.3.2.1 BAAQMD AIR QUALITY CEQA GUIDELINES

As described earlier in this chapter, the analysis presented below is based on the methodology recommended by the BAAQMD. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed in the Bay Area and provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended numeric thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Air Quality Guidelines. These thresholds are designed to establish the level at which the BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA.

In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of a December 17, 2015, California Supreme Court decision (*California Building Industry Association v BAAQMD*) which clarified that CEQA does not require an evaluation of impacts of the environment on a project.[28] The court

[28] On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not rule on

also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The court also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA. To account for these updates, BAAQMD published a new version of the Guidelines, dated May 2017, that includes revisions made to address the California Supreme Court's opinion. This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this EIR.

Criteria Air Pollutant Emissions and Precursors

Regional Significance Criteria

The BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4.3-7. Criteria for both the construction and operational phases of the project are shown.

TABLE 4.3-7 BAAQMD REGIONAL (MASS EMISSIONS) CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS

	Construction Phase	Operational Phase	
Pollutant	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual 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
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Notes: pounds per day = lbs/day
Source: Bay Area Air Quality Management District, 2017, CEQA Guidelines May 2017.

BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SFBAAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the USEPA, BAAQMD prepares the Clean Air Plan that details regional programs to attain the AAQS. Mass emissions in

the merits of the thresholds of significance, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning in the BAAQMD 2017 CEQA Air Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA Guidelines. (*California Building Industry Association v. BAAQMD*, Case Nos. A135335 and A136212 (Court of Appeal, First District, August 13, 2013)).

Table 4.3-7 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SFBAAB. The thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the SFBAAB would be affected. Projects that do not exceed the BAAQMD regional significance thresholds in Table 4.3-7 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 4.3-7, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 4.3-7, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment—because mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the SFBAAB would experience the health effects cited above.

BAAQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno* (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the Bay Area exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SFBAAB.

CO Hotspots

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

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Community Risk and Hazards

Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the nearby residential sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The BAAQMD has adopted screening tables for air toxics evaluation during construction.[29] Project-level construction-related TAC and $PM_{2.5}$ impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.[30]

Community Risk and Hazards: Project

Project-level emissions of TACs or $PM_{2.5}$ from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- An excess cancer risk level of more than 10 in one million, or a noncancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant project contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant project contribution.[31]

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds any of the following:

- An excess cancer risk level of more than 100 in one million or a chronic noncancer hazard index (from all local sources) greater than 10.0.
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.[32]

[29] Bay Area Air Quality Management District, 2010, Screening Tables for Air Toxics Evaluations during Construction.

[30] Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

[31] Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

[32] Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

In February 2015, Office of Environmental Health Hazard Assessment adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer-causing chemicals as well as age-specific breathing rates.[33]

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which cause, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD's Rule 1-301. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[34] For a plan-level analysis, BAAQMD requires the identification of potential existing and planned location of odors sources and policies to reduce odors.

4.3.2.2 METHODOLOGY

The air quality analysis was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with potential future development that could occur during the buildout horizon of the proposed project.

Emissions Inventory

The emissions inventory for the EIR Study Area includes the following sectors:

- Transportation: Transportation emissions forecasts were modeled using emission rates from CARB's EMFAC2017, version 1.0.2, Project Level (PL) web database. Modeling includes the SAFE Part 1 and Part 2 EMFAC2017 model adjustment factors released by CARB. Model runs were based on daily VMT data provided by Fehr & Peers and calendar year 2019 (existing) and 2040 emission rates. The VMT provided includes the full trip length for land uses in the city. This differs from the emissions inventory prepared for the *City of San Rafael Climate Change Action Plan* (CCAP), which includes a 50 percent reduction in trip lengths for trips that start or end the city but travel outside the city (intra-jurisdictional trips). Consistent with CARB's methodology within the *Climate Change Scoping Plan*

[33] Office of Environmental Health Hazard Assessment, 2015, February, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.

[34] Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.

- Energy: Energy use for residential and nonresidential land uses in the EIR Study Area were modeled using natural gas data provided by the City from the 2016 GHG emissions inventory conducted for the CCAP, which is based on natural gas use provided by PG&E. Residential and nonresidential energy forecasts are adjusted for increases in housing units and employment, respectively. The emissions rates for residential and nonresidential natural gas are based on the CalEEMod Users Guide.
- Off-Road Equipment: Emission rates from CARB's OFFROAD2017, version 1.0.1, web database were used to estimate criteria air pollutant emissions from light commercial and construction equipment in the EIR Study Area. OFFROAD2017 is a database of equipment use and associated emissions for each county compiled by CARB. Emissions were compiled using OFFROAD2017 for the county of Marin for year 2019. In order to determine the percentage of emissions attributable to the EIR Study Area, light commercial equipment is estimated based on employment for San Rafael as a percentage of Marin County. Construction equipment use is estimated based on building permit data for the city of San Rafael and the county of Marin from data compiled by the United States Census. The light commercial equipment emissions forecast is adjusted for changes in employment in the EIR Study Area. It is assumed that construction emissions for the forecast year would be similar to historical levels. Annual emissions are derived by multiplying daily emissions by 365 days.
- Area Sources: Area sources are based on the emission factors from the CalEEMod Users Guide for emissions generated from use of consumer products and cleaning supplies.

Impacts of the Environment on a Future Project

BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential 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 considered. 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 permitted sources.[35] Figure 4.3-2 identifies areas within San Rafael where BAAQMD recommends best management practices or further study to ensure air quality compatibility of new sensitive land uses proximate to major sources of air pollution.

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 this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in Section 4.3.4, impact discussion.

[35] Bay Area Air Quality Management District, 2010 (Revised 2011). California Environmental Quality Act Air Quality Guidelines.

While it is generally not within the purview of CEQA to analyze impacts of the environment on a project, the proposed Conservation and Climate Change (C) and Equity, Diversity, and Inclusion (EDI) Elements of the proposed General Plan 2040 include a goal, policy, and programs that would require new sensitive land uses to incorporate setbacks, barriers, landscaping, or other design features to minimize air quality impacts and achieve appropriate health standards. The following goals, policies, and programs would serve to protect air quality in the EIR Study Area:

Goal C-2: Clean Air. Reduce air pollution to improve environmental quality and protect public health.

- Policy C-2.2: Land Use Compatibility and Building Standards. Consider air quality conditions and the potential for adverse health impacts when making land use and development decisions. Buffering, landscaping, setback standards, filters, insulation and sealing, home HVAC measures, and similar measures should be used to minimize future health hazards.
  - Program C-2.2A: Protection of Sensitive Receptors. Use the development review process to require adequate buffering when a sensitive receptor (a use with occupants sensitive to the effects of air pollutants, such as children and the elderly) is proposed near an existing source of toxic contaminants or odors. For proposed sensitive receptors within 500 feet of US-101 or I-580, an analysis of mobile source toxic air contaminant health risks should be performed. The analysis should evaluate the adequacy of the setback from the highway and, if necessary, identify design mitigation measures and building standards to reduce health risks to acceptable levels. Mitigation standards and requirements should be periodically updated as air quality conditions and pollution control technology change.
  - Program C-2.2B: New Sources of Air Pollution. Use the development review process to ensure that potential new local sources of air pollution or odors provide adequate buffering and other measures necessary to comply with health standards.

Goal EDI-2: Healthy Communities and Environmental Justice. Support public health and wellness through community design in all parts of the city.

- Policy EDI-2.3: Community Health. Increase community awareness about best practices for maintaining physical and mental health. Incorporate such practices in City-sponsored activities and programs (see also Policy PROS-2.5).
  - Program EDI-2.3C: Municipal Code Review. Periodically evaluate City codes and ordinances for their impact on health, including provisions for tobacco, vaping, and smoke-free multi-family housing; standards for indoor air quality; and HVAC [heating, ventilation, and air conditioning] systems able to sustain safe living conditions during wildfires, power outages, and extreme weather events.

4.3.3 IMPACT DISCUSSION

AIR-1 Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.

General Plan 2040

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

As described in Section 4.3.2, Standards of Significance, BAAQMD requires a consistency evaluation of a plan with its current AQMP measures. BAAQMD considers project consistency with the AQMP in accordance with the following:

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

Bay Area Air Quality Management District 2017 Clean Air Plan Goals

The primary goals of the 2017 Clean Air Plan are to attain the State and federal AAQS, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate. Furthermore, 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.

Attain Air Quality Standards

BAAQMD's 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG, which are based in part on cities' General Plan land use designations. These demographic projections are incorporated into *Plan Bay Area* 2040. Demographic trends incorporated into *Plan Bay Area* 2040 determine VMT in the Bay Area, which BAAQMD uses to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for O_3, $PM_{2.5}$, and PM_{10} (State AAQS only).

Future growth associated with the proposed General Plan 2040 would occur incrementally throughout the 2040 buildout horizon. As discussed further in Chapter 4.14, Population and Housing, of this Draft EIR, the proposed population and employment projections of the General Plan 2040 would result in a less-than-significant impact related to regional growth. As described in Chapter 4.14, the proposed General Plan 2040 contains goals, policies, and programs that are intended to guide development in San Rafael through the 2040 horizon year in a manner that reduces/minimizes VMT. Potential future development in the city

is projected to occur primarily in TPA s and PDAs on a limited number of vacant parcels, as infill/intensification on already developed and/or underutilized sites, in close proximity to existing residential and residential-serving development, and in areas with close proximity to public transportation. Thus, emissions resulting from potential future development associated with the proposed General Plan 2040 would not hinder BAAQMD's ability to attain the California or National AAQS. Accordingly, impacts would be *less than significant*.

Reduce Population Exposure and Protect Public Health

Buildout of the proposed General Plan 2040 could result in new sources of TACs and $PM_{2.5}$. Stationary sources, including smaller stationary sources (e.g., dry cleaners, restaurants with char-broilers, emergency generators, and boilers) are subject to review by BAAQMD as part of the permitting process. Adherence to BAAQMD permitting regulations would ensure that new stationary sources of TACs do not expose populations to significant health risk. Mobile sources of air toxics (e.g., truck idling) are not regulated directly by BAAQMD. As a result, development allowed by the proposed General Plan 2040 could result in new sources of criteria air pollutant emissions and/or TACs near existing or planned sensitive receptors. Mitigation Measure AIR-3.2—described in Impact Discussion AIR-3—would ensure mobile sources of TACs not covered under BAAQMD permits are considered during subsequent project-level environmental review by the City. Individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD. Thus, implementation of the proposed General Plan 2040 would not result in introducing new sources of TACs that on a cumulative basis that could expose sensitive populations to significant health risk. Therefore, impacts would be *less than significant*.

Reduce GHG Emissions and Protect the Climate

Consistency of the proposed General Plan 2040 with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed under Impact Discussion GHG-2 in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR. Future development allowed by the proposed General Plan 2040 would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of AB 32 and SB 32. The proposed General Plan 2040 is consistent with regional strategies for infill development identified in *Plan Bay Area* 2040. Furthermore, the proposed General Plan 2040 would also be consistent with the City's CCAP. While Impact Discussion GHG-1 identifies that the proposed General Plan 2040 would generate a substantial increase in emissions, Impact Discussion GHG-2 identifies that the proposed General Plan 2040 is consistent with state, regional, and local plans to reduce GHG emissions. Therefore, the proposed General Plan 2040 is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate, and the impact would be *less than significant*.

2017 Clean Air Plan Control Measures

Table 4.3-8 identifies the control measures in the 2017 Clean Air Plan that are required by BAAQMD to reduce emissions for a wide range of both stationary and mobile sources. As shown in Table 4.3-8, the proposed General Plan 2040 would not conflict with the 2017 Clean Air Plan and would not hinder

BAAQMD from implementing the control measures in the 2017 Clean Air Plan. Accordingly, impacts would be *less than significant*.

TABLE 4.3-8 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Consistency
Stationary Source Control Measures	Stationary and area sources are regulated directly by BAAQMD; therefore, as the implementing agency, new stationary and area sources in the city would be required to comply with BAAQMD regulations. BAAQMD routinely adopts/revises rules or regulations to implement the stationary source (SS) control measures to reduce stationary source emissions. Based on the type of the proposed land uses (primarily residential and commercial) under the proposed project, implementation of the proposed project would not hinder the ability of BAAQMD to implement these SS control measures. Major stationary source are more commonly associated with industrial manufacturing or warehousing. However, BAAQMD and the City have existing regulations in place to ensure potential future development under the proposed project would not conflict with the applicable SS control measures. Nonresidential land uses may generate small quantities of stationary source emissions during project operation (e.g., emergency generators, dry cleaners, and gasoline dispensing facilities); however, these small-quantity generators would require review by BAAQMD for permitted sources of air toxics, which would ensure consistency with the 2017 Clean Air Plan. The proposed project includes the following policies and programs in the Equity, Inclusion, and Diversity Element (EDI) to support emissions reductions from stationary sources proximate to disadvantaged communities: ▪ Policy EDI-2.5: Environmental Justice ▪ Program EDI-2.5A: Reducing Exposure to Hazards ▪ Program EDI-2.5B: Reducing Indoor Air Pollution ▪ Program EDI-2.5C. Environmental Hazard Data The Conservation and Climate Change (C) Element also include policies and programs for coordination with BAAMQD on air pollutant reductions and considering air quality conditions when siting new receptors: ▪ Policy C-2.1: State and Federal Air Quality Standards ▪ Program C-2.1A: Cooperation with Other Agencies ▪ Policy C-2.2: Land Use Compatibility and Building Standards ▪ Program C-2.2A: Protection of Sensitive Receptors ▪ Program C-2.2B: New Sources of Air Pollution
Transportation Control Measures	Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures. The proposed project includes the policies in the Mobility (M) Element to address the TR control measures as follows: Expanding the pedestrian and bicycle network: ▪ Policy M-6.1: Encouraging Walking and Cycling ▪ Program M-6.1A: Bicycle and Pedestrian Master Plan Implementation ▪ Program M-6.1B: Station Area Plans ▪ Program M-6.1C: Canal Community Based Transportation Plan (CBTP) ▪ Program M-6.2A Pedestrian and Bicycle Safety ▪ Program M-6.2B: Vision Zero ▪ Policy M-6.3L Connectivity ▪ Program M-6.3A: Implementation of Pathway Improvements ▪ Program M-6.3B: Improvements in Unincorporated Areas ▪ Program M-6.3C: Bicycle Parking ▪ Policy M-6.4: Urban Trails Network ▪ Program M-6.4A: Urban Trails Master Plan ▪ Policy M-6.5: Pilot Projects

TABLE 4.3-8 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Consistency
	▪ Policy M-6.6: Coordination ▪ Program M-6.6A: Bikeshare Program Reduce vehicle travel in the city. ▪ Policy M-3.3: Transportation Demand Management ▪ Policy M-4.3L Smart Improvements ▪ Policy M-4.7: Intermodal Transit Hubs ▪ Program M-4.7A: Transit Center Relocation ▪ Policy M-5.6: Truck Impacts ▪ Policy M-7.B: Parking Standards ▪ Policy M-7.9: Parking for Transit Users Support implementation of zero-carbon transportation solutions: ▪ Policy M-3.6: Low-Carbon Transportation ▪ Program M-3-6A: ZEV Plan ▪ Program P-3.6B: Zero Emission Municipal Vehicles ▪ Program M-7.8A: Charging Station ▪ Program M-6.3D: Electric Bicycles Safe Routes to Schools: ▪ Program M-6.2D: Safe Routes Programs ▪ Policy M-5.5: School-Related Traffic ▪ Program M-5.5A: School Transportation The Conservation and Climate Change (C) Element includes policies and programs that support the transition to cleaner fuels, including: ▪ Policy C-2.3: Improving Air Quality through Land Use and Transportation Choices ▪ Policy C-2.6: Education and Outreach ▪ Program C-2.6B: Equipment and Generators
Energy and Climate Control Measures	The energy and climate (EN) control measures are intended to reduce energy use as a means to reducing adverse air quality emissions. The Conservation and Climate Change (C) Element includes policies and programs to align the City's goals with that of Marin Clean Energy and other countywide plans addressing energy conservation and renewable energy. ▪ Policy C-4.1: Renewable Energy ▪ Policy C-4.1A: Marin Clean Energy Targets ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning ▪ Policy C-5.3: Advocacy ▪ Program C-5.3B: State and Federal Actions ▪ Program C-5.3C: Regional Collaboration Furthermore, potential future development in the buildout of the proposed General Plan 2040 would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Therefore, implementation of the proposed project would not conflict with these EN control measures.
Buildings Control Measures	The buildings (BL) control measures focus on working with local governments to facilitate adoption of best GHG emissions control practices and policies. The Community Design and Preservation (CDP) Element and the Conservation and Climate Change (C) Element include policies and programs for energy efficiency and sustainability: ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1B: PACE Financing

TABLE 4.3-8 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Consistency
	▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.2: Energy Conservation ▪ Program C-4.2A: Energy Efficiency Outreach ▪ Program C-4.2B: Green Building Standards ▪ Program C-4.2C: Energy Efficiency Incentives ▪ Program C-4.2D: Time-of-Sale Energy Audits ▪ Program C-4.2E: Cool Roofs and Pavements ▪ Policy C4.3 Managing Energy Demand ▪ Program C-4.3A: innovative Technologies ▪ Policy C-4.4: Sustainable Building Materials ▪ Program C-4.4A: Use of Alternative Building Materials ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning In addition, new developments accommodated under the proposed project would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Thus, the proposed project would not conflict with these BL control measures.
Agriculture Control Measures	Agricultural practices in the Bay Area accounts for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane and nitrous oxide, in addition to carbon dioxide. While the agriculture (AG) control measures target larger-scale farming practices that are not proposed under the project, the type of urban farming (i.e., community gardens) associated with the proposed project would support reduced GHG emissions by increasing the amount of food grown and consumed locally. The Conservation and Climate Change (C); the Parks, Open Space, and Recreation (PROS); and the Equity, Inclusion, and Diversity (EDI) Elements include the following policies and programs that would reduce emissions from agriculture. ▪ Program C-3.3B: Non-traditional Gardens ▪ Policy PROS-2.8: Community Gardens ▪ Policy EDI-2.8: Food Access ▪ Program EDI-2.8A: Incentives ▪ Policy EDI-2.9: Urban Agriculture ▪ Program EDI-2.9A: Obstacles to Food Production Therefore, implementation of the proposed project would not conflict with these AG control measures.
Natural and Working Lands Control Measures	The control measures for the natural and working lands sector focus on increasing carbon sequestration on rangelands and wetlands. The Community Design and Preservation (CDP); the Conservation and Climate Change (C); the Parks, Open Space, and Recreation (PROS); and the Safety (S) Elements include the following policies and programs on carbon sequestration: ▪ Policy CDP-3.5: Street Trees ▪ Program CDP-3.5A: Street Tree Planting and Maintenance ▪ Program CDP-3.5B: Street Tree Inventory ▪ Program CDP-3.5C: Street Trees for New Development ▪ Program CDP-3.5D: Street Tree Maintenance ▪ Policy C-1.9: Enhancement of Creeks and Drainageways ▪ Policy C-3.3: Low Impact Development ▪ Program C-3.3B: Non-traditional Gardens ▪ Policy C-3.4: Green Streets ▪ Program C-3.4A: Green Streets Planning ▪ Program C-3.4B: Funding ▪ Policy C-5.5: Carbon Sequestration ▪ Policy PROS-1.18: Sustainable Park Operations ▪ Program PROS-1.18A: Sustainable Design

TABLE 4.3-8 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Consistency
	▪ Policy PROS-3.3: Open Space Management Plan ▪ Program PROS-3.3A: Open Space Management Plan ▪ Policy PROS-3.10: Public Education ▪ Program S-4.1G: Open Space and Forestry Management
Waste Management Control Measures	The waste management (WA) control measures include strategies to increase waste diversion rates through efforts to reduce, reuse and recycle. The Community Services and Infrastructure (CSI) Element includes the following policies and programs to reduce landfilled waste: ▪ Policy CSI-4.17: Reducing Landfilled Waste Disposal ▪ Program CSI-4.17A: Waste Reduction ▪ Program CSI-4.17B: Recycling ▪ Program CSI-4.17C: Construction and Demolition Waste ▪ Program CSI-17D: Waste Reduction Programs ▪ Program CSI-4.17E: Community Composting ▪ Program CSI-4.17F: Food to Energy ▪ Program CSI-4.17G: Recyclable Waste Receptacles ▪ Policy CSI-4.18: Waste Reduction Advocacy and Education ▪ Program CSI-4.18A: Recycling Education Implementation of the ongoing City regulations and proposed policies to reduce waste would ensure implementation of the proposed project would not conflict with these WA control measures.
Water Control Measures	The 2017 Clean Air Plan includes measures to reduce water use. The Conservation and Climate Change (C) and the Community Services and Infrastructure (CSI) Elements include the following policies and programs to increase plumbing water efficiency and reduce landscape water use: ▪ Policy C-3.8: Water Conservation ▪ Program C-3.8A: Water Conservation Programs ▪ Program C-3.8B: Public Education ▪ Program C-3.8C: Reclaimed Water Use ▪ Program C-3.8D: Greywater and Rainwater ▪ Program C-3.8E: Reducing Municipal Water Use ▪ Policy C-3.9: Water Efficient Landscaping ▪ Program C-3.9A: Demonstration Gardens ▪ Policy CSI-4.12: Recycled Water ▪ Program CSI-4.12A: CMSA Capacity Expansion ▪ Program CSI-4.12B: Las Gallinas Expansion Project ▪ Program CSI-4.12C: Sewer Line Replacement.
Super-GHG Control Measures	Super-GHGs include methane, black carbon, and fluorinated gases. The compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally fairly short. Measures to reduce super-GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. Through ongoing implementation of the City's CCAP, the City will continue to reduce local GHG emissions, meet State, regional, and local reduction targets, which would ensure implementation of the proposed project would not conflict with these SL control measures. The Community, Design, and Preservation (CDP) and the Conservation and Climate Change (C) Elements include policies and programs for encouraging use of renewable energy. ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1B: PACE Financing ▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning

TABLE 4.3-8 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Consistency
	▪ Policy C-5.3: Advocacy ▪ Program C-5.3B: State and Federal Actions ▪ Program C-5.3C: Regional Collaboration
Further Study Control Measures	The majority of the further study control measures apply to sources regulated directly by BAAQMD. Because BAAQMD is the implementing agency, new and existing sources of stationary and area sources in the project area would be required to comply with these additional study control measures in the 2017 Clean Air Plan.

Source: Bay Area Air Quality Management District, 2017 Revised, California Environmental Quality Act Air Quality Guidelines.

Regional Growth Projections for VMT and Population

BAAQMD's 2017 Clean Air Plan incorporates the growth projections from the City's current General Plan 2020. Potential future development as a result of implementing the proposed General Plan 2040 would result in additional sources of criteria air pollutants. Growth accommodated by the proposed General Plan 2040 could occur through the 2040 buildout horizon. BAAQMD's approach to evaluating impacts from criteria air pollutants generated by a plan's long-term growth is to compare population estimates to the VMT estimates. This is because BAAQMD's AQMP plans for growth in the SFBAAB are based on regional population projections identified by ABAG and growth in VMT identified by TAM. Changes in regional, community-wide emissions in the EIR Study Area could affect the ability of BAAQMD to achieve the air quality goals in the AQMP. Therefore, air quality impacts for a plan-level analysis are based on consistency with the regional growth projections. Table 4.3-9 compares the projected increase in population with the projected increases in total VMT.

TABLE 4.3-9 COMPARISON OF THE CHANGE IN POPULATION AND VMT IN THE EIR STUDY AREA

				Change from Baseline		Change from 2040 No Project	
Category	Baseline	2040 Without Project [a]	2040 With Project	Change	Percent	Change	Percent
City							
Population	61,230	NA	69,240	8,010	13%	NA	NA
Employment	42,050	NA	46,100	4,050	10%	NA	NA
SP	103,280	111,825	115,340	12,060	12%	3,515	3%
VMT per Day [a]	3,214,988	3,391,163	3,352,369	137,381	4%	-38,794	-1%
VMT/person	52.5	NA	48.4	-4.1	-8%	NA	NA
VMT/SP	31.1	30.3	29.1	-2.1	-7%	**-1.3**	**-4%**
Remainder of EIR Study Area							
Population	14,521	NA	15,421	900	6%	NA	NA
Employment	2,150	NA	2,215	65	3%	NA	NA
SP	16,671	17,286	17,636	965	6%	350	2%
VMT per Day [a]	399,338	420,975	385,521	-13,817	-3%	-35,454	-8%
VMT/person	27.5	NA	25.0	-2.5	-9%	NA	NA
VMT/SP	24.0	24.4	21.9	-2.1	-9%	**-2.5**	**-10%**

Notes: SP: Service Population
[a] Based on VMT data provided by Fehr & Peers. The 2040 without-project scenario is the Current General Plan.
Source: City of San Rafael, PlaceWorks, and Fehr & Peers, 2020.

As previously stated, BAAQMD's AQMP requires that the VMT increase by less than or equal to the projected population increase from the proposed General Plan 2040 (e.g., generate the same or less VMT per population). However, because the proposed General Plan 2040 accommodates both residential and nonresidential growth, a better indicator of how efficiently the city is growing can be made by comparing the increase in VMT to the increase in service population (e.g., generate the same or less VMT per service population). This approach is similar to the efficiency metrics for GHG emissions, which consider the total service population when calculating project efficiency. In addition, because the 2017 Clean Air Plan used growth projections based, in part, on cities' General Plan land use designations, the growth rate in VMT compared to service population is evaluated between buildout under the proposed General Plan 2040 and buildout under the currently allowed under General Plan 2020.

VMT estimates based on data provided by Fehr & Peers were calculated for the EIR Study Area. As shown in Table 4.3-9, implementation of the proposed General Plan 2040 would increase daily VMT by 137,381 vehicle miles per day in the city, or about 4 percent, when compared to existing conditions. However, implementation of the proposed General Plan 2040 would result in lower VMT per capita than under existing conditions (8 percent lower in the city and 9 percent lower in the remainder of the EIR Study Area), and lower VMT per service population than under existing conditions (7 percent lower in the city and 9 percent lower in the remainder of the EIR Study Area). Compared to the demographic and VMT growth projections of the 2040 Without Project conditions (i.e., growth that would occur as currently allowed and projected under General Plan 2020), the 2040 With Project conditions would also decrease the VMT/SP by approximately 4 percent in the city and 10 percent in the remainder of the EIR Study Area. This indicates that buildout conditions under the proposed General Plan 2040 would be more efficient in reducing VMT on a per service population basis. Thus, the proposed General Plan 2040 would be consistent with the goals of the 2017 Clean Air Plan. Therefore, impacts would be *less than significant*.

In summary, implementation of the proposed General Plan 2040 would not conflict with the 2017 Clean Air Plan, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

The Downtown Precise Plan Area is mostly within the Downtown San Rafael SMART Station PDA and TPA (see Figure 4-4 in Chapter 4, Environmental Evaluation, of this Draft EIR), which includes 503 acres surrounding the San Rafael Transit Center. About 200 acres of the Downtown Precise Plan Area is within 0.25 mile, or a 10-minute walking distance, of the San Rafael Transit Center. Potential future development would primarily occur within this TPA and PDA on a limited number of vacant parcels, as infill/intensification on already developed and/or underutilized sites, in close proximity to existing residential and residential-serving development, and in areas with close proximity to public transportation. Potential future development in this area, like the proposed General Plan 2040, would occur incrementally throughout the 2040 buildout horizon, would be compatible with regional growth projections, would be required to achieve the incremental risk thresholds established by BAAQMD, and would reduce GHG emissions and protect the climate. Implementation of Mitigation Measure AIR-3.2—described in Impact Discussion AIR-3—would ensure mobile sources of TACs not covered under BAAQMD permits are considered during subsequent project-level environmental review by the City. The proposed

Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not conflict with the 2017 Clean Air Plan, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

AIR-2 Implementation of the proposed project could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standard.

This section analyzes potential impacts related to air quality that could occur from the buildout associated with the proposed General Plan 2040 and the Downtown Precise Plan in combination with the regional growth in the SFBAAB from construction and operational activities. The SFBAAB is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMD's significance criteria and contribute to the State and federal nonattainment designations in the SFBAAB. Any project that produces a significant regional air quality impact in an area that is in nonattainment adds to the cumulative impact. As described in Impact Discussion AIR-1, the proposed General Plan 2040 and Downtown Precise Plan would be consistent with the 2017 Clean Air Plan. However, construction and operational activities associated with potential future development under the proposed General Plan 2040 and Downtown Precise Plan could generate a substantial increase in criteria air pollutant emissions that could exceed the BAAQMD regional significance thresholds.

General Plan 2040: Construction

Construction activities would temporarily increase criteria air pollutant emissions within the SFBAAB. The primary source of NO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. BAAQMD considers all impacts related to fugitive dust emissions (PM_{10} and $PM_{2.5}$) from construction to be less than significant with implementation of BAAQMD's best management practices (see Table 4.3-7). The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under Section 4.3.1.1, Air Pollutants of Concern.

Construction activities associated with the potential future development from implementation of the proposed General Plan 2040 would occur over the buildout horizon, causing short-term emissions of criteria air pollutants. Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity. Due to the scale of development activity associated with buildout of proposed General Plan 2040, cumulative emissions would likely exceed the BAAQMD regional significance thresholds. In accordance

with the BAAQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SFBAAB. Emissions of VOC and NO_X are precursors to the formation of O_3. In addition, NO_X is a precursor to the formation of particulate matter (PM_{10} and $PM_{2.5}$). Therefore, the proposed General Plan 2040 would cumulatively contribute to the nonattainment designations of the SFBAAB for O_3 and particulate matter (PM_{10} and $PM_{2.5}$) during construction.

For the proposed General Plan 2040, which is a broad-based policy plan, it is not possible to determine whether the scale and phasing of individual projects would exceed the BAAQMD's short-term regional or localized construction emissions thresholds. When applicable, potential future development under the proposed General Plan 2040 would be subject to separate environmental review pursuant to CEQA in order to identify and mitigate potential air quality impacts. Any such subsequent environmental review of development projects would be required to assess potential impacts under BAAQMD's project-level thresholds based on site-specific construction phasing and buildout characteristics. Existing federal, State, and local regulations and goals, policies, and programs of the proposed General Plan 2040 described throughout this chapter protect local and regional air quality. Continued compliance with these regulations would reduce construction-related impacts.

The proposed Conservation and Climate Change (C) Element contains one policy and one program that require local planning and development decisions to consider impacts from particulate matter pollution (i.e., fugitive dust). The following General Plan policy and program would minimize potential adverse impacts related to particulate matter air pollution:

Goal C-2: Clean Air. Reduce air pollution to improve environmental quality and protect public health.

- Policy C-2.1: State and Federal Air Quality Standards. Continue to comply with state and federal air quality standards.
  - Program C-2.1A: Cooperation with Other Agencies. Work with the Bay Area Air Quality Management District (BAAQMD) and other agencies to ensure compliance with air quality regulations and proactively address air quality issues.
- Policy C-2.4: Particulate Matter Pollution Reduction. Promote the reduction of particulate matter from roads, parking lots, construction sites, agricultural lands, wildfires, and other sources.
  - Program C-2.4A: Particulate Matter Exposure. Through development review, require that Best Available Control Technology (BACT) measures (such as setbacks, landscaping, paving, soil and dust management, and parking lot street sweeping) are used to protect sensitive receptors from particulate matter. This should include control of construction-related dust and truck emissions as well as long-term impacts associated with project operations. Where appropriate, health risk assessments may be required to evaluate risks and determine appropriate mitigation measures.

Fugitive Dust from Construction

As part of the City's development approval process pursuant to General Plan Programs C-2.1A and C-2.4A, the City of San Rafael requires applicants of discretionary development projects that are subject to CEQA

to control construction-related dust by complying with the current BAAQMD basic control measures for fugitive dust control[36]as follows:

- Water all active construction areas at least twice daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- Pave, apply water twice daily or as often as necessary to control dust, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Sweep daily (with water sweepers using reclaimed water if possible) or as often as needed all paved access roads, parking areas, and staging areas at the construction site to control dust.
- Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material.
- Hydroseed or apply nontoxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit vehicle traffic speeds on unpaved roads to 15 miles per hour.
- Replant vegetation in disturbed areas as quickly as possible.

Because BAAQMD considers all impacts related to fugitive dust emissions (PM_{10} and $PM_{2.5}$) from construction from all development in their jurisdiction to be less than significant with implementation of BAAQMD's best management practices (see Table 4.3-7), the ongoing implementation of BAAQMD's requirements by the City pursuant General Plan Programs C-2.1A and C-2.4A would ensure impacts would be *less than significant*.

Other Air Pollutants from Construction

BAAQMD identifies screening sizes of development projects in the BAAQMD CEQA Guidelines that apply to development projects in San Rafael and throughout BAAQMD's jurisdiction. Development projects that are below the screening size are assumed to have less-than-significant impacts. Development projects that are larger than the screening size are required to demonstrate that the construction phase of the project would not exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City requires the project applicants to incorporate project-specific mitigation measures to reduce air pollutant emissions (NO_X) during construction activities to below the thresholds (e.g., see BAAQMD CEQA Guidelines, Table 8-2, Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold, or applicable construction mitigation measures subsequently approved by BAAQMD). Therefore, without the preparation of project-specific analysis on a

[36] BAAQMD's current CEQA Guidelines can be found on their website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa

project-by-project basis for development proposals that exceed the BAAQMD screening sizes, construction emission impacts at the program level are considered *significant*.

Impact AIR-2.1: Construction activities associated with potential future development could potentially violate an air quality standard or cumulatively contribute to an existing or projected air quality violation.

Mitigation Measure AIR-2.1: To reduce temporary increases in criteria air pollutant emissions (NO_X) during the construction phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.4 (Particulate Matter Pollution Reduction) to be implemented as part of the project approval process:

- New Program: Require projects that exceed the BAAQMD screening sizes to evaluate project-specific construction emissions in conformance with the BAAQMD methodology and if construction-related criteria air pollutants exceed the BAAQMD thresholds of significance, require the project applicant to mitigate the impacts to an acceptable level.

Significance with Mitigation: Less than significant.

Downtown Precise Plan: Construction

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area has the potential to generate a substantial increase in criteria air pollutant emissions from construction. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant*.

Significance with Mitigation: Less than significant.

General Plan 2040: Operation

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including VOC, NO, PM_{10}, and $PM_{2.5}$. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to BAAQMD's CEQA Guidelines, long-range plans, such as the proposed General Plan 2040, present unique challenges for assessing impacts. Due to the SFBAAB's nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable, adverse air quality impacts.

Implementation of the proposed General Plan 2040 would result in an increase in development intensity in the EIR Study Area. Buildout of the proposed General Plan 2040 would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Although BAAQMD's CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the

buildout of the proposed General Plan 2040 is available to generate an inventory of criteria air pollutants to identify the magnitude of emissions. Table 4.3-10 identifies these emissions. Subsequent environmental review of applicable development projects would be required to assess potential impacts under BAAQMD's project-level thresholds.

TABLE 4.3-10 CITY OF SAN RAFAEL AND SOI CRITERIA AIR POLLUTANT EMISSIONS FORECAST

	Criteria Air Pollutants (Average Pounds/Day)			
Category	VOC	NO_x	PM_{10}	$PM_{2.5}$
Existing Land Uses (City + SOI) at 2040				
Transportation [a]	104	341	402	163
Energy [b]	52	451	36	36
Off Road Equipment [c]	82	110	17	13
Consumer Products [d]	1,142	—	—	—
Total Average Daily (pounds/day)	1,380	902	455	213
Proposed Project Land Uses (City + SOI) 2040				
Transportation [a]	107	353	415	169
Energy [b]	59	510	41	41
Off-Road Equipment [c]	89	120	19	15
Consumer Products [d]	1,391	—	—	—
Total Average Daily (pounds/day)	1,647	983	475	224
Change from Existing Land Uses	**268**	**80**	**20**	**11**
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold	Yes	Yes	No	No
Scenario	**Tons per Year**			
	VOC	NO_x	PM_{10}	$PM_{2.5}$
Existing Land Uses at 2040	251	162	79	37
Proposed Project Land Uses at 2040	300	176	83	39
Change from Existing Land Uses	**49**	**15**	**4**	**2**
BAAQMD Annual Project-Level Threshold	10	10	15	10
Exceeds Annual Threshold	Yes	Yes	No	No

Note: Emissions may not total to 100 percent due to rounding.
[a] On-road transportation VMT is provided by Fehr & Peers and modeled with EMFAC2017 using 2040 emission rates. VMT for the General Plan is based on the "project's effect" of VMT in the City and SOI. As a result, unlike the CCAP inventory, the inventory conducted for the General Plan includes the full trip length of intrajurisdictional trips.
[b] Building electricity and natural gas are based on data provided by the City for the GHG emissions inventory conducted for their CCAP from PG&E and MCE. The electricity rates were adjusted to reflect the increase in dwelling units and employment within the City.
[c] On-road vehicles and equipment are based on the OFFROAD2017 emissions inventory and include construction equipment and commercial equipment.
[d] Emissions from consumer products is based on the CalEEMod User's Guide Version 2016.3.2 for residential consumer product use.
Source: PlaceWorks, 2020.

The proposed Conservation and Climate Change (C) Element contains a goal, policies, and programs that require local planning and development decisions to consider impacts to air quality. The following General Plan goal, policies, and programs would serve to minimize potential adverse impacts to air quality:

Goal C-2: Clean Air. Reduce air pollution to improve environmental quality and protect public health.

- Policy C-2.1: State and Federal Air Quality Standards. Continue to comply with state and federal air quality standards.

- Program C-2.1A: Cooperation with Other Agencies. Work with the Bay Area Air Quality Management District (BAAQMD) and other agencies to ensure compliance with air quality regulations and proactively address air quality issues.

- Policy C-2.2: Land Use Compatibility and Building Standards. Consider air quality conditions and the potential for adverse health impacts when making land use and development decisions. Buffering, landscaping, setback standards, filters, insulation and sealing, home HVAC measures, and similar measures should be used to minimize future health hazards.
  - Program C-2.2A: Protection of Sensitive Receptors. Use the development review process to require adequate buffering when a sensitive receptor (a use with occupants sensitive to the effects of air pollutants, such as children and the elderly) is proposed near an existing source of toxic contaminants or odors. For proposed sensitive receptors within 500 feet of US-101 or I-580, an analysis of mobile source toxic air contaminant health risks should be performed. The analysis should evaluate the adequacy of the setback from the highway and, if necessary, identify design mitigation measures and building standards to reduce health risks to acceptable levels. Mitigation standards and requirements should be periodically updated as air quality conditions and pollution control technology change.
  - Program C-2.2B: New Sources of Air Pollution. Use the development review process to ensure that potential new local sources of air pollution or odors provide adequate buffering and other measures necessary to comply with health standards.

- Policy C-2.3: Improving Air Quality Through Land Use and Transportation Choices. Recognize the air quality benefits of reducing dependency on gasoline-powered vehicles. Implement land use and transportation policies, supportable by objective data, to reduce the number and length of car trips, improve alternatives to driving, and support the shift to electric and cleaner-fuel vehicles.
  - Program C-2.3A: Air Pollution Reduction Measures. Implement air pollution reduction measures as recommended by BAAQMD's Clean Air Plan and supporting documents to address local sources of air pollution in community planning. This should include Transportation Control Measures (TCM) and Transportation Demand Management (TDM) programs to reduce emissions associated with diesel and gasoline-powered vehicles.

- Policy C-2.4: Particulate Matter Pollution Reduction. Promote the reduction of particulate matter from roads, parking lots, construction sites, agricultural lands, wildfires, and other sources..
  - Program C-2.4C: Wood-Burning Stoves and Fireplaces. Regulate wood-burning stoves and fireplaces to reduce particulate pollution.
  - Program C-2.6B: Equipment and Generators. Encourage the use of non- gasoline powered leaf blowers and other yard maintenance equipment, as well as clean-powered generators.

As shown in Table 4.3-10, buildout of the proposed General Plan 2040 would generate a substantial increase in criteria air pollutant emissions that exceeds the BAAQMD regional significance thresholds for VOC, NO_x, PM_{10}, and $PM_{2.5}$. As stated above in the discussion of construction impacts, BAAQMD identifies screening sizes of development projects in the BAAQMD CEQA Guidelines. Development projects that are below the screening size are assumed to have less-than-significant impacts. Development projects that are larger than the screening size are required to demonstrate that the operational phase of the project would not exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines. If operation-related criteria air pollutants are determined to have the potential to exceed the BAAQMD

thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City requires the project applicants to incorporate project-specific mitigation measures to reduce long-term air pollutant emissions during operation to below these thresholds. Possible mitigation measures to reduce long-term emissions can include, but are not limited to, the following:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with Section 2485 of 13 California Code of Regulations Chapter 10.
- Implement Tier 1 or Tier 2 voluntary measures that improve energy efficiency identified in the California Green Building Standards Code.
- Fuel switching: Require appliances to be electric rather than gas powered.

Therefore, compliance with applicable policies and programs would contribute to minimizing long-term emissions. However, implementation of the proposed General Plan 2040 would still exceed the BAAQMD significance thresholds for operation as shown in Table 4.3-10. Accordingly, implementation of the proposed General Plan 2040 could result in *significant* long-term regional air quality impacts.

Impact AIR-2.2: Operational activities associated with potential future development could cumulatively contribute to the non-attainment designations of the San Francisco Bay Area Air Basin.

Mitigation Measure AIR-2.2: To reduce long-term increases in air pollutants during the operation phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.2 (Land Use Compatibility and Building Standards) be implemented as part of the project approval process:

- New Program: Require projects that exceed the BAAQMD screening sizes to evaluate project-specific operation emissions in conformance with BAAQMD CEQA Guidelines, and if operation-related air pollutants exceed the BAAQMD-adopted thresholds of significance, require the project applicants to mitigate the impact to an acceptable level.

Significance with Mitigation: Significant and unavoidable. Compliance with the policies and programs in the proposed General Plan 2040 and implementation of Mitigation Measure AIR-2.2 would reduce impacts to the maximum extent feasible. Further, as shown in Table 4.3-11, compared to existing baseline year conditions, emissions of NO_X are projected to decrease from current levels despite growth associated with the proposed project. However, regional and localized operational emissions could exceed the BAAQMD significance thresholds. Consequently, implementation of the proposed project could cumulatively contribute to the nonattainment designations of the SFBAAB. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance. However, due to the programmatic nature of the proposed General Plan 2040, no additional mitigating policies are available, and the impact is considered *significant and unavoidable*.

TABLE 4.3-11 NET CHANGE IN REGIONAL CRITERIA AIR POLLUTANT EMISSIONS FROM EXISTING BASELINE

	Criteria Air Pollutants (Average Pounds/Day)			
Category	**VOC**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Existing Average Daily	1,416	1,439	451	216
Proposed Project Average Daily	1,647	983	475	224
Change from Existing Land Uses	**231**	**-456**	**24**	**8**
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold	Yes	No	No	No
Scenario	**Tons per Year**			
	VOC	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Existing Annual Emission	257	255	79	38
Proposed Project Annual Emissions	300	176	83	39
Change from Existing Land Uses	**42**	**-79**	**4**	**1**
BAAQMD Annual Project-Level Threshold	10	10	15	10
Exceeds Annual Threshold	Yes	No	No	No

Note: Emissions may not total to 100 percent due to rounding.
Source: PlaceWorks, 2020.

Downtown Precise Plan: Operation

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). The impact analysis described under the proposed General Plan 2040 includes the buildout projections for the Downtown Precise Plan Area. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *significant and unavoidable.* An evaluation of project-specific details for future development could demonstrate future projects are below the applicable thresholds; therefore, this program-level conclusion does not prohibit a less-than-significant conclusion at the project level in the future.

Significance with Mitigation: Significant and unavoidable.

AIR-3 Implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.

If implementation of the proposed General Plan 2040 and the Downtown Precise Plan would cause or contribute significantly to elevated pollutant concentration levels, it could expose sensitive receptors to air pollutants to elevated pollutant concentrations for construction and operation, which are evaluated in the analysis below. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects. A discussion of the proposed General Plan 2040 policies and programs that ensure that air quality is considered when siting new sensitive receptors to air pollutants is included in Section 4.3.2.2,

Methodology, under subheading "Impacts of the Environment on a Future Project" (see also Program C-2.2A: Protection of Sensitive Receptors).

General Plan 2040: Construction Community Risk and Hazards

Future construction under the proposed General Plan 2040 would temporarily elevate concentrations of TACs and diesel-$PM_{2.5}$ in the vicinity of sensitive land uses during construction activities. Because the details regarding future construction activities are not known at this time—including phasing of future individual projects, construction duration and phasing, and preliminary construction equipment—construction emissions are evaluated qualitatively in accordance with BAAQMD's plan-level guidance. Subsequent project-specific evaluation of qualifying future development projects would be required to assess potential impacts under BAAQMD's project-level thresholds and mitigate those impacts to acceptable levels. Mitigation Measures to reduce risk may include, but are not limited to, using construction equipment rated as US Environmental Protection Agency Tier 4 Interim for equipment of 50 horsepower or more, or using construction equipment fitted with Level 3 Diesel Particulate Filters for all equipment of 50 horsepower or more. However, construction emissions associated with the proposed General Plan 2040 could exceed BAAQMD's project level and cumulative significance thresholds for community risk and hazards. Therefore, construction-related health risk impacts associated with the proposed General Plan 2040 are considered *significant*.

Impact AIR-3.1: Construction activities associated with potential future development could expose nearby receptors to substantial concentrations of toxic air contaminants.

Mitigation Measure AIR-3.1a: Implement Mitigation Measure AIR-2.1.

Mitigation Measure AIR-3.1b: To ensure sensitive receptors are not exposed to toxic air contaminant emissions during the construction phase for discretionary development projects that are subject to CEQA that exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.2: (Land Use Compatibility and Building Standards) be implemented as part of the project approval process:

- New Program: 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).

Significance with Mitigation: Less than significant.

Downtown Precise Plan: Construction Community Risk and Hazards

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area would cause or contribute significantly to elevated pollutant

concentration levels that could expose sensitive receptors. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant.*

Significance with Mitigation: Less than significant.

General Plan 2040: Operational Phase Community Risk and Hazards

Types of land uses that typically generate substantial quantities of TACs and $PM_{2.5}$ include industrial and manufacturing (stationary sources) and warehousing (truck idling) land uses.

Stationary (Permitted) Sources

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the proposed General Plan 2040 would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the SFBAAB are regulated and controlled by BAAQMD. However, emissions of TACs from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by BAAQMD, and have the potential to generate substantial concentrations of air pollutants.

Land uses that would require a permit from BAAQMD for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from stationary sources would be controlled by BAAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under Regulation 2, New Source Review, as well as Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities. Review under New Source Review ensures that stationary source emissions (permitted sources) would be reduced or mitigated below BAAQMD significance thresholds. Though these sources would incrementally contribute to the proposed General Plan 2040's inventory individually, they would be mitigated to the standards identified above. The proposed Conservation and Climate Change (C) and the Equity, Diversity, and Inclusion (EDI) Elements contain goals, policies, and programs that require local planning and development decisions to consider impacts to air quality. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts on air quality by increasing standards and promoting cooperation with outside agencies:

Goal C-2: Clean Air. Reduce air pollution to improve environmental quality and protect public health.

- Policy C-2.1: State and Federal Air Quality Standards. Continue to comply with state and federal air quality standards.
  - Program C-2.1A: Cooperation with Other Agencies. Work with the Bay Area Air Quality Management District (BAAQMD) and other agencies to ensure compliance with air quality regulations and proactively address air quality issues.
- Policy C-2.2: Land Use Compatibility and Building Standards. Consider air quality conditions and the potential for adverse health impacts when making land use and development decisions. Buffering,

landscaping, setback standards, filters, insulation and sealing, home HVAC measures, and similar measures should be used to minimize future health hazards.

- Program C-2.2B: New Sources of Air Pollution. Use the development review process to ensure that potential new local sources of air pollution or odors provide adequate buffering and other measures necessary to comply with health standards.

- Policy C-2.4: Particulate Matter Pollution Reduction. Promote the reduction of particulate matter from roads, parking lots, construction sites, agricultural lands, wildfires, and other sources.
  - Program C-2.6B: Equipment and Generators. Encourage the use of non–gasoline powered leaf blowers and other yard maintenance equipment, as well as clean-powered generators.

Goal EDI-2: Healthy Communities and Environmental Justice. Support public health and wellness through community design in all parts of the city.

- Policy EDI-2.5: Environmental Justice. Ensure that land use and transportation decisions do not create disparate environmental health conditions, such as air pollution and exposure to hazardous materials, for lower income residents and other vulnerable populations. Work to reduce or eliminate such hazards where they currently exist.
  - Program EDI-2.5A: Reducing Exposure to Hazards. As appropriate, utilize conditional use permit requirements for businesses adjacent to residential neighborhoods to reduce resident exposure to noise, odor, smoke, vibration, and other potentially harmful impacts. Work with business owners to encourage responsiveness when these issues arise.
  - Program EDI-2.5B: Reducing Indoor Air Pollution. Support the distribution of bilingual information on indoor air pollution hazards to vulnerable populations, including lower income renters. Respond to complaints about smoke and odors in multi-family projects and facilitate remediation.
  - Program EDI-2.5C: Environmental Hazard Data. Maintain data on environmental hazards, such as soil and groundwater contamination and the vulnerability of the population to such hazards, using sources such as Cal Enviroscreen.

The policies and programs listed above would contribute to minimizing potential health risk impacts to sensitive receptors. Overall, combined with the standards and permitting processes described above, impacts related to permitted stationary sources of TACs are considered *less than significant.*

Nonpermitted Sources

Mobile sources of TACs are not regulated by BAAQMD. The primary mobile source of TACs within the EIR Study Area is truck idling and use of off-road equipment. New warehousing operations could generate substantial DPM emissions from off-road equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of TRUs for cold storage. New land uses in the city that would be permitted under the proposed General Plan 2040 that use trucks, including trucks with TRUs, could generate an increase in DPM that would contribute to cancer and noncancer health risk in the SFBAAB. Additionally, these types of facilities could also generate particulate matter (PM_{10} and $PM_{2.5}$) that may cause an exceedance or contribute to the continuing exceedance of the federal and State AAQS. These new land uses could be near existing sensitive receptors. In addition, trucks would travel on regional transportation routes through the Bay Area, contributing to near-roadway DPM concentrations. As described in Impact Discussion AIR-2, the City requires the project applicants to prepare project-specific

analysis of qualifying project and incorporate project-specific mitigation measures to reduce toxic air contaminants. If the results show that the incremental cancer risk exceeds ten in one million (or the risk thresholds in effect at the time a project is considered), or the appropriate noncancer hazard index exceeds 1.0, or 0.3 μ/m^3 of $PM_{2.5}$; or the thresholds as determined by the BAAQMD at the time a project is considered, the applicant shall be required to mitigate the potential cancer and noncancer risks to an acceptable level. Typical mitigation measures to reduce risk impacts may include but are not limited to:

- Restricting idling on-site beyond Air Toxic Control Measures idling restrictions, as feasible.
- Electrifying warehousing docks.
- Truck Electric Vehicle (EV) Capable trailer spaces.
- Requiring use of newer equipment and/or vehicles.
- Restricting off-site truck travel through the creation of truck routes.

Therefore, without project-specific analysis health risk impacts from nonpermitted sources associated with development of industrial and commercial land uses are considered *significant*.

Impact AIR-3.2. Operational activities associated with potential future development could expose sensitive receptors to substantial toxic air contaminant concentrations from nonpermitted sources.

Mitigation Measure AIR-3.2: To ensure sensitive receptors are not exposed to toxic air contaminant emissions during the operation phase for discretionary development projects that are subject to CEQA which exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, the City shall adopt the following General Plan Program to support Policy C-2.2: (Land Use Compatibility and Building Standards) be implemented as part of the project approval process:

- New Program: Require applicants for industrial or warehousing land uses or commercial land uses that would generate substantial diesel truck travel (i.e., 100 diesel trucks per day or 40 or more trucks with diesel-powered transport refrigeration units per day) to contact BAAQMD to determine the appropriate level of operational health risk assessment (HRA) required. If required, the operational HRA shall be prepared in accordance with the Office of Environmental Health Hazard Assessment and BAAQMD requirements and mitigated to an acceptable level.

Significance with Mitigation: Significant and unavoidable. Development allowed by the proposed General Plan 2040 could result in new sources of criteria air pollutant emissions and/or TACs near existing or planned sensitive receptors. Review of development projects by BAAQMD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) in addition to proposed General Plan 2040 goals, policies, and programs would ensure that health risks are minimized. Additionally, Mitigation Measure AIR-3.2 would ensure mobile sources of TACs not covered under BAAQMD permits are considered during subsequent project-level review by the City of San Rafael. Individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD, and TAC and $PM_{2.5}$ project-level impacts would be less than significant. However, these projects could contribute to significant cumulative risk in the Bay Area that could affect sensitive populations and disadvantaged communities. As a result, the General Plan Update's contribution to cumulative health risk is considered *significant and unavoidable*.

Downtown Precise Plan: Operational Phase Community Risk and Hazards

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area would be expected to release TACs, and applicable land uses would require a permit from BAAQMD for emissions of TACs. Likewise, mobile emissions that are not regulated by BAAQMD are also expected. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *significant and unavoidable.*

Significance with Mitigation: Significant and unavoidable.

General Plan 2040: CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO, called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

TAM's CMP must be consistent with the ABAG/MTC's *Plan Bay Area*, which is updated periodically. An overarching goal of the *Plan Bay Area* is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle VMT and associated GHG emissions reductions. As discussed in Impact Discussion AIR-2 under subheading, "Operational Emissions," the proposed General Plan 2040 includes requiring local planning and development decisions to consider impacts to air quality related to travel demand management, including Policy-2.3: Improving Air Quality Through Land Use and Transportation Choices, which requires the City to recognize the air quality benefits of reducing dependency on gasoline-powered vehicles and implement land use and transportation policies, supportable by objective data, to reduce the number and length of car trips, improve alternatives to driving, and support the shift to electric and cleaner-fuel vehicles. This policy is supported by Program C-2.3A: Air Pollution Reduction Measures, which requires the City to implement air pollution reduction measures as recommended by BAAQMD's Clean Air Plan and supporting documents to address local sources of air pollution in community planning. Additional goals, polices, and programs are identified in the Mobility (M) Element as follows:

Goal M-3: Cleaner Transportation. Coordinate transportation, land use, community design, and economic development decisions in a way that reduces greenhouse gas emissions, air and water pollution, noise, and other environmental impacts related to transportation.

- Policy M-3.3: Transportation Demand Management. Encourage, and where appropriate require, transportation demand measures that reduce VMT and peak period travel demand. These measures include, but are not limited to, transit passes and flextime, work schedules, pedestrian and bicycle

improvements, ridesharing, and changes to project design to reduce trip lengths and encourage cleaner modes of travel.

- Program M-3.3A: Develop TDM Program Guidelines. Develop TDM Program Guidelines – or work in partnership with other local governments to develop Guidelines-- than can be used to mitigate potential VMT increases in new development and encourage reductions in existing development.
- Program M-3.3B: Support for TDM. Work cooperatively with governmental agencies, non- profits, businesses, institutions, schools, and neighborhoods to provide and support TDM programs.
- Program M-3.3C: City TDM Program. Implement a TDM program for City employees, potentially in partnership with other local governments, public agencies, and transit providers. Promote the program as a model for other employers.
- Program M-3.3D: Shifting Peak Hour Trips. Support efforts to limit traffic congestion by shifting peak hour trips to non-peak hour, modifying school hours to stagger start and end times, and encouraging flexible work schedules.

Overall, these components of the proposed General Plan 2040 would be consistent with the overall goals of the *Plan Bay Area*. Additionally, the proposed General Plan 2040 would not hinder the capital improvements outlined in the CMP. Thus, the proposed General Plan 2040 would not conflict with TAM's CMP. Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact.[37] Based on the transportation analysis conducted as part of this environmental analysis, the highest increase in traffic associated with proposed General Plan 2040 would be 6,343 daily trips at Mission Avenue from Lincoln Avenue to Grand Avenue. There are no locations where traffic volumes would exceed the BAAQMD screening criteria of 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.[38] Therefore, overall, the proposed project would not have the potential to substantially increase CO hotspots at intersections in the city and vicinity. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan: CO Hotspots

Like development in the remainder of the city, potential future development in the Downtown Precise Plan Area could have areas of vehicle congestion that have the potential to create pockets of CO, called hotspots. As described above, a maximum increase of 6,343 daily trips would occur on Mission Avenue from Lincoln Avenue to Grand Avenue, which is partially in the Downtown Precise Plan Area. This would not increase traffic volumes at affected intersections by more than BAAQMD screening criteria of 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.[39] The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the

[37] Bay Area Air Quality Management District, 2017 (Revised). *CEQA Air Quality Guidelines*.
[38] Based on information provided by Fehr & Peers.
[39] Based on information provided by Fehr & Peers.

proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

AIR-4 Implementation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The following discusses potential operation- and construction-related odor impacts associated with implementation of the proposed General Plan 2040 and the Downtown Precise Plan.

General Plan 2040: Operation-Related Odors

Potential impacts could occur if new sources of nuisance odors are placed near sensitive receptors. Table 4.3-12 identifies screening distances from potential sources of objectionable odors within the SFBAAB. Odors from these types of land uses are regulated under BAAQMD Regulation 7, Odorous Substances.[40]

TABLE 4.3-12 BAAQMD ODOR SCREENING DISTANCES

Land Use/Type of Operation	Screening Distance
Wastewater Treatment Plan	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plan	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/ Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, Table 3-3, Odor Screening Distances, and associated Appendix D of these Guidelines.

[40] It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.

While not all sources in Table 4.3-12 are found in San Rafael (e.g., rendering plants, confined animal facilities), commercial and industrial areas in the city have the potential to include land uses that generate nuisance odors. Buildout permitted under the proposed General Plan 2040 could include new sources of odors, such as composting, green waste, and recycling operations; food processing; and painting/coating operations, because these are types of uses in the commercial and/or industrial areas in the city. Future environmental review could be required for industrial projects listed in Table 4.3-12 to ensure that sensitive land uses are not exposed to objectionable odors. BAAQMD Regulation 7, Odorous Substances, requires abatement of any nuisance generating an odor complaint.[41] Facilities listed in Table 4.3-12 would need to consider measures to reduce odors as part of their project approval process, which could include CEQA review.

The proposed Land Use (LU), Conservation and Climate Change (C), and Equity, Diversity, and Inclusion (EDI) Elements contain goals, policies, and programs that require local planning and development decisions to consider impacts to air quality from odors. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts on odors:

Goal LU-2: A Complete Community. San Rafael is a complete community, with balanced and diverse land uses.

- Policy LU-2.13: Odor Impacts. Consider odor impacts when evaluating land uses and development projects near wastewater treatment plants, treatment plant expansion projects, waste transfer stations, and other odor potential sources.
  - Program LU-2.13A: Evaluation of Odor Impacts. Evaluate odor impacts as part of development review.

Goal C-2: Clean Air. Reduce air pollution to improve environmental quality and protect public health.

- Policy C-2.2: Land Use Compatibility and Building Standards. Consider air quality conditions and the potential for adverse health impacts when making land use and development decisions. Buffering, landscaping, setback standards, filters, insulation and sealing, home HVAC measures, and similar measures should be used to minimize future health hazards.
  - Program C-2.2A: Protection of Sensitive Receptors. Use the development review process to require adequate buffering when a sensitive receptor (a use with occupants sensitive to the effects of air pollutants, such as children and the elderly) is proposed near an existing source of toxic contaminants or odors. For proposed sensitive receptors within 500 feet of US-101 or I-580, an analysis of mobile source toxic air contaminant health risks should be performed. The analysis should evaluate the adequacy of the setback from the highway and, if necessary, identify design mitigation measures and building standards to reduce health risks to acceptable levels. Mitigation standards and requirements should be periodically updated as air quality conditions and pollution control technology change.

[41] Typical abatement includes passing air through a drying agent followed by two successive beds of activated carbon to render air odor free.

- Program C-2.2B: New Sources of Air Pollution. Use the development review process to ensure that potential new local sources of air pollution or odors provide adequate buffering and other measures necessary to comply with health standards.

Goal EDI-2: Healthy Communities and Environmental Justice. Support public health and wellness through community design in all parts of the city.

- Policy EDI-2.5: Environmental Justice. Ensure that land use and transportation decisions do not create disparate environmental health conditions, such as air pollution and exposure to hazardous materials, for lower income residents and other vulnerable populations. Work to reduce or eliminate such hazards where they currently exist.
  - Program EDI-2.5A: Reducing Exposure to Hazards. As appropriate, utilize conditional use permit requirements for businesses adjacent to residential neighborhoods to reduce resident exposure to noise, odor, smoke, vibration, and other potentially harmful impacts. Work with business owners to encourage responsiveness when these issues arise.
  - Program EDI-2.5B: Reducing Indoor Air Pollution. Support the distribution of bilingual information on indoor air pollution hazards to vulnerable populations, including lower income renters. Respond to complaints about smoke and odors in multi-family projects and facilitate remediation.

The proposed General Plan 2040 would also accommodate future residential, retail, and commercial development. These uses would not generate substantial odors that would affect a substantial number of people. During operation, residences and restaurants could generate odors from cooking. However, odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Furthermore, nuisance odors are regulated under BAAQMD Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds.[42] In addition, odors are regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance.

Review of projects using BAAQMD's odor screening distances during future CEQA review, implementation of the policies and programs above, and compliance with BAAQMD Regulation 7 would ensure that odor impacts are minimized to *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan: Operation-Related Odors

Like potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area would permit uses that could generate odors. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce air pollutants; therefore, the impacts and mitigation described for the proposed General Plan 2040 would

[42] It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.

also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

General Plan 2040: Construction-Related Odors

During construction activities of future developments in the city, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan: Construction-Related Odors

As with potential future development in the remainder of the city, potential future development in the Downtown Precise Plan could generate temporary and intermittent odors from construction. Accordingly, like the General Plan 2040, impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

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

The cumulative area of analysis is the SFBAAB, which includes the EIR Study Area. As identified in Section 4.3.1*,* Environmental Setting, 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.

In summary, implementation of Mitigation Measures AIR-2.1, AIR-3.1a, and AIR-3.1b would reduce construction level impacts to a less than significant level, and Mitigation Measures AIR-2.2 and AIR-3.2 would reduce project-level impacts on an individual basis; however, cumulative impacts are considered *significant and unavoidable* for criteria air pollutants and air toxics during the operational phases as described above.

Significance with Mitigation: Significant and unavoidable. Criteria air pollutant emissions generated by land uses within the proposed project could exceed the BAAQMD thresholds (see Impact AIR-2). Air quality impacts identified in Impact Discussion AIR-2 constitute the proposed project's contribution to cumulative air quality impacts in the SFBAAB. Mitigation Measures AIR-2.1 through AIR-3.2, identified

previously to reduce project-related emissions, would reduce impacts to the extent feasible. Due to the programmatic nature of the proposed project, no additional mitigation measures are available. Air pollutant emissions associated with the proposed project would result in a cumulatively considerable contribution to air quality impacts and impacts would be *significant and unavoidable*.

4.4 BIOLOGICAL RESOURCES

This chapter describes existing biological resources within the Environmental Impact Report (EIR) Study Area and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by an impact discussion of the proposed project and cumulative impacts.

This chapter is based on the *San Rafael General Plan 2040 & Downtown Precise Plan Biological and Wetland Resources Background Report* (Biological Background Report) prepared by Environmental Collaborative in January 2020. The Biological Background Report is attached to this Draft EIR as Appendix E, Biological Resources Data.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 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 engage in 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 as take that is *"incidental to, and not the purpose of, the carrying out of an otherwise lawful activity*." Preparation of a habitat conservation plan (HCP) is required for all Section 10(a) permit applications. The USFWS and National Oceanic and Atmospheric 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 all other fish and wildlife species.

Section 7 of the FESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the FESA, or result in the

destruction or adverse modification of its habitat. Federal agencies are also required to minimize impacts to all listed species resulting from their actions, including issuance of permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (FESA requires that 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.[1] The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the ordinary high-water mark[2] or the limit of adjacent wetlands.[3] 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 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.[4] 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.

[1] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(a).
[2] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(e).
[3] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(b).
[4] Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Part 328.3(a).

All USACE permits require water quality certification under Section 401 of the Clean Water Act. In the San Francisco 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 Bay RWQCB 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.[5] 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 endangered under both acts (in which case the provisions of both State and federal laws apply) or under only one act. A candidate species is one that the Fish and Game Commission has formally noticed as being under review by CDFW for addition to the State list. Candidate species are protected by the provisions of CESA.

California Environmental Quality Act

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

[5] California Fish and Game Code Section 2050 *et seq.*

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 jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

The CFGC also lists animal species designated as Fully Protected or Protected, which may not be taken or possessed at any time. The CDFW does not issue licenses or permits for take of these species except for necessary scientific research, habitat restoration/species recovery actions, or live capture and relocation pursuant to a permit for the protection of livestock. Fully protected species are listed in CFGC Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) 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 the CFGC 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 as falcons, 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 domesticus*), and rock pigeon (*Columba livia*), are not afforded any protection under the MBTA or CFGC.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act,[6] the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. The RWQCB asserts jurisdiction over isolated waters and wetlands, as well as waters and wetlands that are regulated by the USACE. Therefore, even if a

[6] California Water Code Sections 13000 through 14920.

project does not require a federal permit, it still requires review and approval by the RWQCB. When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of waste discharge requirements into projects that will require discharge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction best management practices.

California Native Plant Protection Act

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

The California Native Plant Society (CNPS) is a non-governmental conservation organization that has developed a list of plants of special concern in California. The following explains the designations for each plant species:[7]

- **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

[7] California Native Plant Society, 2020, CNPS Rare Plant Ranks, https://www.cnps.org/rare-plants/cnps-rare-plant-ranks, accessed on November 25, 2020.

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[8] 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 oak woodlands.

Regional Regulations

McAteer-Petris Act

In 1969, the McAteer-Petris Act designated the San Francisco Bay Conservation and 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. The most recent amendments were incorporated into the Basin Plan as of May 2017.[9]

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

[9] San Francisco Bay Regional Water Quality Control Board, 2017, *San Francisco Bay Basin Water Quality Control Plan (Basin Plan),* https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf, accessed on March 31, 2020.

Local Regulations

San Rafael General Plan 2020

The City of San Rafael General Plan 2020 goals, policies, and programs that are relevant to biological resources are primarily in the Conservation Element and Air and Water Quality Element. As part of the proposed project, some existing General Plan policies would be amended, substantially changed, or new policies would be added. The Conservation Element and Air and Water Quality Element are being combined. 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 Section 4.4.3, Impact Discussion.

San Rafael Municipal Code

The San Rafael Municipal Code (SRMC) includes various directives pertaining to biological resources. The SRMC is organized by title, chapter, and section. Most provisions related to biological impacts are included in Title 11, Public Works, Title 14, Zoning, and Title 17, Waters and Waterways, as follows:

- Chapter 11.12, Trees. This chapter places the authority to regulate trees along public streets, sidewalks, and walkways within the city, to the Public Works Department. Tree trimming, planting, and removal must be approved through a permit process by the Public Works Department. This chapter also provides regulations for protection of trees during construction activities.
- Chapter 11.30, Watercourses. This chapter ensures that watercourses within the city maintain a few and unobstructed flow of water, including the removal of debris, natural growth, and other materials. Any person wishing to construct or repair any structure within 15 feet of the bank of a watercourse must first obtain a permit from the Public Works Department, to ensure that the free flow of water is not disrupted.
- Chapter 14.13, Wetland Overlay District. The purpose of the Wetland Overlay District is to preserve and enhance the remaining wetlands within the city of San Rafael and encourage uses that are compatible with their natural functions. This chapter also encourages the restoration of wetland sites, prevent property loss from flooding events, and contribute to improved water quality. All development on or near wetlands must have the USACE make a jurisdictional determination delineating wetland boundary and obtain federal and State permits prior to approval of a use permit.
- Chapter 14.16, Site and Use Regulations. This chapter introduces development standards applicable to several districts, intended to ensure that new uses and development will contribute to and be harmonious with existing development, will reduce hazards to the public, and will be consistent with General Plan policies. Such sites include conservation areas, creeks, and other watercourses. Section 14.16.050, Conservation Areas- Development Potential, dictates that open space conservation areas identified in the General Plan are preserved through development review and that they have no development potential. Section 14.16.080, Creeks and Watercourses. This section establishes setbacks from creeks, drainageways, and the San Rafael Canal.
- Chapter 14.25, Environmental and Design Review Permits. This chapter outlines how the environmental and design review permits implement general plan policies which guide the location,

function, and appearance of development in such a way that protects the natural environment and assures the development is harmonious with existing development and the natural environment. Section 14.25.050, Review Criteria, outlines the criteria by which environmental and design review is conducted, including consistency with plans, building materials, site design, utilities, and landscaping.

- Chapter 17.10, Dumping, Dredging and Construction within Tidal Waterways. The purpose of this chapter is to minimize the disturbance and provide standards and procedures for the filling, excavation, and construction within the tidal waterways. This chapter applies to all portions of San Pablo Bay and San Rafael Bay, tidelands, shorelines, waterways, canals, beaches or salt marshes within the city, which are below an elevation of 7.5 feet mean lower low-water datum and to contiguous land between that elevation line and either a point 100 feet inland or the nearest publicly maintained road, whichever is closer. Fill, excavation, and construction activities must first receive a Tideland Permit through the Department of Public Works, prior to any activities.

4.4.1.2 EXISTING CONDITIONS

This section provides a summary of the existing biological conditions in the EIR Study Area, which includes habitat types, special-status plant and animal species, sensitive habitats, and wildlife corridors. A detailed description of these existing conditions, including maps, is provided in the Biological Background Report, included in this Draft EIR as Appendix E, Biological Resources Data.

Habitat Types

The EIR Study Area is largely developed, with urban uses occupying most of the valley floors and former marshlands that once bordered the San Francisco Bay. The valley floors are bordered by the remaining undeveloped woodlands, forests, grasslands, scrub and chaparral of the surrounding hillsides and ridges, traversed by bands of riparian woodland along the remaining unchannelized creeks and drainages. Marshlands remain along the shoreline of San Pablo Bay and the lower reaches of San Rafael, Gallinas, and Miller Creeks.

Vegetation cover types within the EIR Study Area based on the Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) geographic information system (GIS) mapping data of the United States Department of Agriculture (USDA) Forest Service are listed in Table 4.4-1. A detailed description of each vegetation type is provided in the Biological Background Report and the extent of urbanization and various vegetative cover types in the EIR Study Area is shown on Figure 4.4-1.

TABLE 4.4-1 ESTIMATED VEGETATION COVER IN THE EIR STUDY AREA

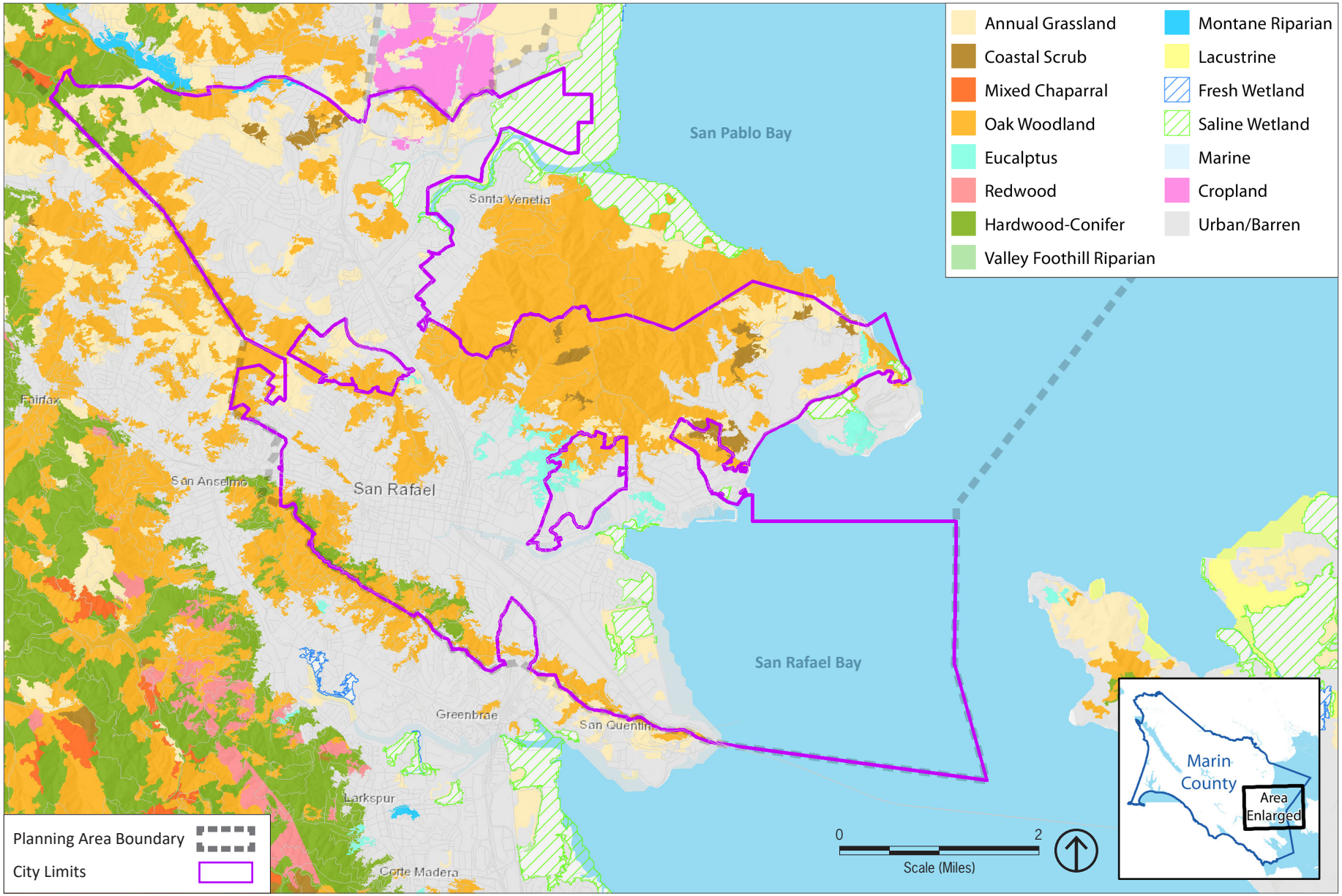
Vegetation Cover	EIR Study Area (Acres)	EIR Study Areas (Percent of Total)
Urban Development and Ornamental Landscaping	*9,779*	*49%*
Urban/Barren	7,548	38%
Eucalyptus	231	1%
Forest and Woodlands	*7,598*	*38%*
Oak woodland	5,302	27%
Hardwood-conifer forest	2,296	12%
Grasslands	*2,773*	*14%*
Annual grassland	2,773	14%
Riparian Woodland and Scrub	*202*	*1%*
Coastal scrub	196	1%
Riparian woodland	107	1%
Freshwater and Brackish Marsh	*5*	*0.2%*
Freshwater marsh	5	0.2%
Coastal Salt Marsh, Mudflats, and Open Water	*1,197.5*	*6%*
Saline marsh	1,197	6%
Lacustrine	0.5	0%
Other Land Types	*273*	*1%*
Mixed chaparral	233	1%
Cropland	40	0.2%
Total	19,928.5	

Sources: CALVEG GIS data, USDA Forest Service, 2019. Environmental Collaborative, January 2020, *San Rafael General Plan 2040 & Downtown Precise Plan Biological and Wetland Resources Background Report.*

Although native vegetation within much of the EIR Study Area has been substantially altered, the presence of large areas of undeveloped lands to the west, the remaining marshlands and open water habitat along the shoreline of the San Pablo Bay and San Rafael Bay, and the freshwater marsh and riparian habitat along unchannelized creeks and drainages, contribute to a relatively diverse assemblage of resident and migrant wildlife species. Each habitat differs in its relative value to specific species and can be characterized by both vegetation and associated animal species that are dependent on that habitat, although some wildlife species may utilize more than one habitat type.

Special-Status Species

Special-status species are defined as plants and animals legally protected under the State and/or federal Endangered Species Acts (FESA and CESA) or other regulations, as discussed in Section 4.4.1.1, Regulatory Framework. Special-status species also include species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat. Species with legal protection under FESA and CESA often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species.



SOURCES: EVEG from USFS showing CALVEG CWHR Type (aggregated); accessed on April 23, 2019; USGS base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 8/19/2019.

Figure 4.4-1
Vegetative Cover

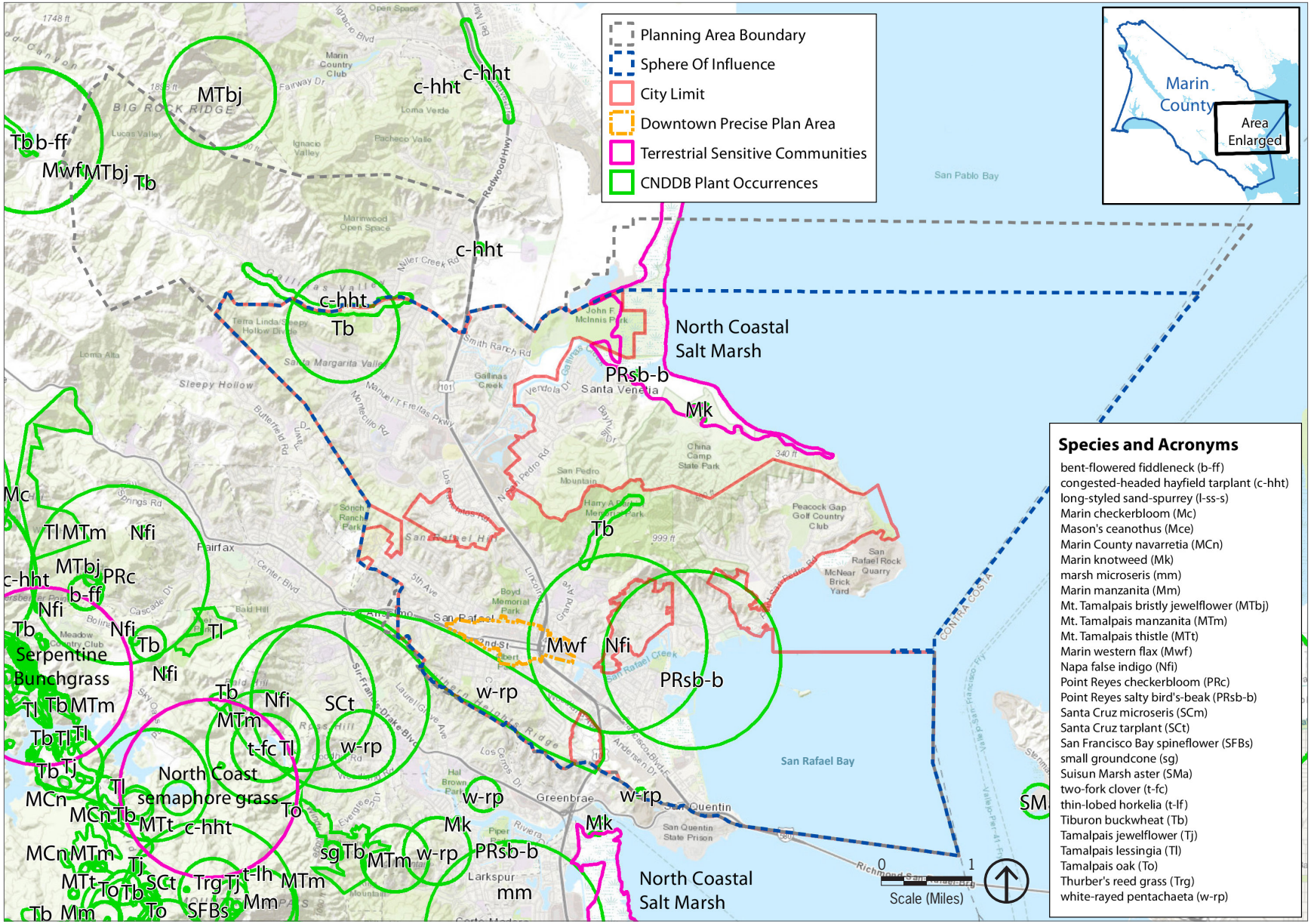
The California Natural Diversity Database (CNDDB) is California's primary inventory on the distribution of special-status species, which is maintained by the Biogeographic Data Branch of the CDFW. The CNDDB inventory provides the most comprehensive statewide information on the location and distribution of special-status species and sensitive natural communities. Occurrence data is obtained from a variety of scientific, academic, and professional organizations, and private consulting firms and is entered into the inventory as expeditiously as possible. The occurrence of a species of concern in a particular region is an indication that an additional population may occur at another location if habitat conditions are suitable. However, the absence of an occurrence in a particular location does not necessarily mean that special-status species are absent from the area in question, it only indicates that no data has been entered into the CNDDB inventory. Detailed field surveys are generally required to provide a conclusive determination on presence or absence of sensitive resources from a particular location, where there is evidence of potential occurrence.

Special-Status Plants

Review of the CNDDB and CNPS occurrence records indicates a total of 43 special-status plant species reported within or in the vicinity of the EIR Study Area. Table 4.4-2 includes the typical habitat characteristics, normal flowering season, and potential for occurrence in the EIR Study Area.

The CNDDB records show that nine of these special-status plant species have reported occurrences extend over portions of the EIR Study Area. These include the bent-flowered fiddleneck (*Amsinckia lunaris*), congested-headed hayfield tarplant (*Hemizonia congesta* ssp*. congesta*), Marin knotweed (*Polygonum marinense*), Mt. Tamalpais bristly jewelflower (*Streptanthus glandulosus* ssp*. pulchellus*), Marin western flax (*Hesperolinon congestum*), Napa false indigo (*Amorpha californica* var*. napensis*), Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp*. palustre*), Tiburon buckwheat (*Eriogonum luteolum* var*. caninum*), and white-rayed pentachaeta (*Pentachaeta bellidiflora*). It is assumed that white-rayed pentachaeta is extirpated from the EIR Study Area as a result of development in areas of grassland and woodland habitats that once supported the species and displacement by non-native grasses and other invasive species. The occurrence of Marin knotweed from China Camp is from a much more specific location observed in 2006, and this species is still assumed to be present. Details on the location of most of the other special-status plant species are based on general occurrence records that are decades old, and their presence in the EIR Study Area today is uncertain. See Figure 4.4-2.

Existing development limits the likelihood of continued occurrences of any populations of special-status plant species on the valley floors of the EIR Study Area, with the exception of brackish and saltmarsh associated species that could occur along the shorelines of the San Francisco Bay, such as Point Reyes salty bird's-beak. Many of the special-status plant species occurrences in the protected open space areas and undeveloped lands at the fringe of the EIR Study Area most like remain today, but are vulnerable to changes such as fire, competition with invasive species, and other threats. There remains a possibility that additional populations of one or more species occurs on the remaining undeveloped lands and the remaining coastal marshlands in the EIR Study Area.



SOURCES: California Natural Diversity Database accessed August 2019; USGS base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 8/29/2019.

Figure 4.4-2

Special-Status Plant Species and Sensitive Natural Communities

TABLE 4.4-2 SPECIAL-STATUS PLANT SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CNPS Rank	General Habitat	Blooming Period	Potential for Occurrence in EIR Study Area
Amorpha californica var. *napensis*	Napa false indigo	None	None	1B.2	Openings in broadleafed upland forest, chaparral, cismontane woodland.	April-July	Moderate. CNDDB general occurrence from south San Rafael.
Amsinckia lunaris	Bent-flowered fiddleneck	None	None	1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland.	March-June	Moderate. CNDDB general occurrence west end of Lucas Valley.
Arctostaphylos montana ssp. *montana*	Mt. Tamalpais manzanita	None	None	1B.3	Chaparral, valley and foothill grassland/serpentinite, rocky.	February-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Arctostaphylos virgate	Marin manzanita	None	None	1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest on sandstone, or granitic substrates.	January-March	Low. No known occurrences reported by CNDDB in EIR Study Area.
Calochortus tiburonensis	Tiburon mariposa-lily	Threatened	Threatened	1B.1	Open, rocky slopes in serpentine grassland.	March-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Calamagrostis crassiglumis	Thurber's reed grass	None	None	2B.1	Coastal scrub (mesic); marshes and swamps (freshwater).	May-August	Low. No known occurrences reported by CNDDB in EIR Study Area.
Castilleja affinis ssp. *neglecta*	Tiburon paintbrush	Threatened	Threatened	1B.2	Rocky serpentine sites in grasslands.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Ceanothus masonii	Mason's ceanothus	None	None	1B.2	Chaparral with serpentine affinity.	March-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Chloropyron maritimum ssp. *Palustre*	Point Reyes salty bird's-beak	None	None	1B.2	Marshes and swamps (coastal salt), usually in coastal salt marsh with *Salicornia, Distichlis, Jaumea and Spartina*; 0-10 meters.	June-October	Moderate. CNDDB general occurrence from San Rafael and Santa Venetia shoreline of EIR Study Area.
Chorizanthe cuspidata var. *cuspidate*	San Francisco Bay spineflower	None	None	1B.2	Sandy soil on terraces and slopes in coastal bluff, coastal dunes, coastal scrub, and coastal prairie habitat.	April- July August rarely	Low. No known occurrences reported by CNDDB in EIR Study Area.
Cirsium hydrophilum var. *vaseyi*	Mt. Tamalpais thistle	None	None	1B.2	Serpentine seeps and streams in chaparral and woodland.	May-August	Low. No known occurrences reported by CNDDB in EIR Study Area.

TABLE 4.4-2 SPECIAL-STATUS PLANT SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CNPS Rank	General Habitat	Blooming Period	Potential for Occurrence in EIR Study Area
Dirca occidentalis	Western leatherwood	None	None	1B.2	Broadleafed upland forest; closed-cone coniferous forest; chaparral; cismontane woodland, North Coast coniferous forest; riparian forest; riparian woodland.	January-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Eriogonum luteolum var. *caninum*	Tiburon buckwheat	None	None	1B.2	Serpentine soils; sandy to gravelly sites.	May-September	Moderate. CNDDB general occurrence from Santa Margarita Valley.
Fissidens pauperculus	Minute pocket moss	None	None	1B.2	Moss growing on damp soil in coniferous forests along the coast; in dry streambeds and stream banks.		Low. No known occurrences reported by CNDDB in EIR Study Area
Fritillaria lanceolate var. *tristulis*	Marin checker lily	None	None	1B.1	Coastal scrub, valley and foothill grassland, and coastal prairie; often on serpentine; various soils reported though usually clay.	February-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Fritillaria liliacea	Fragrant fritillary	None	None	1B.2	Often serpentinite; cismontane woodland, coastal prairie, coastal scrub; valley and foothill grassland.	February-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Gilia millefoliata	Dark-eyed gilia	None	None	1B.2	Coastal dunes.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Helianthella castanea	Diablo helianthella	None	None	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	March-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Hemizonia congesta ssp. *congesta*	Congested-headed hayfield tarplant	None	None	1B.2	Valley and foothill grassland, sometimes roadsides.	April-November	Moderate. CNDDB general occurrence from Santa Margarita Valley.
Hesperolinon congestum	Marin western flax	Threatened	Threatened	1B.1	Serpentine barrens and serpentine grassland and chaparral.	April-July	Moderate. CNDDB general occurrence from San Rafael and west end of Lucas Valley.
Holocarpha macradenia	Santa Cruz tarplant	Threatened	Endangered	1B.1	Light, sandy soil or sandy clay, often with non-natives in coastal prairie and grasslands.	June-October	Low. No known occurrences reported by CNDDB in EIR Study Area.
Horkelia tenuiloba	Thin-lobed horkelia	None	None	1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland on sandy soils, mesic openings.	May-July	Low. No known occurrences reported by CNDDB in EIR Study Area.
Kopsiopsis hookeri	Small groundcone	None	None	2B.3	Open woods, shrubby places, generally on *Gaultheria shallon*.	April-August	Low. No known occurrences reported by CNDDB in EIR Study Area.

TABLE 4.4-2 SPECIAL-STATUS PLANT SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CNPS Rank	General Habitat	Blooming Period	Potential for Occurrence in EIR Study Area
Lessingia micradenia var. *micradenia*	Tamalpais lessingia	None	None	1B.2	Usually on serpentine, in serpentine grassland or chaparral, often on roadsides.	(June rarely) July-October	Low. No known occurrences reported by CNDDB in EIR Study Area.
Microseris paludosa	Marsh microseris	None	None	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Navarretia rosulata	Marin County navarretia	None	None	1B.2	Closed-cone coniferous forest and chaparral on serpentinite.	May-July	Low. No known occurrences reported by CNDDB in EIR Study Area.
Pentachaeta bellidiflora	White-rayed pentachaeta	Endangered	Endangered	1B.1	Cismontane woodland, valley and foothill grassland on open, dry rocky slopes and grassy areas, often on serpentinite.	March-May	Moderate. CNDDB general occurrences from south San Rafael.
Plagiobothrys glaber	Hairless popcorn-flower	None	None	1A	Coastal salt marshes, alkaline meadows, and seeps.	March-May	Low. No known occurrences reported by CNDDB in EIR Study Area.
Pleuropogon hooverianus	North Coast semaphore grass	None	None	1B.1	Wet grassy, usually shady areas, sometimes in freshwater marsh, associated with forest environments.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Polypogon marinense	Marin knotweed	None	None	3.1	Coastal salt marshes, brackish water marsh, and riparian wetlands.	May-August	Moderate. CNDDB occurrence reported Santa Venetia shoreline.
Quercus parvula var. *tamalpaisensis*	Tamalpais oak	None	None	1B.3	Lower montane coniferous forest.	March-April	Low. No known occurrences reported by CNDDB in EIR Study Area.
Sidalcea calycosa ssp. *Rhizomata*	Point Reyes checkerbloom	None	None	1B.2	Freshwater marshes near the coast.	April-September	Low. No known occurrences reported by CNDDB in EIR Study Area.
Sidalcea hickmanii ssp. *Viridis*	Marin checkerbloom	None	None	1B.1	Chaparral, cismontane woodland; lower montane coniferous forest.	May-August	Low. No known occurrences reported by CNDDB in EIR Study Area.
Spergularia macrotheca var. *longistyla*	Long-styled sand-spurrey	None	None	1B.2	Meadows and seeps; marshes and swamps.	February-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Stebbinsoseris decipiens	Santa Cruz microseris	None	None	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	Low. No known occurrences reported by CNDDB in EIR Study Area.

TABLE 4.4-2 SPECIAL-STATUS PLANT SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CNPS Rank	General Habitat	Blooming Period	Potential for Occurrence in EIR Study Area
Streptanthus batrachopus	Tamalpais jewel-flower	None	None	1B.3	Closed-cone coniferous forest, chaparral, Talus serpentine outcrops.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Streptanthus glandulosus ssp. *Niger*	Tiburon jewel-flower	Endangered	Endangered	1B.1	Shallow, rocky serpentine slopes in grasslands.	May- June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Streptanthus glandulosus ssp. *Pulchellus*	Mount Tamalpais bristly jewel-flower	None	None	1B.2	Serpentine slopes.	May-July (August rarely)	Moderate. CNDDB general occurrence west end of Lucas Valley.
Symphyotrichum lentum	Suisun Marsh aster	None	None	1B.2	Marshes/swamps (brackish and freshwater); most often seen along sloughs with *Phragmites, Scirpus*, blackberry, *Typha, etc.*	May-November	Low. No known occurrences reported by CNDDB in EIR Study Area.
Trifolium amoenum	Two-fork clover	Endangered	None	1B.1	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Trifolium hydrophilum	Saline clover	None	None	1B.1	Marshes and swamps; valley and foothill grassland (mesic, alkaline); vernal pools.	April-June	Low. No known occurrences reported by CNDDB in EIR Study Area.
Triquetrella californica	Coastal triquetrella	None	None	1B.2	Grows within 30 miles from the coast in coastal scrub, grasslands, and in open gravels on roadsides, hillsides, rocky slopes.		Low. No known occurrences reported by CNDDB in EIR Study Area.

Notes.
Agencies
USFWS = U.S. Fish and Wildlife Service
CNPS = California Native Plant Society

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

Sources: California Native Plant Society. *Inventory of Rare and Endangered Plants https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants.* California Natural Diversity Database, 2019.

Special-Status Animals

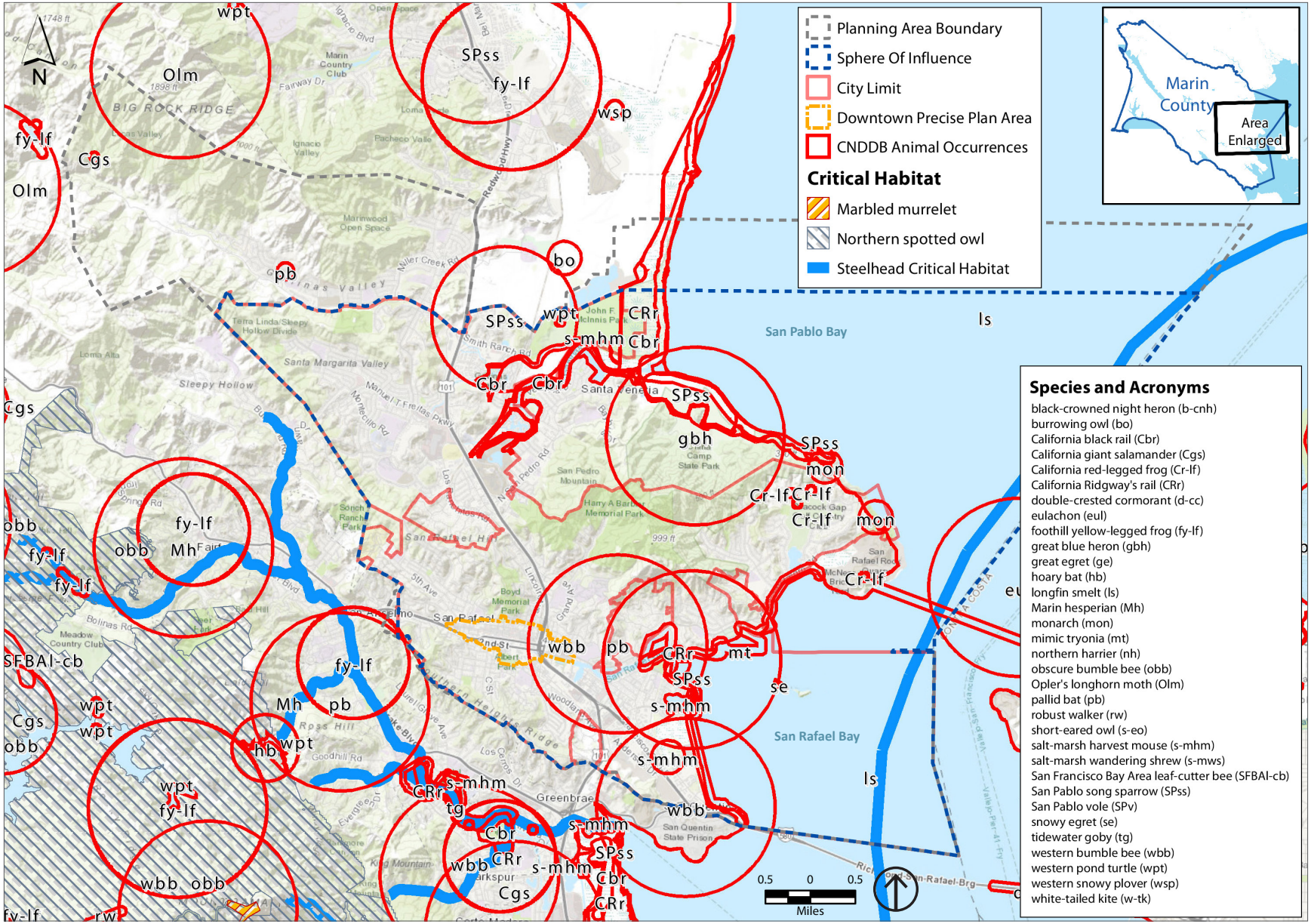
A total of 60 special-status animal species have been recorded, or are considered to potentially occur, in the vicinity of the EIR Study Area, as listed in Table 4.4-3, which includes animal species that may occur within or adjacent to the EIR Study Area, along with their listed status, general habitat characteristics, and their likelihood of occurrence in the EIR Study Area.

A total of 22 of these occurrences of special-status animal species have been reported by the CNDDB within the EIR Study Area. These include bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis*), California giant salamander (*Dicamptodon ensatus*), California red-legged frog (*Rana draytonii*), California Ridgway's rail (*Rallus longirostris obsoletus*), golden eagle (*Aquila chrysaetos),* monarch butterfly (*Danaus plexippus*), mimic tryonia (*Tryonia imitator*), northern harrier (*Circus cyaneus*), northern spotted owl (*Strix occidentalis caurina*), Opler's longhorn moth (*Adela oplerella*), pallid bat (*Antrozous pallidus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Pablo song sparrow (*Melospiza melodia samuelis*), western bumble bee (*Bombus occidentalis*), western pond turtle (*Actinemys marmorata*), and white-tailed kite (*Elanus leucurus*).

In addition, roosting colonies of more common black-crowned night heron (*Nycticorax*), double-crested cormorant (*Palacrocorax auritus*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), and snowy egret (*Egretta thula*), monitored by the CNDDB as sensitive habitat areas, are also reported in the EIR Study Area, as shown on Figure 4.4-3.

Most of the special-status animal species in the EIR Study Area are bird species known or suspected to use suitable habitat in marsh and open waters, together with fish species that utilize the Miller Creek corridor and San Francisco Bay. Most of the species listed in Table 4.4-3 that are not State and/or federally listed species are not closely monitored by the CNDDB and therefore occurrence records are not generally included in the database. These include species identified as "Species of Special Concern" by the CDFW.

No areas designated as Critical Habitat by the USFWS are located within the EIR Study Area. The special-status animal species with a moderate to high potential for occurrence in the EIR Study Area as indicated in Table 4.4-3 are reviewed in more detail in the Biological Background Report and shown on Figure 4.4-3. This includes information on steelhead, California red-legged frog, western pond turtle, northern spotted owl, white-tailed kite, northern harrier, California black rail, California Ridgway's rail, San Pablo song sparrow, and salt marsh harvest mouse.



SOURCES: California Natural Diversity Database and USFWS Critical Habitat database accessed on April 16, 2019; USGS base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 8/29/2019.

Figure 4.4-3
Special-Status Animal Species and Critical Habitat

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Fish						
Oncorhynchus kisutch	Coho salmon (Central California Coast ESUb)	Endangered	Endangered	None	Coastal streams from Punta Gorda in northern California down to and including the San Lorenzo River in central California, as well as some tributaries to San Francisco Bay.	Moderate. Species historically occurred in larger drainages of east Marin County.[10] Species last recorded from San Francisco Bay tributary during early-to-mid 1980s.[11] Corte Madera Creek designated as critical habitat and essential fish habitat for this species.
Oncorhynchus tshawytscha	Chinook salmon (Central Valley Spring-run ESU)	Threatened	Threatened	None	Requires clear, cool streams with pools and riffles, with coarse gravel beds for spawning. Sacramento River and its tributaries.	Moderate. Known to occasionally occur in Corte Madera Creek and other drainages of east Marin County, but fish may be of hatchery origin.[12]
Oncorhynchus mykiss	Steelhead (Central California Coast ESU)	Threatened	None	None	Coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.), including streams tributary to San Francisco and San Pablo Bays.	Moderate. Species historically occurred in larger drainages of east Marin County.[13] Corte Madera Creek and major tributaries are designated as critical habitat.
Acipenser medirostris	Green sturgeon	Threatened	None	Species of Special Concern	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.
Eucyclogobius newberryi	Tidewater goby	Endangered	None	Species of Special Concern	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 generally considered extirpated in the region.
Hypomesus transpacificus	Delta smelt	Threatened	None	None	Found in the Sacramento-San Joaquin estuary in saltwater, brackish and freshwater habitats.	Moderate. Known from San Pablo Bay.
Lavinia symmetricus	Tomales roach	None	None	Species of Special Concern	Known only from Walker Creek and Lagunitas Creek watersheds, in a variety of habitat conditions.	Low. No known occurrences reported by CNDDB in EIR Study Area.

[10] Robert A. Leidy, Gordan Becker, Brett N. Harvey. 2007. *Historical Status of Coho Salmon in Streams of the Urbanized San Francisco Estuary*, California. http://www.cemar.org/pdf/coho.pdf.

[11] Robert A. Leidy, Gordan Becker, Brett N. Harvey. 2007. *Historical Status of Coho Salmon in Streams of the Urbanized San Francisco Estuary*, California

[12] Robert A. Leidy, Gordan Becker, Brett N. Harvey. 2005. *Historical distribution and current status of steelhead/rainbow trout (*Oncorhynchus mykiss*) in streams of the San Francisco Estuary, California*. Center for Ecosystem and Restoration, Oakland, California.

[13] Robert A Leidy, Gordan Becker, Brett N. Harvey. 2005. *Historical distribution and current status of steelhead/rainbow trout* (Oncorhynchus mykiss*) in streams of the San Francisco Estuary, California*. Center for Ecosystem and Restoration, Oakland, California.

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Spirinchus thaleichthys	Longfin smelt	Candidate	Threatened	Species of Special Concern	Open water estuaries and bays, both in saltwater and freshwater areas.	Moderate. Known from San Pablo Bay.
Thaleichthys pacificus	Eulachon (southern DPSb)	Threatened	None	None	Open water estuaries and bays, both in saltwater and freshwater areas.	Moderate. Known from San Pablo Bay.
Amphibians and Reptiles						
Rana boylii	Foothill yellow-legged frog	None	None	Species of Special Concern	Perennial streams and drainages with cobble substrate.	Moderate. CNDDB occurrences to the west and north of Lucas Valley.
Rana draytonii	California red-legged frog	Threatened	None	Species of Special Concern	Ponds, streams, drainages and associated uplands; requires areas of deep, still, and/or slow-moving water for breeding.	High. CNDDB occurrences from China Camp State Park vicinity in EIR Study Area.
Dicampton ensatus	California giant salamander	None	None	Species of Special Concern	Ponds, streams, drainages and associated uplands; prefers fast moving water in coastal forests and valley-foothill riparian habitats with cover.	High. CNDDB occurrence from Lucas Valley in EIR Study Area.
Actinemys marmorata	Western pond turtle	None	None	Species of Special Concern	Ponds, streams with deep pools, drainages and associated uplands for egg laying.	High. CNDDB occurrence from John F McInnis Park in EIR Study Area.
Invertebrates						
Adela oplerella	Opler's longhorn moth	None	None	None	Typically found on serperntine grasslands where larval host plant, *Platystemon californicus*, is present.	Moderate. CNDDB occurrence from Big Rock Ridge vicinity.
Bombus caliginosus	Obscure bumble bee	None	None	None	Coastal areas from Santa Barbara County to Washington.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Bombus occidentalis	Western bumble bee	None	None	None	Found in a variety of habitats. Once common and widespread. Species has declined precipitously, perhaps from disease.	High. CNDDB occurrences from San Rafael vicinity, and likely remains in a variety of habitats.
Callophyrys mossil bayensis	San Bruno elfin butterfly	Endangered	None	None	Colonies are located on steep, north-facing slopes where larval host plant, *Sedum spathulifolium*, is present.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Danaus plexippus	Monarch butterfly	None	None	None	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.	High. CNDDB occurrences from China Camp State Park vicinity.

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Plebujus icarioides missionensis	Mission blue butterfly	Endangered	None	None	Found in coastal chaparral, scrub and grassland habitat where larval host plant, *Lupinus spp.,* are present.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Pomatiopsis binneyi	Robust walker	None	None	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 EIR Study Area.
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	Endangered	None	None	Found in coastal prairie, coastal scrub and sand dunes where larval host plant, *Viola adunca*, is present.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Trachusa gummifera	San Francisco Bay Area leaf-cutter bee	None	None	None	A pollen-collecting bee known from grassland habitat and areas with suitable nectaring plants.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Tryonia imitator	Mimic tryonia (California brackishwater snail)	None	None	None	Inhabits coastal lagoons, estuaries and salt marshes from Sonoma County to San Diego County, typically found in permanently submerged areas.	High. CNDDB occurrence from shoreline north of San Rafael Creek in EIR Study Area.
Vespericola marinensis	Marin Hesperian	None	None	None	Found in moist areas in coastal brushfields and chaparral, in riparian and mixed forest habitats.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Birds						
Aythya americana	Redhead	None	None	Species of Special Concern	Large, deep bodies of water; nests in freshwater emergent wetlands.	Moderate. May winter in small numbers on open water habitats along major drainages and San Pablo Bay.
Pelecanus erythrorhynchos	American white pelican	None	None	Species of Special Concern	Forages over shallow inland waters and coastal marine habitats, nests on isolated islands or peninsulas.	Moderate. May forage and roost in the open water habitat in San Pablo Bay from late summer through spring but does not breed in San Francisco Bay Area.
Pelecanus occidentalis californicus	California brown pelican	Endangered	Endangered	Fully Protected Species	Coastal shorelines and bays; rarely found on fresh water.	Moderate. May forage and roost in the open water habitat in San Pablo Bay from late summer through spring but does not breed in San Francisco Bay Area.
Sterna antillarum browni	California least tern (nesting colony)	Endangered	Endangered	Fully Protected Species	Found along the Pacific coast, foraging in shallow estuaries and lagoons, and nesting on open beaches.	Low. Not reported from eastern Marin County by CNDDB.
Charadrius alexandrines nivosus	Western snowy plover	Threatened	None	Species of Special Concern	Found along the Pacific coast and nests in barren to sparsely vegetated beaches and other shoreline areas.	Low. No known occurrences reported by CNDDB from EIR Study Area.

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Ardea alba	Great egret (nesting colony)	None	None	None	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.	High. Observed in Marin County where suitable habitat is present.
Ardea herodias	Great blue heron (nesting colony)	None	None	None	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.	High. Observed in Marin County where suitable habitat is present.
Egretta thula	Snowy egret (nesting colony)	None	None	None	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.	High. Observed in Marin County where suitable habitat is present.
Nycticorax	Black-crowned night heron (nesting colony)	None	None	None	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.	High. Observed in Marin County where suitable habitat is present.
Brachyramphus marmoratus	Marbled murrelet	Threatened	Endangered	None	Forages at sea and utilizes mature conifer forest for nesting.	Low. Suitable nesting and foraging habitat is absent from EIR Study Area.
Elanus leucurus	White-tailed kite	None	None	Fully Protected Species	Open grasslands, meadows, or marshes; require dense- topped trees or shrubs for nesting and perching.	High. Observed in Marin County where suitable habitat is present.
Haliaeetus leucocephalus	Bald eagle	None	Endangered	None	Ocean shorelines, lake margins, and rivers for both nesting and wintering; nests in large trees with open branches.	High. Known to occasionally forage along lower reaches of major drainages and shoreline of San Pablo Bay during winter, but not likely to remain for long periods or breed in EIR Study Area.
Circus cyaneus	Northern harrier	None	None	Species of Special Concern	Nests in wet meadows and marshes, forages over open grasslands and agricultural fields.	High. Observed in Marin County where suitable habitat is present.
Aquila chrysaetos	Golden eagle	None	None	Fully Protected Species	Rolling foothills and mountain areas. Nests in cliff- walled canyons or large trees in open areas.	High. Known to forage and nest in EIR Study Area.
Falco peregrinus	American peregrine falcon	None	Endangered	Fully Protected Species	A variety of open habitats including coastlines, mountains, marshes, bay shorelines, and urban areas. Nest on cliffs, bridges, and tall buildings.	Low. May occasionally forage in EIR Study Area, but not likely to breed due to the lack of suitable nesting habitat.
Laterallus jamaicensis coturniculus	California black rail	Threatened	None	Fully Protected Species	Salt marshes bordering larger bays, also found in brackish and freshwater marshes.	High. Reported by CNDDB from John F. McInnis Park in EIR Study Area.

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Rallus longirostris obsoletus	Ridgway's rail/California clapper rail	Endangered	Endangered	Fully Protected Species	Tidal salt marshes with sloughs and substantial cordgrass (*Spartina* sp.) cover.	High. Reported by CNDDB from shoreline of San Rafael and John F. McInnis Park in EIR Study Area.
Athene cunicularia	Burrowing owl	None	None	Species of Special Concern	Open, dry grasslands that contain abundant ground squirrel burrows.	Moderate. Observed in Marin County where suitable habitat is present.
Asio flammeus	Short-eared owl	None	None	Species of Special Concern	Found in open country and grasslands.	Moderate. Observed in Marin County where suitable habitat is present.
Asio otus	Long-eared owl	None	None	Species of Special Concern	Conifer, oak, riparian, pinyon-juniper, and desert woodlands adjacent to grasslands, meadows, or shrublands.	Moderate. Observed in Marin County where suitable habitat is present.
Strix occidentalis caurina	Northern spotted owl	Threatened	Candidate	Species of Special Concern	Dense forest and woodland, with suitable prey.	High. CNDDB occurrences from China Camp State Park, Harry A Barber Memorial Park and Southern Heights Ridge in EIR Study Area.
Contopus cooperi	Olive-sided flycatcher	None	None	Species of Special Concern	Coniferous forests with open canopies.	Moderate. Observed in Marin County where suitable habitat is present.
Lanius ludovicianus	Loggerhead shrike	None	None	Species of Special Concern	Open grasslands and woodlands with scattered shrubs, fence posts, utility lines, or other perches; nests in dense shrubs and lower branches of trees	Moderate. Observed in Marin County where suitable habitat is present.
Progne subis	Purple martin	None	None	Species of Special Concern	Woodlands; nests in tree snags and abandoned woodpecker cavities and human-made structures.	Moderate. Observed in Marin County where suitable habitat is present.
Phalacrocorax auritus	Double-crested cormorant (nesting colony)	None	None	None	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.	High. Observed in Marin County where suitable habitat is present.
Geothlypis trichas sinuosa	San Francisco (salt marsh) common Yellowthroat	None	None	Species of Special Concern	Salt, brackish, and freshwater marshes; and riparian woodlands; nests on or near ground in low vegetation.	Moderate. Observed in Marin County where suitable habitat is present.
Passerculus sandwichensis alaudinus	Bryant's savannah sparrow	None	None	Species of Special Concern	Tidal marshes and adjacent ruderal habitat, moist grasslands in the coastal fog belt, and infrequently, drier grasslands further inland; in South Bay, nests primarily on levee tops overgrown with annual grasses and levee banks dominated by pickleweed.	Moderate. Observed in Marin County where suitable habitat is present.

TABLE 4.4-3 SPECIAL-STATUS ANIMAL SPECIES IN THE EIR STUDY AREA

Scientific Name	Common Name	Federal List	California List	CDFW	General Habitat	Potential for Occurrence in EIR Study Area
Ammodramus savannarum	Grasshopper sparrow	None	None	Species of Special Concern	Grasslands with scattered shrubs.	Moderate. Observed in Marin County where suitable habitat is present.
Melospiza melodia samuelis	San Pablo (Samuels) song sparrow	None	None	Species of Special Concern	Tidal salt marshes dominated by pickleweed; nests primarily in pickleweed and marsh gumplant.	High. CNDDB occurrences from shoreline of San Rafael, China Camp State Park, and John F. McInnis Park in EIR Study Area.
Agelaius tricolor	Tricolored blackbird	None	None	Species of Special Concern	Nests in dense vegetation near open water; forages in grasslands and agricultural fields.	Low. No known occurrences reported by CNDDB from EIR Study Area.
Mammals						
Reithrodontomys raviventris	Salt marsh harvest mouse	Endangered	Endangered	Fully Protected Species	Tidal salt marshes of San Francisco Bay and its tributaries. Requires tall, dense pickleweed for cover.	High. CNDDB occurrences from shoreline of San Rafael and John F. McInnis Park in EIR Study Area.
Antrozous pallidus	Pallid bat	None	None	Species of Special Concern	A variety of open arid habitats (e.g., chaparral, open woodland, deserts); primary roost sites include bridges, old buildings, and in tree hollows and/or bark; sometimes roost in caves and rock crevices.	High. Suitable habitat present and general occurrence reported by CNDDB from San Rafael in EIR Study Area.
Corynorhinus townsendii	Townsend's big-eared bat	None	Candidate	Species of Special Concern	Roots in the open in a variety of habitats, including tree cavities, caves and old buildings. Extremely sensitive to human disturbance.	Low. Suitable habitat present but no known occurrences reported by CNDDB from EIR Study Area.
Lasiurus blossevillii	Western red bat	None	None	Species of Special Concern	Forested canyons and riparian woodlands for roosting, a variety of open habitats for foraging; typically roosts in snags and trees with moderately dense canopies.	Low. Suitable habitat present but no known occurrences reported by CNDDB from EIR Study Area.
Lasiurus cinereus	Hoary bat	None	None	None	Prefers open habitats with access to trees for cover, roosting in dense foliage.	Low. Suitable habitat present but no known occurrences reported by CNDDB from EIR Study Area.
Taxidea taxus	American badger	None	None	Species of Special Concern	Open habitats with friable soils.	Moderate. Suitable habitat present but no known occurrences reported by CNDDB from EIR Study Area.

Notes:
Agencies
USFWS = U.S. Fish and Wildlife Service
CDFW = California Department of Fish and Wildlife
ESU = Evolutionary Significant Unit
DPS = Distinct Population Segment
Sources: California Native Plant Society. *Inventory of Rare and Endangered Plants https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants;* CDFW, 2019, California Natural Diversity Database (CNDDB).

Sensitive Habitats

Sensitive Natural Communities

The CDFW tracks the occurrences of "special" plant communities that are either known or believed to be of high priority for inventory in the CNDDB. These plant communities are listed in the CDFW *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* publication,[14] which has been updated periodically since and available online on CDFW's website.

These communities are sometimes addressed by lead or trustee agencies, but generally are not afforded the same protection as CNPS Rank 1B and 2 plant species. Many sensitive natural community types support special-status plants and animals and are addressed under CEQA as essential habitat for those species.

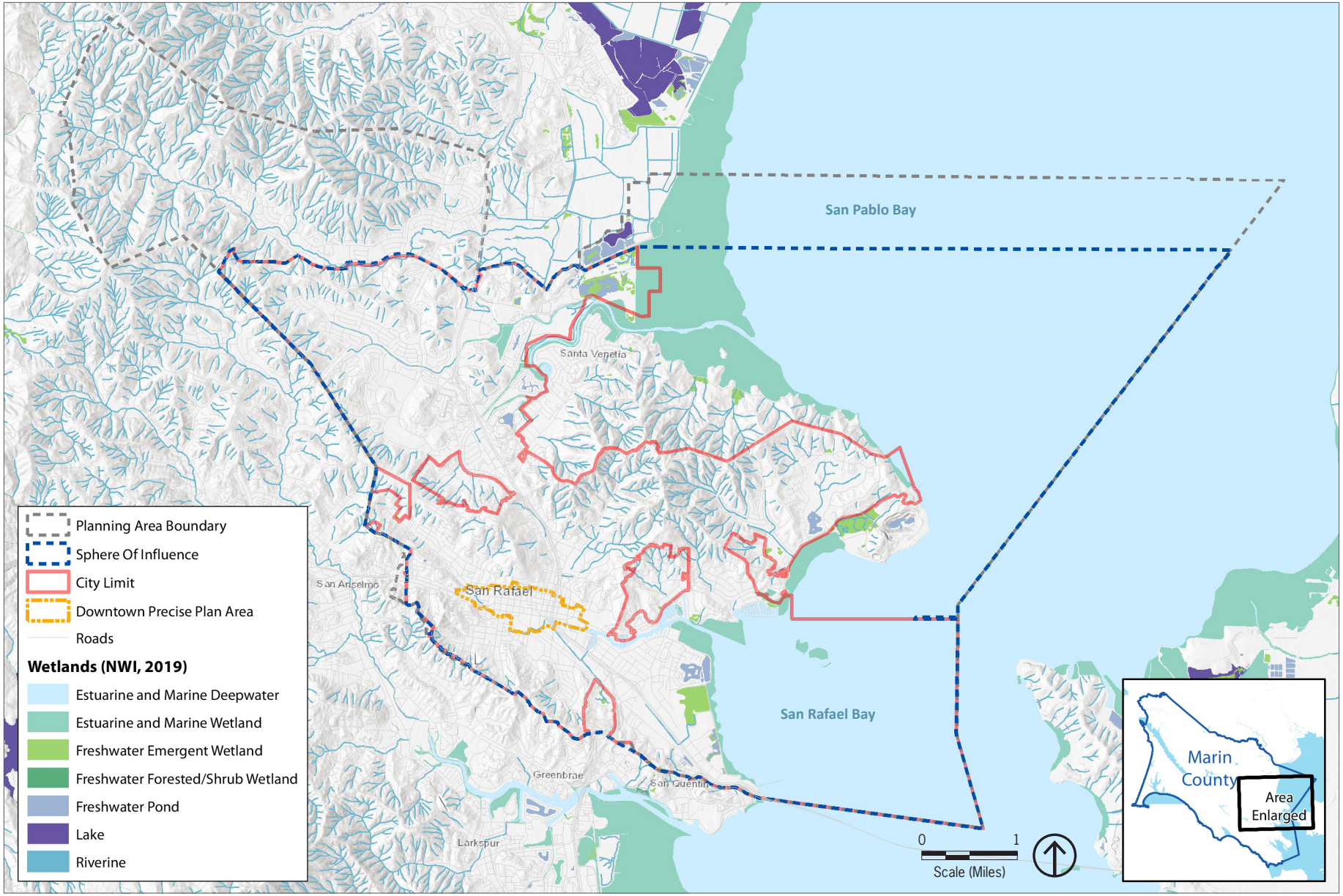
The CNDDB records indicate a large expanse of northern coastal salt marsh, a sensitive natural community type, along the fringe of San Pablo Bay through the northeastern portion of the EIR Study Area. This sensitive natural community type occurs in other locations within the EIR Study Area along the fringe of the San Pablo Bay and San Rafael Bay, including marshlands, such as Tiscornia Marsh near the mouth of San Rafael Creek shown on Figure 4.4-2.

Other sensitive natural community types are known in the EIR Study Area vicinity but have not been mapped in the CNDDB inventory. Based on the *Manual of California Vegetation*[15] classification system and latest list of terrestrial natural communities prepared by CDFW, these sensitive natural communities include Black Oak Forests and Woodlands, Coastal and Montane Redwood Forests, Douglas Fir Forests, California Bay Forests and Woodlands, California Buckeye Woodlands, Coyote Brush Scrub, freshwater marsh, freshwater seeps and springs, and native grasslands.

Occurrences of these sensitive natural community types are most likely present within the remaining woodland, forest, and grasslands in the EIR Study Area, but they have not been mapped as part of the CALVEG or CNDDB mapping programs. Detailed surveys would be required to provide confirmation of presence or absence from undeveloped portions of the EIR Study Area where thorough studies have not been conducted.

[14] California Department of Fish and Game, 2003. *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*. Wildlife and Habitat Data Analysis Branch, Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento.

[15] John Sawyer and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento.



SOURCES: U.S. Fish & Wildlife Service National Wetlands Inventory accessed on April 28, 2019; Base map by ESRI and NGS. Map produced by www.digitalmappingsolutions.com on 1/15/2020.

Figure 4.4-4
National Wetland Inventory Map

Wetlands and Jurisdictional Waters

As described in the General Plan and according to the USACE, wetlands are areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted for life in saturated soil. Wetlands include swamps, marshes, bogs and similar areas. As a significant natural resource, wetlands serve important functions relating to fish and wildlife. Such functions include food chain production, habitat, nesting spawning, rearing and resting sites for aquatic and land species. They also provide protection of other areas from wave action and erosion; storage areas for storm and flood waters; natural recharge areas where ground and surface water are interconnected; and natural water filtration and purification functions.[16] A formal jurisdictional delineation of wetlands and other waters of the U.S. and State was not conducted for the EIR Study Area. However, based on information available from the National Wetlands Inventory, numerous features can be assumed to fall under jurisdiction of the USACE and the San Francisco Bay RWQCB pursuant to Sections 401 and 404 of the federal Clean Water Act and as State waters regulated by the San Francisco Bay RWQCB under the Porter-Cologne Water Quality Control Act. Creeks and lakes are also regulated by the CDFW, pursuant to Section 1600 of the CFGC, with jurisdiction extending to the top of bank or the outer dripline of riparian vegetation along these features, whichever is greater.

As shown on Figure 4.4-4, features within the EIR Study Area likely to be considered wetlands or other waters of the U.S. by the USACE include the marshlands along the fringe of the San Pablo Bay and San Rafael Bay, estuarine and marine wetlands, freshwater wetlands, scattered waterbodies (ponds or lakes), riverine habitats along Miller Creek, Gallinas Creek, San Rafael Creek, and the extensive network of tributary drainages in the upper watersheds. Additional jurisdictional waters of the U.S. and wetlands may be present elsewhere in the EIR Study Area, but detailed site-specific assessments would be required to confirm presence or absence from undeveloped lands. As discussed in Section 4.4.1.1, Regulatory Framework, the USACE, San Francisco Bay RWQCB, and CDFW have authority over these various wetland habitat types.

A detailed wetland delineation and verification by the USACE would be required to determine the extent of jurisdictional wetlands on sites where modifications are proposed. More dense urbanized areas such as the Downtown Precise Plan Area do not contain wetlands identified by the National Wetlands Inventory. Federally regulated waters along the numerous tributary drainages in the EIR Study Area are defined by the "ordinary high-water mark," rather than the band of adjacent riparian vegetation, limiting USACE jurisdiction where dense willow riparian scrub and forest extend a considerable distance from the channel bank. However, the limits of State waters regulated by CDFW and San Francisco RWQCB encompass both the bed and bank of drainageways, as well as the limits of the associated riparian vegetation where it extends beyond the top of bank. Both agencies typically request that an adequate setback be provided to avoid both direct and indirect impacts on riparian corridors as part of environmental review for specific development plans.

[16] US Army Corps of Engineers, Headquarters Website, Regulatory Program and Permits, https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Frequently-Asked-Questions, accessed on December 16, 2020.

4.4.2 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.

4.4.3 IMPACT DISCUSSION

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.**

General Plan 2040

Local, regional, State, and federal regulations provide varying levels of protection for special-status species, depending on a number 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 local, regional, State, and federal agencies provide for the greatest oversight because each potential future development that could occur from implementation of the proposed General Plan 2040 must be evaluated for their potential impact on special-status species and other sensitive biological resources.

As indicated in Table 4.4-2, 43 special-status plant species occur within or in the vicinity of the EIR Study Area, while a total of nine special-status plant species have reported occurrences monitored by the CNDDB that occur within the EIR Study Area. These consist of bent-flowered fiddleneck, congested-headed hayfield tarplant, Marin knotweed, Mt. Tamalpais bristly jewelflower, Marin western flax, Napa false indigo, Point Reyes salty bird's-beak, Tiburon buckwheat, and white-rayed pentachaeta. As shown in Table 4.4-2, Marin western flax and white-rayed pentachaeta are listed as threatened and endangered, respectively, under both the FESA and CESA.

As indicated in Table 4.4-3, a total of 60 special-status animal species have a moderate to high potential to occur within or frequent the EIR Study Area. Of these, a total of 22 have been reported from or are considered to have a high potential to occur in or frequent the EIR Study Area. These consist of bald eagle, California black rail, California giant salamander, California red-legged frog, California Ridgway's rail, golden eagle,-monarch butterfly, mimic tryonia, northern harrier, northern spotted owl, Opler's longhorn moth, pallid bat, salt marsh harvest mouse, San Pablo song sparrow, western bumble bee, western pond turtle, and white-tailed kite, together with nesting colonies of the more common black-crowned night heron, double-crested cormorant, great egret, great blue heron, and the snowy egret considered sensitive resources by CDFW. As shown in Table 4.4-3, these have varied legal status or are considered Species of Special Concern by the CDFW. A few have no special-status but are monitored by the CDFW because of recent declines and abundance.

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development would occur 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 special-status species are generally not expected to occur. The potential for occurrence of special-status species in developed areas is generally very remote in comparison to undeveloped lands with natural habitat that contain essential habitat characteristics for the range of species known in the EIR Study Area vicinity. While the potential for adverse impacts on special-status species is relatively low, there remains a varying potential for loss or disruption due to conversion of areas of natural habitat, removal of trees and other vegetation, increases in light and noise, and other modifications and disturbance. Development in locations abutting or in the vicinity of open space lands or water resources, where special-status species are more likely to occur, could potentially cause a significant impact to, or cause the inadvertent loss, of bird nests in active use, conflicting with both the MBTA and CFGC.

The proposed Conservation and Climate Change (C) Element contains goals, policies, and programs that require local planning and development decisions to consider impacts to biological resources, including special-status species, on a project-by-project basis. These updated goals, policies, and programs related to preserving mature trees and other native vegetation, further control and eradicate non-native invasive species, participation in regional habitat restoration efforts, and further conformance with State and federal regulations related to special-status species, wetlands, and other jurisdictional waters. These General Plan goals, policies, and programs are listed below in their respective Impact Discussions. One goal, several policies, and several programs would work to reduce general impacts to sensitive habitats and species in the EIR Study Area, including:

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.10: Hillside Preservation. Encourage preservation of hillsides, ridgelines, and other open areas that serve as habitat and erosion protection as well as visual backdrops to urban areas.
- Policy C-1.12: Native or Sensitive Habitats. Protect habitats that are sensitive, rare, declining, unique, or represent a valuable biological resource. Potential impacts to such habitats should be minimized through compliance with applicable laws and regulations, including biological resource surveys, reduction of noise and light impacts, restricted use of toxic pesticides, pollution and trash control, and similar measures.
  - Program C-1.12A: Non-Native Predators. Support efforts by non-profit conservation groups, state and federal agencies, the Marin Humane Society and other organizations to reduce conflicts between human settlement and native wildlife. This includes protecting the habitat of birds and small mammals from non-native predators and restricting the use of pesticides.
  - Program C-1.12B: Oak Savanna and Oak Woodland Habitat Protection. Require proposed developments with the potential to impact oak savanna/woodland habitat to either avoid, minimize, or compensate for the loss of such habitat. Avoidance is the preferred measure where feasible. If habitat loss is deemed unavoidable, require that direct and indirect impacts be mitigated through habitat restoration, creation, or enhancement. Mitigation requirements should be based on vegetation mass rather than the number of impacted trees.
- Policy C-1.13: Special Status Species. Conserve and protect special status plants and animals, including those listed by State or federal agencies as threatened and/or endangered, those considered to be candidate species for listing by state and federal agencies, and other species that have been assigned special status by the California Native Plant Society and the California Fish and Game Code.
  - Program C-1.13A: List of Species. Maintain current California Natural Diversity Database digital (GIS) maps and data tables listing threatened, endangered, and special status species in the San Rafael Planning Area.
  - Program C-1.13B: Surveys. Require that sites be surveyed for the presence or absence of special status species prior to development approval. Such surveys must occur prior to development-related vegetation removal.
  - Program C-1.13C: Mitigating Impacts on Special Status Species. Require that potential unavoidable impacts to special status species are minimized through design, construction, and project operations. If such measures cannot adequately mitigate impacts, require measures such as on-site set asides, off-site acquisitions (conservation easements, deed restrictions, etc.), and specific restoration efforts that benefit the listed species being impacted.

These proposed goals, policies, and programs would help protect special-status species, and minimize impacts on any species identified as an endangered, threatened, candidate, sensitive, or special-status species and their habitat. However, these provisions don't address the possible presence of bird nests in active use, which are protected under the federal MBTA and CFGC. The Draft programs in the Conservation and Climate Change Element of the San Rafael General Plan 2040 should be revised to better clarify the need to conduct confirmation surveys for special-status species. While Program C-1.13B, Surveys, does call for surveying sites for the presence or absence of special-status species prior to development approval, it doesn't acknowledge that for some locations there may be no potential for presence of special-status species and does not address the potential for active bird nests, which are protected under State and federal laws. Without additional consideration through project-specific

assessments, loss of bird nests in active use may occur, which would conflict with State and federal regulations and be considered potentially *significant*.

Impact BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act and California Fish and Game Code, could occur as a result of potential new development.

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 General Plan Program C-1.13B and shall adopt a new program or modify an existing program to clarify the need for special-status species surveys and to ensure avoidance of nests of native birds in active use to support Policy C-1.13 (Special Status Species). Revisions to Program C-1.13B are shown in double-underlined text while the new Program is in standard text:

- Modified Program C-1.13B: Surveys for Special-Status Species. Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of special status species 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.
- New or Modified Program: Avoidance of Nesting Birds. Nests of native bird nests 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 (March 1 through August 31) or preconstruction surveys should be conducted by a qualified biologist 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 any young birds have successfully left the nest.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

The Downtown Precise Plan Area is an urbanized area and potential future development in the Downtown Precise Plan Area would occur 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 special-status species are generally not expected to occur. However, there remains a potential for steelhead and other special-status aquatic species to disperse along San Rafael Creek and tributary drainages through the Downtown Precise Plan Area, including San Rafael/Mahon Creek and Irwin Creek in the southeast portion of the Downtown Precise Plan Area. There remains a possibility that bird species may nest along these drainages or in locations with mature trees and other established vegetation, and new development could result in the inadvertent loss or abandonment of nests when in active use, which would be a violation of the MBTA and CFGC.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts to biological resources; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Potential future

development in the Downtown Precise Plan Area are subject to the goals, policies, and programs that would be adopted under the proposed General Plan 2040, as listed above. These proposed goals, policies, and programs would help protect special-status species, and minimize impacts on any species identified as an endangered, threatened, candidate, sensitive, or special-status species that occur in the Downtown Precise Plan Area. Accordingly, like the proposed General Plan 2040, implementation of the Downtown Precise Plan could result in significant impacts related to special-status species and the revised General Plan programs resulting from implementation of Mitigation Measure BIO-1 would reduce impacts to a *less-than-significant* level.

Significance with Mitigation: Less than significant.

BIO-2	**Implementation of the proposed project could have a substantial adverse effect on any riparian habitat or other 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.**

General Plan 2040

Impacts to riparian habitats and other sensitive natural communities may occur from both direct and indirect sources from implementation of the proposed General Plan 2040. Direct impacts occur as a result of converting natural habitat to development, including construction of new structures, creating impervious surfaces for roadways and parking, and culverting of natural drainages. Direct impacts may also be temporary in nature if they disturb a habitat that is subsequently restored after construction. An indirect impact is a physical change in the environment, which is not immediately related to, but could be caused by, implementation of the proposed General Plan 2040. For example, if future development under the proposed General Plan 2040 results in a collective reduction in habitat, the values and functions of that remaining habitat would be reduced. Changes in hydrology and water quality, through increases in sedimentation as a result of grading and the introduction of urban pollutants could also have indirect impacts on aquatic habitat and contribute to a reduction in the value of downgradient waters.

As discussed in Section 4.4.1.2, Existing Conditions, sensitive natural communities in the EIR Study Area include areas of northern coastal salt marsh along the fringe of the San Pablo Bay through the northeastern portion of the EIR Study Area. These marshlands are identified as wetlands under the National Wetlands Inventory, which is discussed further under Impact Discussion BIO-3. Other sensitive natural community types in the EIR Study Area, not mapped in the CNDDB inventory, include Black Oak Forests and Woodlands, Coastal and Montane Redwood Forests, Douglas Fir Forests, California Bay Forests and Woodlands, California Buckeye Woodlands, Coyote Brush Scrub, freshwater marsh, freshwater seeps and springs, and native grasslands. Occurrences of these sensitive natural community types are most likely present within the remaining woodland, forest, and grasslands in the EIR Study Area, but they have not been mapped as part of the CALVEG or CNDDB mapping programs.

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development that results from implementation of the proposed project would occur 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. Although these areas generally do not appear to contain large amounts of sensitive habitat, there remains a potential for presence of sensitive natural communities in some locations. Additionally, potential future development that occurs adjacent to open space areas or along drainages and shoreline areas could have a significant impact on sensitive natural communities if present on a particular site. Further detailed investigation is typically necessary to determine whether any sensitive natural communities are present on undeveloped sites with natural habitat.

As discussed in Impact Discussion BIO-1, the Conservation and Climate Change (C) Element contains goals, policies, and 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. These General Plan goals, policies, and programs serve to minimize impacts on riparian and other sensitive natural communities in the EIR Study Area:

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.6: Creek Protection. Protect and improve creeks as an important part of San Rafael's identity, natural environment, and green infrastructure. Except for specific access points approved per Policy C-1.7, development free setbacks shall be required along perennial and intermittent creeks to help maintain their function and habitat value. Appropriate erosion control and habitat restoration measures are encouraged within the setbacks, and roadway crossings are permitted.
  - Program C-1.6A: Creek and Drainageway Setbacks. Maintain the following setback requirements in the Municipal Code:

    A minimum 25-foot development-free setback shall be maintained from the top of creek banks for all new development (including but not limited to paving and structures), except for Miller Creek and its tributaries, where a minimum 50-foot setback shall be maintained. Setbacks up to 100 feet may be required on lots in development projects that are more than two acres in size where development review determines that a wider setback is needed to maintain habitat values, and in areas where high-quality riparian habitat exists. The City may waive the setback requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the creek to the maximum extent feasible and the results are acceptable to appropriate regulatory agencies. Drainageway Setbacks: Drainageway setbacks shall be established through individual development review, taking into account existing habitat function and values.

  - Program C-1.6B: Municipal Code Compliance. Ensure that the San Rafael Municipal Code is consistent with local, state, and federal regulatory agency requirements for erosion control and natural resource management and is amended as needed when these regulations change. Local public works activities shall comply with the Municipal Code.

- Policy C-1.9: Enhancement of Creeks and Drainageways. Conserve or improve the habitat value and hydrologic function of creeks and drainageways so they may serve as wildlife corridors and green infrastructure to improve stormwater management, reduce flooding, and sequester carbon. Require

creek enhancement and associated riparian habitat restoration/ creation for projects adjacent to creeks to reduce erosion, maintain storm flows, improve water quality, and improve habitat value where feasible.

  - Program C-1.9A: Watercourse Protection Regulations. Maintain watercourse protection regulations in the San Rafael Municipal Code. These regulations should be periodically revisited to ensure that they adequately protect creeks and drainageways. Consider specific measures or guidelines to mitigate the destruction or damage of riparian habitat from roads, development, and other encroachments.

- Policy C-1.12: Native or Sensitive Habitats. Protect habitats that are sensitive, rare, declining, unique, or represent a valuable biological resource. Potential impacts to such habitats should be minimized through compliance with applicable laws and regulations, including biological resource surveys, reduction of noise and light impacts, restricted use of toxic pesticides, pollution and trash control, and similar measures.
  - Program C-1.12B: Oak Savanna and Oak Woodland Habitat Protection. Require proposed developments with the potential to impact oak savanna/woodland habitat to either avoid, minimize, or compensate for the loss of oak trees. Avoidance is the preferred measure where feasible. If the loss of oak trees is deemed unavoidable, require that direct and indirect impacts be mitigated through habitat restoration, creation, or enhancement.
- Policy C-1.13: Special Status Species. Conserve and protect special status plants and animals, including those listed by State or federal agencies as threatened and/or endangered, those considered to be candidate species for listing by state and federal agencies, and other species that have been assigned special status by the California Native Plant Society and the California Fish and Game Code.
  - Program C-1.13D: Steelhead Habitat. Support efforts to restore, preserve or enhance Central California Coast Steelhead habitat in Miller Creek and other creeks.

In addition to these policies, potential future development that occurs from implementation of the proposed General Plan 2040 would be required to comply with SRMC Chapter 11.30, Watercourses, which requires permits from the Public Works Department for development within 15 feet of a bank of a watercourse, regardless if the watercourse is designated as significant or not.

Although potential future development is anticipated to generally occur in already urbanized areas of the EIR Study Area, there is a possibility that development could be proposed in locations that may contain riparian habitat or other sensitive natural community. However, future development proposals requiring discretionary review in locations that may contain sensitive habitat would typically undergo a project-level environmental review to determine presence or absence. As discussed under Impact Discussion BIO-1, site-specific assessments would be required for areas that may support special-status species under Program C-1.13B: Surveys, but does not address confirmation on presence or absence of riparian habitat or other sensitive natural community. Policy C-1.12: Native or Sensitive Habitats calls for protection of sensitive habitats but does specifically require surveys to confirm presence or absence on a particular site proposed for development. A site-specific biological resource assessment would determine whether any sensitive natural communities are present on undeveloped sites and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. Without the preparation of biological resource assessments to determine whether sensitive habitats are

present, impacts could possibly occur in locations where riparian habitat and other sensitive natural community types occur in the EIR Study Area, which is considered *potentially significant*.

Impact BIO-2: Impacts to riparian areas, drainages, and sensitive natural communities could occur from potential future development where natural habitat remains.

Mitigation Measure BIO-2: To ensure sensitive riparian areas, drainages, and sensitive natural communities are not impacted through implementation of the proposed project, the City shall adopt the following General Plan Program or amend other programs to support Policy C-1.12 (Native or Sensitive Habitats) to ensure that sensitive natural communities are identified and addressed as part of future development review:

- New or Modified Program: Surveys for Sensitive Natural Communities. Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of 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.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

Approximately half of the growth anticipated through 2040 would occur in the Downtown Precise Plan Area. The Downtown Precise Plan Area is largely urbanized with remaining natural areas limited to riparian and marshland vegetation occurring along the San Rafael Canal, San Rafael/Mahon Creek, and Irwin Creek. Proposed development adjacent to these drainages could adversely affect remaining areas of riparian and marshland unless identified and adequately protected.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts to biological resources; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Potential future development in the Downtown Precise Plan Area is subject to the goals, policies, and programs that would be adopted under the proposed General Plan 2040, as listed above. Furthermore, the proposed General Plan 2040 includes a program (C-1.9D) to "Pursue opportunities for creek restoration and beautification along San Rafael, Mahon, and Irwin Creeks, building on past efforts supporting biological and ecological restoration, education, and water quality improvements along these waterways." These proposed goals, policies, and programs would help protect riparian areas, drainages, and sensitive natural communities, and minimize impacts to these areas in the Downtown Precise Plan Area. Accordingly, like the proposed General Plan 2040, implementation of the Downtown Precise Plan could result in significant impacts related to riparian areas, drainages, and sensitive natural communities and implementation of Mitigation Measure BIO-2 would be required to reduce impacts to a *less-than-significant* level.

Significance with Mitigation: Less than significant.

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.**

General Plan 2040

Development and land use activities associated with implementation of the proposed General Plan 2040 could result in direct loss or modification to existing wetlands and unvegetated other waters, as well as indirect impacts due to water quality degradation. Affected wetlands could include both the wetland-related sensitive natural community types described under Impact Discussion BIO-2, as well as areas of open water, degraded and 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 SRMC Chapter 17.10, Dumping, Dredging, and Construction within Tidal Waterways, which requires a Tideland Permit through the Department of Public Works, prior to any construction activities. Indirect water quality-related issues are discussed further in Chapter 4.10, Hydrology and Water Quality, of this Draft EIR, and as discussed in Impact Discussion HYDRO-1, water quality impacts were determined to be *less than significant*. Refer to Chapter 4.10, Hydrology and Water Quality, for a list of goals, policies, and programs that would preserve water quality of all water resources in the EIR Study Area, including wetlands.

As described in Impact Discussion BIO-1, the Conservation and Climate Change (C) Element contains goals, policies, and programs that require local planning and development decisions to consider impacts to biological resources, including wetlands, on a project-by-project basis. These General Plan goals, policies, and programs serve to minimize impacts on wetlands in the EIR Study Area:

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.1: Wetlands Preservation. Require appropriate public and private wetlands preservation, restoration and/or rehabilitation through the regulatory process. Support and promote acquisition of fee title and/or easements from willing property owners.
  - Program C-1.1A: Wetlands Overlay District. Continue to implement wetlands policy through a Wetlands Overlay Zoning District that is based on wetland delineations consistent with US Army Corps of Engineers criteria.
- Policy C-1.3: Wetland Protection and Mitigation. In order to protect and preserve valued wetlands, loss of wetlands due to filling shall be avoided, unless it is not possible or practical. Compensatory

mitigation for the loss of wetlands shall be required in the event that preservation is not possible or practical due to conditions such as the location, configuration, and size of the wetland.

- Program C-1.3A: Compensatory Mitigation Requirements. For permanently impacted wetlands, lost wetland area shall be replaced on-site and in-kind at a minimum ratio of 2:1 (e.g., 2 acres for each acre lost). If on-site mitigation is not possible or practical, off-site mitigation shall be required, preferably in the same drainage basin or a nearby Marin watershed if the same basin is not available, at a minimum replacement ratio of 3:1. Temporarily impacted wetlands may be restored and revegetated to pre-project conditions.
- Program C-1.3B: Conditions for Mitigation Waivers. The City may waive the compensatory mitigation requirement on a case by case basis for wetlands restoration projects and for fill of wetlands that are less than 0.1-acre in size, provided that all of the following conditions are met: (1) the wetland is isolated (e.g., it is not within, part of, or directly connected or hydrologically linked by natural flow to a creek, drainageway, wetland, or submerged tidelands); (2) it is demonstrated by an independent wetland expert that preservation would not result in a functioning, biological resource; (3) the City has determined that filling would result in a more appropriate and desirable site plan for the project; and (4) the City verifies that applicants have received all required permits and complied with all other mitigation requirements from resource agencies with wetland oversight.
- Program C-1.3C: Revision of Mitigation and Waiver Requirements. Consider revisions to mitigation requirements and waiver conditions that reflect best practices, sea level rise adaptation needs, and consistency with the requirements used by state and federal agencies and other Bay Area jurisdictions.

- Policy C-1.5: Wetland Setbacks. Maintain a minimum 50-foot development-free setback from wetlands, including, but not limited to, paving or structures. Setbacks of greater than 50 feet may be required on lots of two or more acres as determined through development review. The City may waive this requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the wetland to the maximum extent feasible and will not cause cumulative impacts on functioning wetlands.

As described in Impact Discussions BIO-1 and BIO-2, site-specific assessments would be required for developments proposed on or near sensitive habitats, such as wetlands. The assessment would be necessary to determine the extent of any jurisdictional waters on undeveloped lands with potentially sensitive habitat where development is proposed. In addition to the stated goals, policies, and programs listed in Impact Discussion BIO-3, potential future development must comply with SRMC Chapter 14.13, Wetland Overlay District, which requires a USACE wetland delineation and federal and State permits prior to approval of a use permit where regulated waters would be affected. This project-specific assessment would serve to identify the presence or absence of any jurisdictional waters and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. However, there may be regulated waters on undeveloped properties outside of mapped Wetland Overlay District parcels that could be affected by future development, including wetlands and riparian habitat along streams and channels. Without the preparation of project-specific assessments for future projects on or near potential wetlands outside the Wetland Overlay District parcels, impacts in the EIR Study Area are considered *potentially significant* and mitigation is required.

Impact BIO-3: Potential future development could result in direct and indirect impacts to wetland habitat.

Mitigation Measure BIO-3: To ensure that sensitive wetland habitats are not impacted directly or indirectly through implementation of the proposed project, the City shall adopt the following General Plan Program or amend other programs to support Policy C-1.1 (Wetlands Protection) to ensure that jurisdictional waters are identified and addressed as part of future development review:

- New Program: Surveys for Regulated Waters. Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the presence or absence of regulated waters prior to development approval. Such surveys should be conducted by a qualified wetland specialist and occur prior to development-related vegetation removal or other habitat modifications.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

Wetlands and regulated waters within the Downtown Precise Plan Area include the San Rafael Canal, San Rafael/Mahon Creek, and Irwin Creek. Potential future development activities in the Downtown Precise Plan Area could result in direct loss or modification to these features, as well as indirect impacts due to water quality degradation unless adequate avoidance and controls are implemented.

The proposed Downtown Precise Plan has no specific policies, but does describe the potential for an urban wetland in the Transit Village sub-area. An urban wetland would help alleviate local flooding during the rainy season and to combat sea-level rise in the future, as well as restore natural habitat near the junction of Irwin and Mahon Creeks. An urban wetland project would require parcel acquisition along San Rafael Creek. An urban wetland could be designed to widen the connection of Irwin Creek and San Rafael Creek and create a natural downtown amenity. The Downtown Code has no specific regulations to reduce impacts to biological resources; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Potential future development in the Downtown Precise Plan Area are subject to the goals, policies, and programs that would be adopted under the proposed General Plan 2040, as listed above. These proposed goals, policies, and programs would help protect wetlands, and minimize impacts these areas in the Downtown Precise Plan Area. Accordingly, like the proposed General Plan 2040, implementation of the Downtown Precise Plan could result in significant impacts related to wetlands and implementation of Mitigation Measure BIO-3 would be required to reduce impacts to a *less-than-significant* level.

Significance with Mitigation: Less than significant.

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.

General Plan 2040

Development and land use activities associated with implementation of the proposed General Plan 2040 would generally be in urbanized areas with few wildlife corridors or locations where wildlife is already acclimated to human activity. However, the EIR Study Area does contain some habitat areas that could be adversely affected by new development, particularly along creeks and other drainages, or adjacent to open space and undeveloped lands.

As discussed in Impact Discussion BIO-1, the proposed General Plan 2040 includes a goal, policy, and program that would ensure that existing wildlife corridors are preserved and protected. These include:

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.11: Wildlife Corridors. Preserve and protect areas that function as wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between larger natural areas.
  - Program C-1.11A: Mapping of Wildlife Corridors. Support mapping of wildlife corridors in the Planning Area. 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.

Creeks and shorelines serve as important movement corridors through the EIR Study Area, and the numerous goals, policies and programs in General Plan 2040 would serve to protect and enhance these features. Site-specific biological resource assessments on sites with remaining natural habitat would also be required under Mitigation Measure BIO-1, which would determine whether any important wildlife movement corridors are present on undeveloped lands where potential future development is proposed. This project-specific assessment would serve to identify presence of any sensitive wildlife movement corridors and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. Without the preparation of project-specific assessments for future projects on or near sensitive habitats, impacts in the EIR Study Area are considered *potentially significant* and mitigation is required.

Potential future development could result in the potential for bird collisions as a result of new buildings and other structures. Avian injury and mortality resulting from collisions with buildings, towers, and other human-made structures is a common occurrence in city and suburban settings. Some birds are unable to detect and avoid glass and have difficulty distinguishing between actual objects and their reflected images, particularly when the glass is transparent and views through the structure are possible. Night-time lighting can interfere with movement patterns of some night-migrating birds, causing disorientation or attracting them to the light source. The frequency of bird collisions in any particular area is dependent

on numerous factors, including characteristics of building height, fenestration, and exterior treatments of windows and their relationship to other buildings and vegetation in the area; local and migratory avian populations, their movement patterns, and proximity of water, food and other attractants; time of year; prevailing winds; weather conditions; and other variables.

New buildings associated with the future development under General Plan 2040 would alter existing physical characteristics of the EIR Study Area and could contribute to an increased risk of bird collisions and mortalities. For taller buildings and structures that extend above the existing urban fabric and height of vegetative cover, this could be a significant impact unless appropriate bird-safe design measures were incorporated into the building design. Bird-safe design measures can include the following design considerations and best management practice strategies:

- Avoid the use of highly reflective glass as an exterior treatment, which appears to reproduce natural habitat and can be attractive to some birds,
- Limit reflectivity and prevent exterior glass from attracting birds in building plans by utilizing low-reflectivity glass and providing other non-attractive surface treatments,
- Use low-reflectivity glass or other glazing treatments for the entirety of the building's glass surface, not just the lower levels,
- For commercial buildings, interior light "pollution" should be reduced during evening hours through the use of a lighting control system,
- Exterior lighting should be directed downward and screened to minimize illuminating the exterior of the building at night, except as needed for safety and security,
- Glass skyways or walkways, freestanding glass walls, and transparent building corners should not be allowed,
- Transparent glass should not be allowed at the rooflines of buildings, including in conjunction with green roofs, and
- All roof mechanical equipment should be covered by low-profile angled roofing so that obstacles to bird flight are minimized.

Mitigation Measure BIO-4 has been recommended to ensure bird-safe design is considered for new buildings/structures and to reduce the risk of bird collisions. Implementation of the practices developed as part of General Plan 2040 and Mitigation Measure BIO-4 regarding the risk of bird collisions would ensure that opportunities for wildlife movement are adequately identified and protected, and potential impacts would be reduced to *less-than-significant* levels.

Impact BIO-4: Potential future development in the EIR Study Area could result in impacts on the movement of wildlife and potential for increased risk of bird collisions.

> Mitigation Measure BIO-4: To ensure that potential future development under implementation of the proposed project does not result in impacts on the movement of wildlife, the City shall adopt the following General Plan programs or amend other programs to support Policy C-1.11 (Wildlife Corridors) so that important movement corridors and the potential for increased risk of bird collisions are identified and addressed as part of future development review:
>
> - New or Modified Program: Surveys for Wildlife Movement Corridors. Require that sites with suitable natural habitat, including creek corridors through urbanized areas, be surveyed for the

presence or absence of important wildlife corridors 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.

- New or Modified Program: Consider Risk of Bird Collision. Require that taller structures be designed to minimize the potential risk of bird collisions using input from the latest bird-safe design guidelines and best management practice strategies to reduce bird strikes.
- New Program: Bird Safe Design Ordinance. Develop and adopt a Bird Safe Design ordinance to provide specific criteria and refined guidelines as part of design review of new buildings and taller structures.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

As determined in Impact Discussions BIO-1 through BIO-3, the Downtown Precise Plan would absorb roughly half of the growth anticipated in the EIR Study Area by 2040. However, the Downtown Precise Plan is considered largely built out with little opportunities for terrestrial wildlife movement and dispersal. There remains a potential for fish, birds, and some wildlife to move along the San Rafael Canal, San Rafael Creek, and other drainages through the Downtown Precise Plan Area. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts to biological resources, the potential future development in the Downtown Precise Plan Area is subject to the goals, policies, and programs that would be adopted under the proposed General Plan 2040, as listed above, that are aimed at protecting biological resources. Controls implemented under Mitigation Measure BIO-4 to reduce the risk of bird collisions for any larger new buildings in the Downtown Precise Plan area, would address the potential adverse impacts otherwise posed by new structures. As such, implementation of the Downtown Precise Plan would not interfere substantially with the movement of native resident or migratory fish or wildlife species and the impact is *less than significant.*

Significance without Mitigation: Less than significant.

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.**

General Plan 2040

The City of San Rafael General Plan is the primary planning document for the City of San Rafael. The proposed revisions to policies and programs under the Conservation and Climate Change (C) Element are intended to ensure consistency between the General Plan and Zoning Ordinance. Because the General Plan is the overriding planning document for San Rafael and because the proposed project involves updating the General Plan and Zoning Ordinance for internal consistency, implementation of the proposed project would not conflict with local policies and ordinances protecting biological resources. As described in Impact Discussion BIO-3, potential future development under implementation of the proposed project

would be required to comply with Chapter 11.30, Watercourses, to protect the flow of water in watercourses within the EIR Study Area. Additionally, potential future development would be required to comply with Chapter 14.13, Wetland Overlay District, and Chapter 17.10, Dumping, Dredging and Construction within Tidal Waterways, which contain provisions to protect wetlands, marshlands, and tidal areas within the EIR Study Area. Furthermore, SRMC Chapter 11.12, Trees, has additional requirements that provide for the protection and preservation of trees along public streets, sidewalks, and walkways within the city. This chapter requires a permit be approved by the Public Works Department for the trimming, planting, and removal of street trees, in addition to regulation for the protection of trees during construction activities.

The proposed Conservation and Climate Change (C) Element and the Community Design and Preservation (CDP) Element contains goals, policies, and programs that require local planning and development decisions to consider impacts to various biological resources, including trees. The following General Plan goal, policies, and programs would serve to minimize potential adverse impacts to biological resources such as trees in the EIR Study Area:

Goal C-1: Supporting Our Natural Communities. Protect, restore, and enhance San Rafael's environment and natural communities.

- Policy C-1.16: Urban Forestry. Protect, maintain, and expand San Rafael's tree canopy. Trees create shade, reduce energy costs, absorb runoff, support wildlife, create natural beauty, and absorb carbon, making them an essential and valued part of the city's landscape and strategy to address global climate change. Tree planting and preservation should be coordinated with programs to reduce fire hazards and ensure public safety, resulting in a community that is both green and fire-safe.
  - Program C-1.16A: Increasing the Tree Canopy. Implement measures to increase the tree canopy, as outlined in the City's Climate Change Action Plan. These measures include:
    - Tree planting on city-owned land
    - Reviewing parking lot landscaping standards to maximize tree cover
    - Minimizing tree removal
    - Controlling invasive species that threaten the health of the urban forest
    - Integrating trees and natural features into the design of development projects
    - Encouraging trees on private property
    - Increasing the diversity of trees to increase habitat value and resilience.
  - Program C-1.16B: Tree City USA. Maintain San Rafael's status as a "Tree City USA" community by following best practices in urban forestry management and regularly applying for recertification.
  - Program C-1.16C: Tree Preservation. Consider ordinances and standards that limit the removal of trees of a certain size and require replacement when trees must be removed.
- Policy C-1.17: Tree Management. Encourage the preservation of healthy, mature trees when development and/or construction is proposed. Site plans should indicate the location of trees and include measures to protect them where feasible.

Goal CDP-3: Attractive Streets and Public Spaces. Create streets, public spaces, and civic buildings that add value to private property, promote environmental sustainability, and contribute to San Rafael's visual quality and identity.

- Policy CDP-3.5: Street Trees. Encourage the planting and maintenance of street trees to reduce urban heat island effects, sequester carbon, improve air quality, absorb runoff and wind, define neighborhoods, and improve the appearance and character of City streets.
  - Program CDP-3.5A: Street Tree Master Plan. Develop a comprehensive citywide Street Tree Master Plan. The Plan should address street tree planting, species selection, maintenance, replacement, diversification, wood utilization, and tree waste recycling and should ensure that trees are appropriate for the planting areas where they are located.
  - Program CDP-3.5C: Street Trees for New Development. Require street trees in new developments and major property upgrades.
  - Program CDP-3.5D: Street Tree Maintenance. Support the long-term health of San Rafael's urban forest through timely, quality street tree maintenance. Seek diversified funding sources for maintenance and replacement.
- Policy CDP-3.6: Tree Replacement. Discourage the removal of healthy trees. Support replacement when trees are removed due to health, safety, or maintenance cost reasons.
  - Program CDP-3.6A: Mitigation for Tree Removal. Continue to implement mitigation requirements for tree removal in new development. When necessary, this could include planting of trees in locations other than the project site. Tree replacement value should be based on mass rather than a numeric ratio score.

Potential future development within the EIR Study Area would be required to comply with applicable SRMC regulations and the proposed General Plan 2040 goals, policies, and programs listed above, which would reduce potential impacts on sensitive biological resources as a result of implementing the proposed General Plan 2040. With adherence to these regulations, and refinements called for in Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4, no conflicts with local plans and policies are anticipated, and impacts would be considered *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Like potential future development in the remainder of the city, potential future development in the Downtown Precise Plan Area would be required to comply with the proposed General Plan 2040 policies and programs, and the listed SRMC regulations. With adherence to these regulations, no conflicts with local plans and policies are anticipated, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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 EIR Study Area is not in any local, regional, or State habitat conservation plan areas. Therefore, the proposed project would not conflict with any such plan. Furthermore, several goals, policies, and

programs in the proposed General Plan 2040, listed under Impact Discussions BIO-1 and BIO-5, along with the stated SRMC regulations, would serve to protect and enhance the sensitive natural communities and special-status species within the EIR Study Area. Therefore, *no impact* would occur.

Significance without Mitigation: No impact.

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

The impacts of potential future development on biological resources tend to be site-specific, and the overall cumulative effects would be dependent on the degree to which significant vegetation and wildlife resources are protected on a particular site. This includes preservation of well-developed native vegetation (e.g., native grasslands, oak woodlands, riparian woodland, and chaparral, among others), populations of special-status plant or animal species, and wetland features (e.g., coastal salt marsh, freshwater marsh and seeps, riparian corridors, and drainages). Further, biological resource assessments would be required for future projects proposed on or near sensitive habitats, as outlined under Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4. These biological resource assessments would serve to ensure that important biological resources are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts, including development for the remaining undeveloped lands in the EIR Study Area and surrounding incorporated and unincorporated lands.

To some degree, cumulative development contributes to an incremental reduction in the amount of existing natural wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, public and private open space, and undeveloped properties. New cumulative development in the region could result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area. This could include further loss of wetlands and sensitive natural communities, reduction in essential habitat for special-status species, removal of mature native trees and other important wildlife habitat features, and obstruction of important wildlife movement corridors. Additional development may also contribute to degradation of the aquatic habitat in the creeks throughout the region, including the EIR Study Area. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development would reduce water quality.

However, increased development potential in the EIR Study Area is anticipated to occur in existing urbanized areas. Potential future development that could occur elsewhere in the region, outside of the EIR Study Area, is anticipated to occur largely in urbanized areas. In the event that potential future development in the region is proposed in an undeveloped area, the project would likely undergo independent environmental review as required by the jurisdiction in which the project is proposed. Further, the goals, policies, and programs applicable to the proposed project, together with implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4, would serve to address these contributions to cumulative impacts on sensitive biological and wetland resources, as discussed above.

Therefore, the proposed project would not result in a cumulatively considerable impact to biological resources and cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

This chapter describes existing cultural and tribal cultural resources (TCRs) within the Environmental Impact Report (EIR) Study Area and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of the proposed project and cumulative impacts.

This chapter is based on the following documents, which can be found in Appendix F, Cultural Resources Data, of this Draft EIR:

- *Cultural Resources Report,* Tom Origer & Associates, January 2020
- *Downtown San Rafael Precise Plan Historic Resources Inventory Summary Report*, City of San Rafael, December 2020.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 established the National Register of Historic Places (National Register) as the official designation of historical resources, including districts, sites, buildings, structures, and objects.

Sites less than 50 years in age, unless of exceptional importance, are not eligible for the National Register. Listing in the National Register does not entail specific protection for a property, but project effects on properties listed or eligible for listing in the National Register must be evaluated under the California Environmental Quality Act (CEQA).

For a property to be eligible. for listing in the National Register, it must be significant and possess integrity. According to the National Register criteria for evaluation,[1] a property is significant in American history, architecture, archaeology, engineering, or culture if it is:

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

[1] Code of Federal Regulations, 36 CFR Part 60.4.

Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards) promote responsible practices that help protect the nation's irreplaceable cultural resources. The Secretary of the Interior's Standards are neither technical nor prescriptive, and cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed. But once a treatment is selected, the Secretary of the Interior's Standards provide for philosophical consistency in the work. An individual set of Secretary of the Interior's Standards has been formulated for each of four identified treatment approaches: Preservation, Rehabilitation, Restoration, and Reconstruction. The four approaches are defined below:

- *Preservation* requires retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time.
- *Rehabilitation* acknowledges the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.
- *Restoration* allows for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods.
- *Reconstruction* establishes a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

The Secretary's Standards for Rehabilitation—*Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995)—specifically address and encourage alterations or additions to a historic resource to allow new uses while retaining the resource's historic character and are particularly applicable in the Downtown Precise Plan Area. The Secretary of the Interior's Standards for Rehabilitation include the following:

1. A property will be used as it was historically or be given new use that requires minimal changes to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alterations of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Secretary of the Interior's Standards for Architectural and Engineering Documentation

The Secretary of the Interior's Standards for Architectural and Engineering Documentation pertain to the development of documentation for historic buildings, sites, structures and objects. This documentation, which usually consists of measured drawings, photographs and written data, is intended to provide important information on a property's historic significance for use by researchers, preservationists, architects and others interested in preserving and understanding historic properties. Such documentation permits accurate repair or reconstruction of parts of a property, or may record and preserve information about a property that is to be demolished. These Standards are intended for use in developing documentation to be included in the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER) Collections in the Library of Congress. The requirements for content, quality, materials and presentation may also be applied to documentation for other purposes such as State or local archives.

Secretary of the Interior's Professional Qualifications Standards

The Secretary of the Interior's Professional Qualifications Standards define minimum education and experience required to perform historic resources identification, evaluation, registration, and treatment activities.[2]

Paleontological Resource Protection

Paleontological resources are classified as nonrenewable scientific resources and are protected by federal and state statutes, most notably the 1906 federal Antiquities Act. Professional standards for assessment and mitigation of adverse impacts on paleontological resources have been established by the Society for Vertebrate Paleontology.

[2] Code of Federal Regulations, 36 CFR Part 61.

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.

State Regulations

CEQA Guidelines

The state CEQA Guidelines pertaining to historic resources and archaeological resources are described below.

Archaeological Resources

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.

Historic Resources

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:

- 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.).
- 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.
- 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 significant0 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.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

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 Historic Resources

The California Register of Historic Resources (California Register) establishes a list of properties to be protected from substantial adverse change (PRC Section 5024.1). A historical resource may be listed in the California Register if it is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California, and meets any of the following criteria:

- 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 California's 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 value.
- has yielded or is likely to yield information important in prehistory or history.

The California Register includes properties that are listed or have been formally determined eligible for listing in the National Register, State Historical Landmarks and eligible Points of Historical Interest. Other potential resources require nomination for inclusion in the California Register.

For a property to be eligible for listing in the California Register, it must possess integrity as well as be significant. Integrity is the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. Loss of integrity, if sufficiently great, will render a resource ineligible for the California Register. Integrity is determined through application of seven factors:

- *Location*. Location is the place where the historic property was constructed or the place where the historic event occurred.
- *Design*. Design is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Setting*. Setting is the physical environment of the historic property.
- *Materials*. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration form a historic property
- *Workmanship*. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling*. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association*. Association is the direct link between an important historic event or person and a historic property.

Health and Safety Code Section 7052 and 7050.5

Health and Safety Code Section 7052 states that the disturbance of Native American cemeteries is a felony. Health and Safety Code Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC.

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. This Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Public Resources Code Section 5097

PRC Section 5097.5(a) specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, or archaeological sites, which can include fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

California Code of Regulations

Archaeological resources, on lands administered by the California Department of Parks and Recreation, are addressed in Title 14, Division 3, Chapter 1 of the CCR. Section 4308 of this chapter addresses archaeological features and states that no person shall remove, injure, disfigure, deface, or destroy any object of archaeological or historical interest or value.

California Historical Building Code

The California Historical Building Code (CCR Title 24, Part 8) provides regulations for permitting repairs, alterations, and additions for the preservation, rehabilitation, relocation, reconstruction, change of use, or continued use of historical buildings, structures, and properties determined by any level of government as qualifying as an historical resource. An historical resource is defined in Sections 18950 to 18961 of Division 13, Part 2.7 of the Health and Safety Code and subject to rules and regulations set forth in CCR Title 24, Part 8.

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the Coroner must contact the California NAHC.

Senate Bill 18

Senate Bill 18 (SB 18), signed into law in September 2004, requires that local governments consult with California Native American tribes in order to provide tribes an opportunity to participate in local land use decisions at the early planning stage for the protection or mitigation of impacts to tribal cultural places. The Governor's Office of Planning and Research is required to include the General Plan Guidelines Advice for how to conduct these consultations, which apply to adoption and amendment of general plans and specific plans, as defined in Government Code §65300 and §65450.

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 a 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

San Rafael General Plan 2020

The City of San Rafael General Plan 2020 goals, policies, and programs that are relevant to cultural resources are primarily in the Culture and Arts Element. As part of the proposed project, some existing General Plan policies would be amended, substantially changed, or new policies would be added. A comprehensive list of policy changes in General Plan 2040 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 Section 4.5.3, Impact Discussion.

San Rafael Municipal Code

The San Rafael Municipal Code (SRMC) includes various directives pertaining to cultural resources and TCRs. The SRMC is organized by title, chapter, and section. Provisions related to cultural resources and TCRs are included in Title 2, Administration, as follows:

- Chapter 2.18, Historic Preservation. Section 2.18.010, Purpose, states that the City Council of San Rafael finds that structures, sites and areas of special character or special historical, architectural or aesthetic interest or value have been and continue to be unnecessarily destroyed or impaired, despite the feasibility of preserving them. It is further found that the prevention of such needless destruction and impairment is essential to the health, safety, economy and general welfare of the public. The purpose of this chapter is to promote the health, safety, economy and general welfare of the public through:
  - The protection, enhancement, perpetuation and use of structures, sites and areas that are reminders of past eras, events and persons important in local, state or national history, or which provide significant examples of architectural styles of the past or are landmarks in the history of

architecture, or which are unique and irreplaceable assets to the city and its neighborhoods, or which provide for this and future generations examples of the physical surroundings in which past generations lived;
- The development and maintenance of appropriate settings and environment for such structures, and in such sites and areas;
- The stabilization and enhancement of property values, the stabilization of neighborhoods and areas of the city, the increase of economic and financial benefits to the city and its inhabitants, and the promotion of visitor trade and interest in the city of San Rafael;
- The preservation and encouragement of a city of varied architectural styles, reflecting the distinct phases of its history: cultural, social, economic, political and architectural;
- The enrichment of human life in its educational and cultural dimensions in order to serve spiritual as well as material needs, by fostering knowledge of and civic pride in the living heritage of the past; and
- Tax reductions to owners of designated historic buildings and sites through appropriate state and federal laws.

- Chapter 2.19, Archaeological Resources. Section 2.19.010, Purpose, states that certain lands and geographic areas within the city of San Rafael contain significant archaeological resources, which include deposits and remains of the local Native Americans and other early inhabitants. These deposits and remains represent an important part of the early history of San Rafael and the culture of the Native American community. Without proper regulations and monitoring, continued excavation and grading activities within the city council significantly impact these resources.

  In recognizing the importance of protecting significant archaeological resources, the city of San Rafael has determined to:
  - Establish a procedure for identifying, when possible, archaeological resources and potential impacts to such resources prior to authorizing excavation and grading activities;
  - Provide valuable information and direction to property owners in the community in order to make them aware of these resources;
  - Implement measures that would preserve and protect valuable archaeological resources, when there is a potential for encountering such resources;
  - Establish a procedure which would ensure that appropriate advisory agencies and organizations are contacted and consulted, when there is a probability that archaeological resources could be encountered during an activity involving grading, excavation, and/or construction;
  - Establish and implement specific protection and preservation measure in the event archaeological resources are encountered during grading, excavation and/or construction.

Resolution 10980 – Procedures and Regulations for Archaeological Resource Protection

On December 3, 2001, the San Rafael City Council adopted Resolution 10980, which provides revised procedures and regulations for archaeological resource projection in the EIR Study Area. The intent of the Resolution is to ensure that archaeological resources are identified, and proper procedures are in place to treat the resource in accordance with State law, for activities that are non-discretionary or ministerial, that are considered discretionary but exempt from environmental review, and that are discretionary and subject to environmental review. As directed in the Resolution, the City maintains a data base and map of

archaeological resources, including sensitivity ratings as the starting point for project review. The Resolution includes guidelines for the level of analysis required to make a significance determination under CEQA, even if projects are non-discretionary or ministerial or exempt from environmental review.

4.5.1.2 EXISTING CONDITIONS

EIR Study Area

Ethnographic and Historic Overview

The following sections summarize the ethnographic and historic overview of the EIR Study Area. Additional detail can be found in Appendix F, Cultural Resources Data, of this Draft EIR,.

Ethnographic Overview

At the time of European settlement in the San Francisco Bay Area, the EIR Study Area was part of the Coast Miwok territory. The Coast Miwok were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied throughout the year, and other sites were visited to procure resources that were especially abundant or available only during certain seasons. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

It is believed that members of the Coast Miwok were the Native Americans who met with both Sir Francis Drake and Sebastian Rodriquez Cermeño during their voyages to California. After those two contacts, the Coast Miwok were left alone for nearly 200 years until the construction of the San Francisco Presidio and Mission Dolores in 1776. Even then, Coast Miwok did not enter Mission Dolores in significant numbers until 1800.

Historic Overview

Euroamerican settlement in what would become the city of San Rafael began with the founding of an *asistencia*, or outpost of the Mission San Francisco de Assis in 1817. The *asistencia* served as a hospital for Native Americans who had been Christianized, and as a ranch in support of the San Francisco mission. In 1822, the *asistencia* became the Mission San Rafael Arcangel. The mission at San Rafael was the 20th of 21 missions established in California between 1769 and 1823. The chain of missions reached from San Diego to present-day Sonoma, and all but the last were founded under Spanish rule. The Mission San Francisco de Solano in Sonoma was erected in 1823, two years after Mexico gained independence from Spain.

Under Mexican rule, land grants were made more frequently and resulted in the unique pattern of land ownership in California. In 1834, Mexico ended the mission system in California, freeing additional lands for distribution. Mission San Rafael Arcangel was the first of the secularized missions. San Rafael lies within the Mexican land grant of Rancho San Pedro that Santa Margarita y Las Gallinas made to Timothy

Murphy in 1844; the EIR Study Area includes a small portion of Rancho Punta de Quentin, an 1840 grant to John B.R. Cooper.

San Rafael grew gradually after California statehood in 1850, entering an accelerated period of commercial and residential growth over the next several decades. Spurred by advances in transportation and train service to San Rafael, hotels and saloons were constructed to host a modest hospitality industry of summer and weekend visitors. By 1900, Fourth Street had developed into a premier commercial corridor in Marin County and the greater San Francisco Bay Area.

An influx of new residents came to San Rafael following the 1906 San Francisco earthquake and fire, triggering new residential development surrounding the downtown. The expansion of these neighborhoods created a foundation for the mixed residential/commercial areas in San Rafael and the need for additional civic services.

The opening of the Golden Gate Bridge in 1937 and the increasing popularity of the automobile created a new connectivity between Marin County and San Francisco, stimulating a period of increasing prosperity with the San Rafael's first high-rise building. By this time, San Rafael was also home to several theaters and venues to entertain the growing and diversifying population.

During World War II the San Francisco Bay Area became a major hub for wartime industry, bringing waves of migration to San Rafael. This stark increase in population necessitated a new type of housing development, resulting in the construction of housing tracts and subdivisions outside of downtown and into the eastern and northern portions of San Rafael. These events refocused downtown development to provide locally oriented goods and services to many working families now residing in San Rafael. In the years immediately after the war, San Rafael's downtown continued to prosper as department stores, restaurants, civic buildings, medical services, and institutions emerged.

From the mid-twentieth century to the present, San Rafael's downtown has continued to be centered on the Fourth Street and B Street commercial corridor. Initially centered on the Mission and maritime routes to San Francisco, San Rafael became, in turn, a railroad depot, a regional wartime economic center, an auto-oriented county seat, and the commercial and cultural center of Marin County and the greater San Francisco Bay Area.

Prehistoric and Historic Resources

Prehistoric and historic resources in the EIR Study Area are recorded on the California Historic Resources Information System (CHRIS) database, which keeps a log of all prehistoric and historic resources in the State. The State Historic Preservation Office defines cultural resources under the following categories:[3]

- **Site.** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.

[3] Office of Historic Preservation, March 1995. *Instructions for Recording Historical Resources*. (http://scic.org/docs/OHP/manual95.pdf).

- **Building**. A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. A building may also refer to a historically or functionally related unit such as a courthouse and jail, or a house and barn.
- **Structure**. The term structure is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.
- **Object**. The term object is used to distinguish from buildings and structures. These constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.
- **District**. A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Prehistoric Resources

Since 1906, 86 prehistoric sites have been documented within the EIR Study Area and are on file at the Northwest Information Center of the CHRIS.[4] A total of 67 of these sites were documented following archaeological inventories in the early 1900s. The remaining 19 sites were identified through mandated cultural resource surveys following passage of the NHPA in 1966 and CEQA in 1970. While the required archaeological resources sensitivity mapping program described in Section 4.5.1.1 provides a partial inventory of cultural resource sites, there are sections within the EIR Study Area that have not been surveyed or evaluated for resource potential. Therefore, there is potential that additional, not-yet-identified archaeological resources exist within the EIR Study Area.

Historic Resources

The Northwest Information Center of the CHRIS database includes documentation for 12 historic sites within the EIR Study Area. These include archaeological deposits associated with Euroamerican settlement and exploration, and historic buildings and structures.

As the oldest city in Marin County, San Rafael contains numerous individual properties as well as several potentially eligible districts that meet the CEQA definition of a "historical resource" (CEQA Guidelines Section 15064.5 (a)). In 1977, the San Rafael City Council adopted a citywide survey of older, architecturally interesting buildings and structures known as the Historical/Architectural Survey. The survey was last updated in 1986 and included nearly 305 properties, primarily built environment resources. Of the nearly 320 historic resources tabulated in the 1986 survey, the City recognized 16 City Landmarks and three Historic Districts Four of the resources are listed on the California Register and ten resources are listed on the National Register. The remaining properties listed in the 1986 Survey are considered potential historic resources but are not formally listed or landmarked. Together, these surveys are referred to as the 1977/86 Survey. The properties identified on the National Register, the California Register, and as City Landmarks and Historic Districts that are not in the Downtown Precise Plan Area are shown on Table 4.5-1.

[4] The locations of prehistoric sites are kept confidential to protect the integrity of archaeological sites, therefore the location of the archaeological resources are not identified in this report.

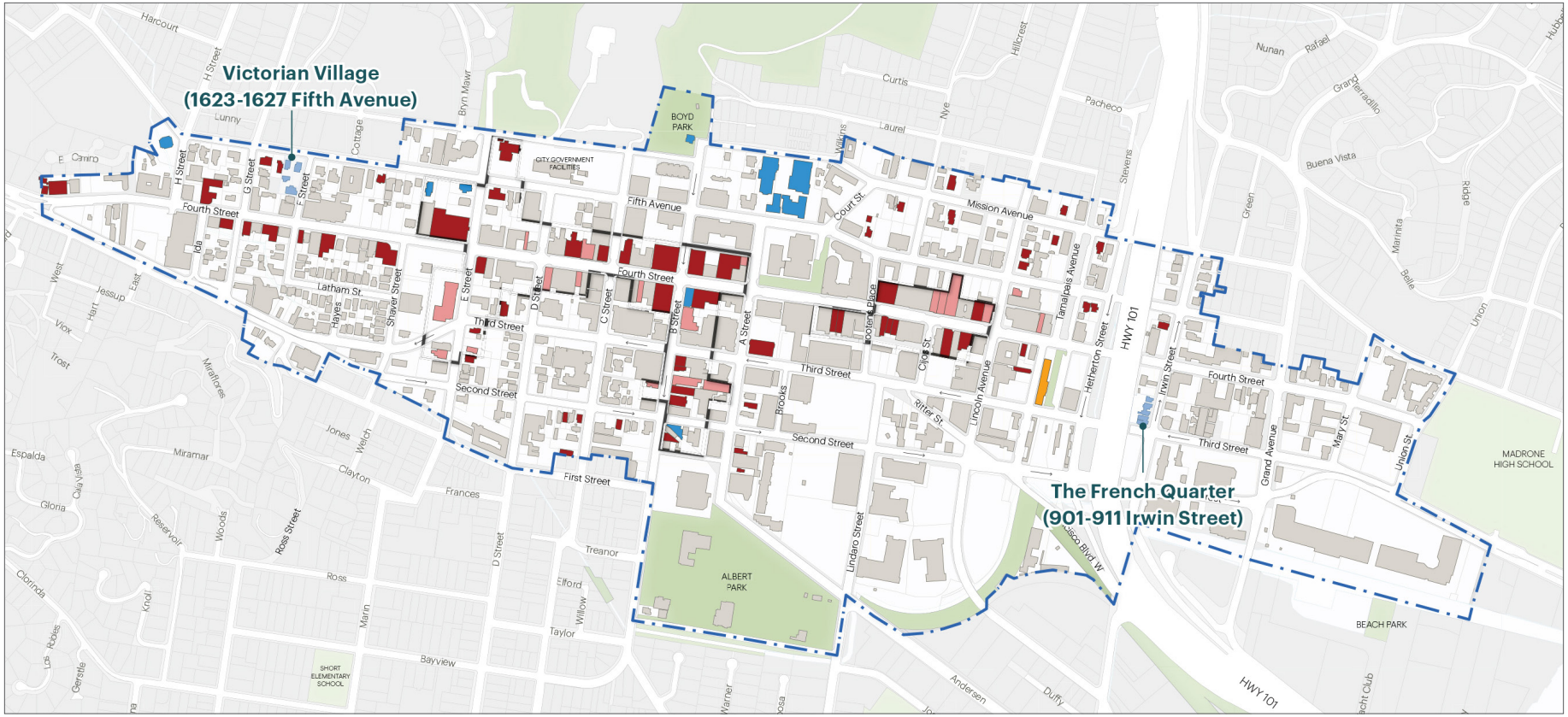
TABLE 4.5-1 HISTORIC LANDMARKS AND DISTRICTS OUTSIDE OF THE DOWNTOWN PRECISE PLAN AREA

		Type of Listing and Year Listed		
Name	Address	National Register	California Register	Local Landmark
Historic Landmarks				
Marin County Civic Center	3501 Civic Center Drive		1991	
Marin County Civic Center	N. San Pedro Road and Civic Center Drive	1991		
St. Vincent's School for Boys	1 St. Vincent Drive		1958	
China Camp	100 China Camp Village Road		1978	
China Camp	247 N. San Pedro Drive	1979		
Bradford House	333 G Street	1980		1980
Dixie Schoolhouse	2255 Las Gallinas Avenue	1972		
Robert Dollar Estate /Falkirk Mansion	1408 Mission Avenue	1972		
Robert Dollar House	115 J Street	1991		
Erskine B. McNear House	121 Knight Drive	1982		
Miller Creek School Indian Mound	Restricted	1971		
Holtwood	510 Belle			1981
The McNear Brick Barn	525-569 Biscayne Drive			1982
The Robert Dollar House	115 J Street			1984
The McNear Residence	121 Knight Drive			1981
Dr. Hawkins' Residence	418 Mission Avenue			1978
The Robert Dollar Estate/Falkirk Mansion	1408 Mission Avenue			1976
The Isaac Jessup House	10 Sentinel Court/241 West End Avenue			1978
The Jessup/Dunand House	14 Sentinel Court			1979
The Litchfield Sign	737 E. Francisco Blvd			1998
Historic District				
Grand Avenue Historic District	1811-1817 Grand Avenue			1979

Sources: City of San Rafael, 2020; National Park Service National Register of Historic Places Program, 2019; Office of Historic Preservation California Historical Resources, 2019. Note: Some resources appear more than once in this table because they are listed by more than one entity.

Downtown Precise Plan Area

This section describes the existing historic resources in the Downtown Precise Plan Area. Information in this section is based on the 1977/86 Survey and the 2019/20 Survey that was completed as part of the proposed Downtown Precise Plan. The 2019/20 Survey builds on the 1977/86 Survey, as well as research by individuals and organizations completed between 1986 and 2019. The principal findings are based on field surveys and archival research of the 2019/20 Survey, including the completion of Department of Parks and Recreation (DPR) 523 Forms for 36 eligible historic properties and two eligible historic districts. The 2019/20 Survey was completed by a team that included City staff, consultants, and volunteers from the San Rafael Heritage Commission. Figure 4.5-1 provides an overview of historic resources within the Downtown Precise Plan Area.



Source: Garavaglia Architecture.

- Existing historic landmarks designated prior to 2019-20 survey [10]
- Existing historic districts designated prior to 2019-20 survey [2]
- Eligible as an individual resource in 2019-20 survey [70]
- Eligible as a contributing resource in 2019-20 survey (19]
- Additional research needed [1]
- Newly identified eligible historic districts [2]

Figure 4.5-1

Existing Historic Resources in the Downtown Precise Plan Area

1977/86 Survey Historic Resources

Table 4.5-2 lists Historic Landmarks and Historic Districts in the Downtown Precise Plan Area designated as part of the 1977/86 Survey. There are two properties on the National Register of Historic Places and one that is a designated California Historic Landmark. Four other Downtown Precise Plan properties were listed by the City in the 1970s and 1980s but are not formally listed at the state or national levels.

TABLE 4.5-2 1977/86 SURVEY HISTORIC LANDMARKS AND DISTRICTS IN THE DOWNTOWN PRECISE PLAN AREA

		Type of Listing and Year Listed		
Name	Address	National Register	California Register	Local Landmark
Historic Landmarks				
Boyd House	1125 B Street	1974		1974
San Rafael Improvement Club	1801 Fifth Avenue [a]	1984		1980
Mission San Rafael Arcangel	1100 -1104 Fifth Avenue		1935	Not Listed
Mulberry House/McDermott	1149 Fourth Street [b]			1984
Chisolm Residence	1505 Fifth Avenue [b]			1979
Flatiron Building	724 B Street [b]			1982
Historic Districts				
The Victorian Village Historic District	1623-1627 5th Avenue [a]			1979
The French Quarter Historic District	901-911 Irwin			1978

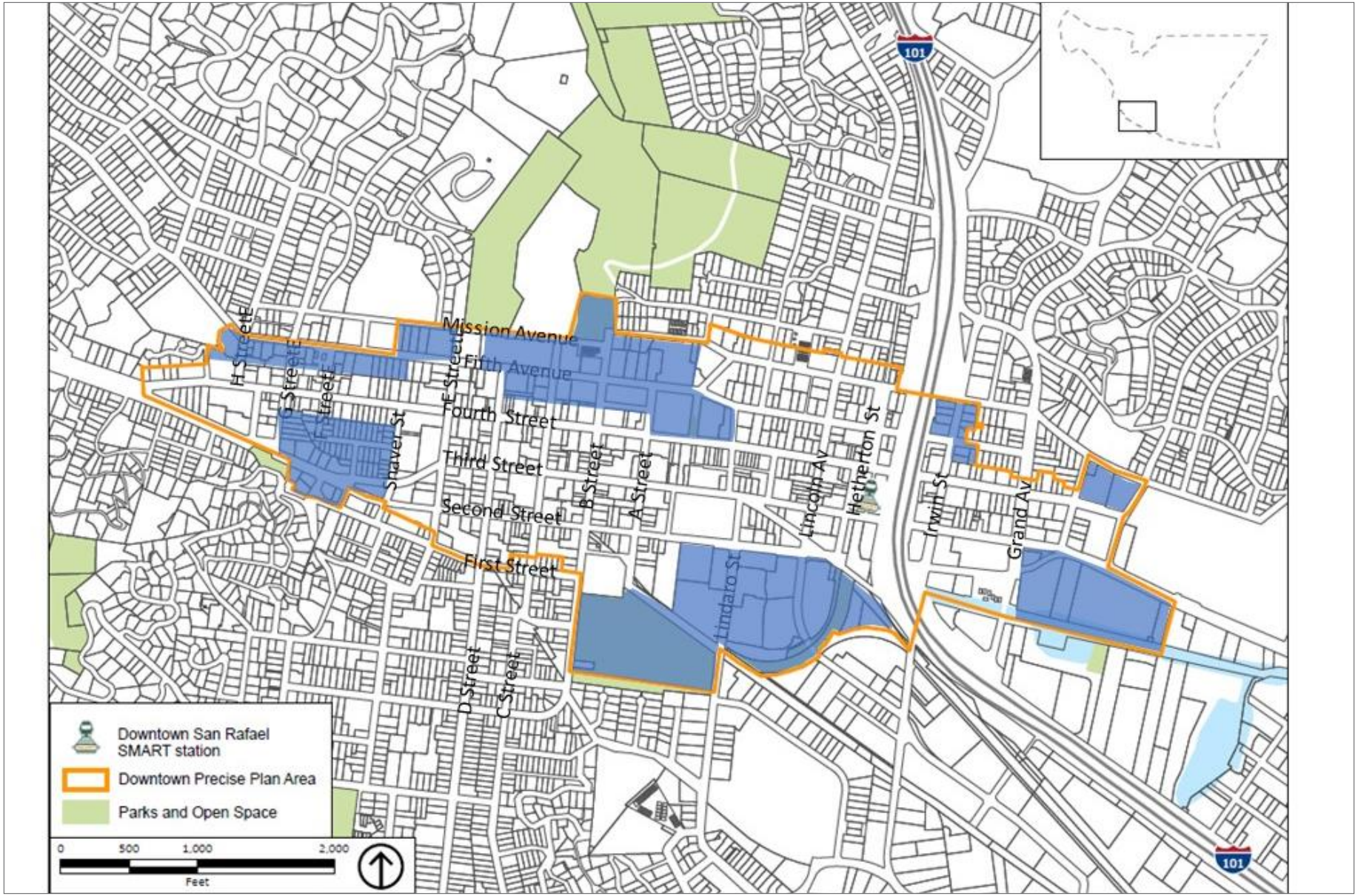
Notes: APN = Assessor's Parcel Number
a. These locations are in the West End Village Sub-Area of the proposed Downtown Precise Plan.
b. These locations are in the West Downtown Eligible Historic District identified in the 2019/20 Survey.
Source: City of San Rafael, 1977/86 Survey.

As shown in Table 4.5-2, two locally designated Historic Districts in the Downtown Precise Plan Area were identified in the 1977/86 Survey. Each Historic Districts is assigned a single Assessor's Parcel Number (APN) with multiple structures:

- The Victorian Village Historic District. This district consists of two listed structures (originally addressed as 1623 and 1627 Fifth Avenue but subsequently re-addressed as 1623, Units 1 to 4 through a condominium map filing). As part of the 1977/86 Survey, the structures were observed as being in excellent condition.
- The French Quarter Historic District. This district consists of five listed structures (901, 903, 905, 907-09, 911 Irwin Street) assigned APN 014-122-14. As part of the 1977/86 Survey, the structures were observed as being in good condition.

2019/20 Survey Historic Resources

This section summarizes the existing conditions inventory of historic resources from the 2019/20 Survey. As shown on Figure 4.5-2, not all of the properties in the Downtown Precise Plan Area were surveyed.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2020.

Figure 4.5-2

Areas Excluded from the 2019/20 Survey

Area not surveyed

Areas excluded from the 2019/20 Survey contain historic resources but are not expected to experience significant changes during the time horizon of the proposed Downtown Precise Plan. Resources located in the excluded areas that were catalogued in the 1977/86 Survey are described in this chapter. However, there may be additional resources in these areas. In the event alterations are proposed in an excluded area, additional research may be needed to determine if the structure is a historic resource.

As described in the following sections, the results of the 2019/20 Survey found that two areas in the Downtown Precise Plan Area meet eligibility criteria for Historic Districts. These are described in the context of the west and east sides of the proposed Downtown Core sub-area for the Downtown Precise Plan (see Figure 3-9 in Chapter 3, Project Description, of this Draft EIR).

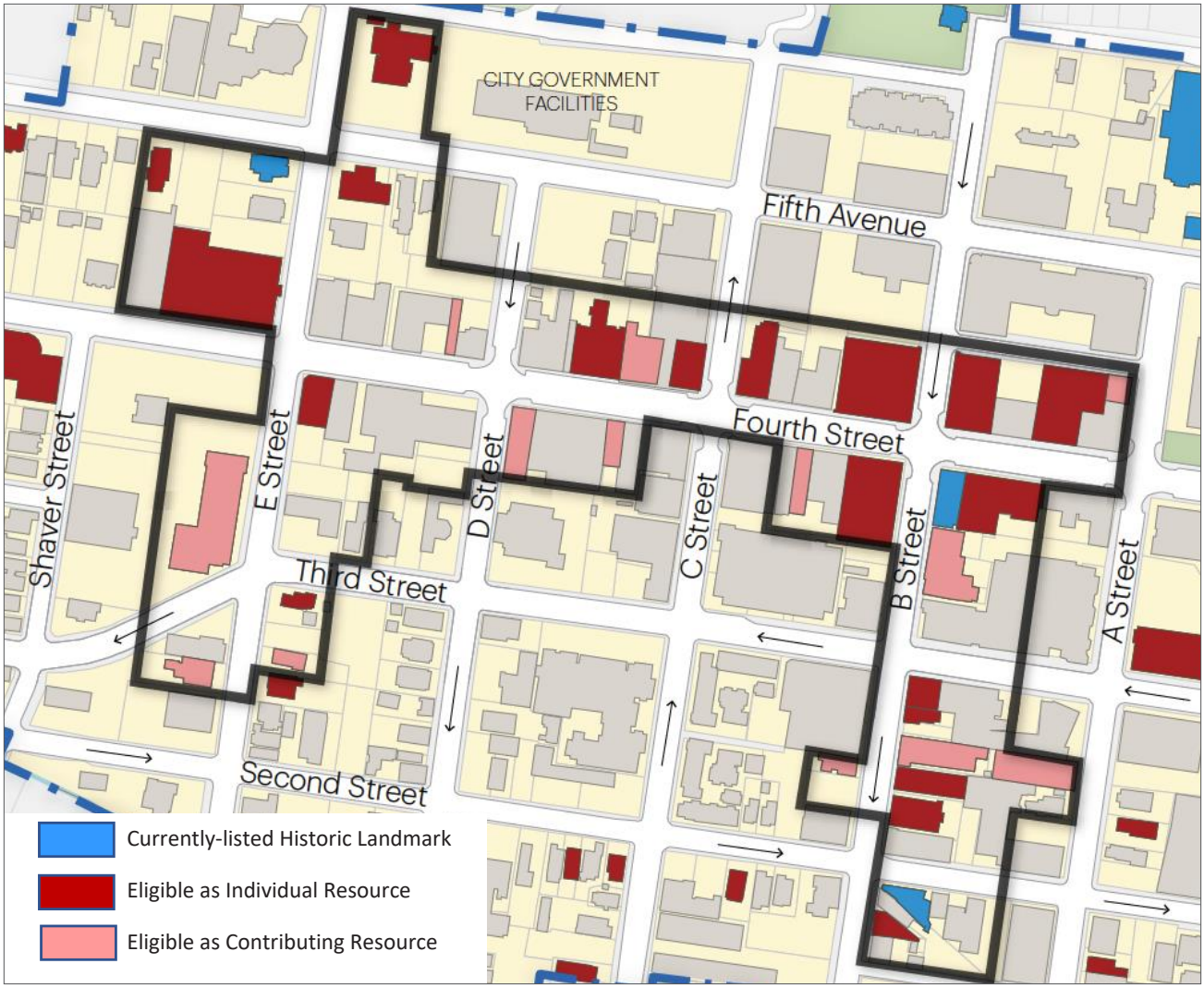
Eligible Historic Districts

Potentially Eligible West Downtown Core Historic District

Through the 2019/20 Survey, a concentrated area of historic resources was identified in an irregularly shaped area of the west side of the Downtown Core sub-area that roughly extends from Second and B Street to Fifth Avenue and E Street. This area is referred to as the potential West Downtown Core Historic District and is shown on Figure 4.5-3. The West Downtown Core Sub-Area Historic District includes 87 parcels:

- 4 existing landmarked buildings (see Table 4.5-2)
- 18 individually eligible resources
  - 13 initially identified in the 1977/86 Survey
  - 5 newly identified as eligible in the 2019/20 Survey
- 16 contributing resources
  - 7 identified in the 1977/86 Survey
  - 9 newly identified as eligible in the 2019/20 Survey
- 8 identified as good or excellent in 1977/86 Survey, but no longer meet eligibility criteria
- 42 noncontributing resources or are undeveloped

The potential West Downtown Core Historic District was determined to be eligible as a Commercial/ Civic Historic District under Secretary of the Interior Criterion 1/A for its historical associations and under Criterion C/3 for its architecture. Its “Period of Significance” spans a period of seven decades beginning in the mid-1880s, when construction began on its Victorian-era commercial buildings as well as substantial nearby residences. These buildings were frequently architect-designed and were both larger and more impressive than San Rafael’s earliest stores and houses. Commercial buildings were usually designed with two stories and features like corner towers and main facade parapets to make them appear taller. Decorative elements such as cornices with elaborate brackets and dentil molding and expensive materials like brick conveyed San Rafael’s regional importance. The buildings in the potential West Downtown Core Historic District reinforced the city’s position as the county seat to residents who traveled there from all over Marin County to shop and conduct official business. San Rafael’s predominance among other nearby towns created wealth, allowing merchants, hoteliers, and saloon-keepers to construct large, architecturally significant residences on the edges of the Downtown Precise Plan Area.



Source: PlaceWorks, 2020.

Figure 4.5-3
Eligible West Downtown Core Historic District

San Rafael retained a position of regional importance in the early 20th Century. Architectural styles changed, while the city's growth accelerated after an influx of refugees from the San Francisco Earthquake of 1906. Important early twentieth-century commercial buildings include the four-story Classical Revival Albert Department Store, the first high-rise in San Rafael. Substantial residential buildings from the period are as carefully designed as their Victorian-period counterparts while exhibiting new residential styles such as Craftsman.

San Rafael became more automobile oriented and connected to San Francisco with the opening of the Golden Gate Bridge in 1937. Notable buildings from the post-bridge era include the Art Deco Rafael Theater. Modernist commercial buildings of the early postwar era convey Downtown San Rafael's transition to a more localized center as its residential neighborhoods expanded and the County Courthouse and administrative functions moved to North San Rafael.

Table 4.5-3 indicates the status of parcels in the potential West Downtown Core Historic District. Where appropriate, Table 4.5-3 shows where a DPR 523 form has been prepared as part of the 2019/20 Survey.

TABLE 4.5-3 STATUS OF PARCELS IN THE POTENTIALLY ELIGIBLE WEST DOWNTOWN CORE HISTORIC DISTRICT

Name	Address	Rating in 1977/86 Survey	Added through 2019/20 Survey? [a]
Eligible as Individual Resource			
Keaton's Funeral Home	1022 E Street	Good	--
Retail Fourth and E NW corner	1504-1512 Fourth/ 1009 E Street	*	Yes, with DPR
Public Library	1100 E Street Avenue	*Good	Yes
Gathering Thyme/ Tam Vista Dentistry	1447 Fourth Street	Good	--
Mahon House (retail@ground)	1330 Fourth Street	Exceptional	--
Bank of Italy/Tam Commons	1300 Fourth Street	Exceptional	--
Amicis/ Peters Bldg	1000-1016 C Street, 1240-44 Fourth Street	Exceptional	--
Scandinavian Design	1200-1212 Fourth Street/1009 B Street	Good	DPR Prepared
Wells Fargo	1203 Fourth Street	*	Yes, with DPR
Albert Building	1130-1136 Fourth Street/1010-1018 B Street	Good	--
Rafael Theater	1118 Fourth Street	Exceptional	--
Wilkins Hotel/ retail	1121-1139 Fourth Street	*	Yes
Spitfire/ Mini-Market	842-848 B/ 1117 Third Street	Excellent	DPR Prepared
Players Guitars	836-840 B Street	Excellent	--
St. Vincent De Paul	820-822 B Street	Good	--
Amber Kitchen/Antiques	810-816 B Street	Excellent	--
Saigon Village	720 B Street	*	Yes, with DPR
Polaris Greystone Financial	824 E Street	Excellent	--
Eligible as a Contributing Resource			
Café del Soul/ Office	1408 Fourth Street	*	Yes
Converted School/Office	901 E Street	*	Yes
Residential	807-811 E Street	Good	--
Residential	814 E Street	Excellent	--
T&B Sports	1345 Fourth Street	*	Yes
Folk Art Gallery	1321 Fourth Street	Exceptional	--
Shoe repair/Coffee roaster	1314-1318 Fourth Street	*	Yes

TABLE 4.5-3 STATUS OF PARCELS IN THE POTENTIALLY ELIGIBLE WEST DOWNTOWN CORE HISTORIC DISTRICT

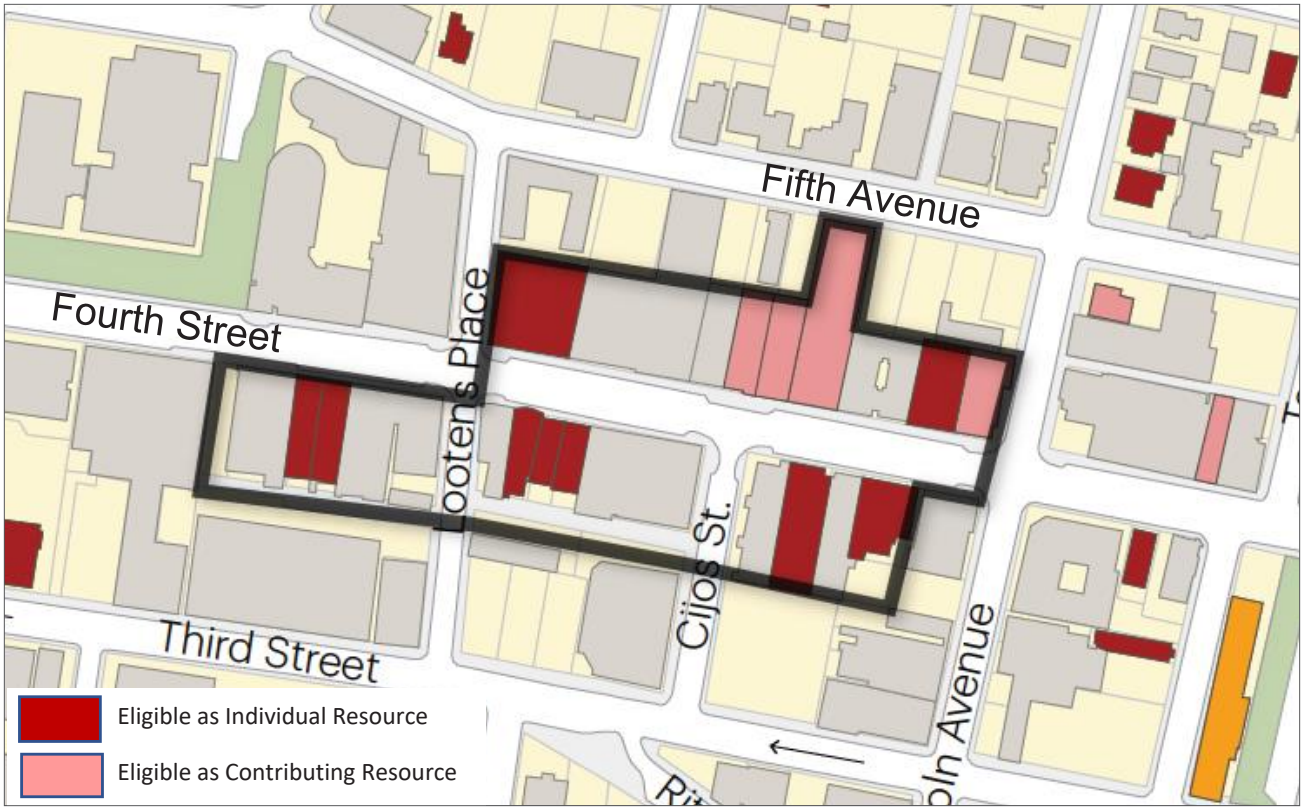
Name	Address	Rating in 1977/86 Survey	Added through 2019/20 Survey? [a]
Mulberry House (Winton's Liquors)	936 B Street (same parcel as 1149 Fourth Street)	Excellent	Yes
Garzoli Gallery	930 B Street	Good	--
Libation Taproom	920-924 B Street	Good	--
El Perol Restaurant	916 B Street	*	Yes
Uchiwa Ramen	821-823 B Street	Good	--
Haircuts/ Residential	826-832 B Street	Good	--
Foam Store	813-819 A Street	*	Yes
Gamescape, etc. (multiple buildings on parcel. 1219-1221 not included)	1219-1225 Fourth Street	Good	--
Office/ spa (multiple buildings on parcel; this is the A St structure only)	1007-1011 A Street	Good	--
Listed as Eligible in 1977/86 Survey but not in the 2019/20 Survey			
House converted to office	1018 E Street	Good	Rated "E"
Belrose Theater	1415 Fifth Avenue	Good	Rated "E"
Artworks/former Gordon Opera	1325-1335 Fourth Street	Exceptional	Rated "D"
Pleasures of the Heart Retail	1310 Fourth Street	Excellent	Rated "E"
Central Hotel/MyThai	1222-1230 Fourth Street	Good	Rated "E"
BBC Construction	1115 Second Street	Good	Rated "E"
Tenkuyu Restaurant	1313-1315 Fourth Street	Good	Bldg Replaced
Law offices	802-804 B Street	Demolished	Bldg Replaced

Notes: (*) = Not shown as eligible in 1977/86; APN = Assessor's Parcel Number.
a. The Department of Parks and Recreation (DPR) 523 is a series of forms used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.
Source: City of San Rafael, 2020

Potentially Eligible East Downtown Core Historic District

Through the 2019/20 survey, a second concentrated area of historic resources was identified in a rectangular shaped area of the proposed Downtown Core sub-area that roughly extends from Court Street to Lincoln Avenue along both sides of Fourth Street. This area is referred to as the potential East Downtown Core Historic District and is shown on Figure 4.5-4. The potential East Downtown Core Historic District includes 26 parcels, including:

- 10 individually eligible resources
  - 6 initially identified in the 1977/86 Survey
  - 4 newly identified as eligible in the 2019/20 Survey
- 4 contributing resources
  - 1 initially identified in the 1977/86 survey
  - 3 newly identified as eligible in the 2019/20 Survey
- 1 resource identified in 1977/86 Survey that no longer meets eligibility criteria
- 11 non-contributing resources



Source: PlaceWorks, 2020.

Figure 4.5-4
Eligible East Downtown Core Historic District

The potential East Downtown Core Historic District is eligible under Secretary of the Interior Criterion 1/A for its historical associations and under Criterion C/3 for its architecture. Its "Period of Significance"—1898 to 1930—reflects the gradual expansion of San Rafael as commercial activity radiated outward from the Mission and Courthouse areas. Commercial buildings in this area were frequently architect designed; they are one or two stories and occupy their entire lots. Several late-Victorian-era storefront buildings are interspersed with more numerous examples of early twentieth century styles, predominantly Mission and Art Deco. Some of the later buildings feature built-in garage doors reflecting San Rafael's shift toward the automobile after 1920.

Table 4.5-4 indicates the status of parcels in the potential East Downtown Core Historic District. Where appropriate, Table 4.5-4 indicates where a DPR 523 form has been prepared as part of the 2019/20 Survey.

TABLE 4.5-4 STATUS OF PARCELS IN THE POTENTIALLY ELIGIBLE HISTORIC EAST DOWNTOWN CORE DISTRICT

Name	Address	Rating in 1977/86 Survey	Added through 2019/20 Survey? [a]
Eligible as an Individual Resource			
Masonic Building	1010 Lootens Street, 882-890 Fourth Street	Needs Study	DPR Prepared
Former Pizza Orgasmica	812 Fourth Street	Good	--
Theresa and Johnny's	813-819 Fourth Street	Good	--
Fencing Academy/Jewelers	827-831 Fourth Street	Good	DPR Prepared
Angel Antiques/Sacred Tibet	877 Fourth Street	*	Yes, with DPR
Vin Antico	881-883 Fourth Street	Good	DPR Prepared
Zhu Restaurant	885-887 Fourth Street	*	Yes, with DPR
Fenix Nightclub	917-921 Fourth Street	Good	Yes
Boiadeirus Brazilian Steakhouse	923-925 Fourth Street	Good	DPR Prepared
San Rafael Joe's	931-941 Fourth Street	*	Yes
Eligible as a Contributing Resource			
Glazed and Confused Gallery	846-850 Fourth Street	*	Yes, with DPR
George's Nightclub	842 Fourth Street	*	Yes, with DPR
Mikes Bikes	836 Fourth Street	*	Yes, with DPR
Residential above market	806 Fourth/1001-1005 Lincoln Avenue	Good	DPR Prepared
Listed as Eligible in 1977/86 but not in 2019			
All Season Soccer/ Double Rainbow	854-866 Fourth Street	Good	Rated "E"

Notes: (*) = Not shown as eligible in 1977/86; APN = Assessor's Parcel Number.
a. The Department of Parks and Recreation (DPR) 523 is a series of forms used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.
Source: City of San Rafael, 2020.

Individual Eligible Resources

This section describes the properties that are eligible for listing that are not located in either the existing districts (The Victorian Village Historic District or The French Quarter Historic District) or the eligible districts (West Downtown Core Historic District or East Downtown Core Historic District). Like the eligible Historic Districts, these properties are described in the context of the proposed West End Village,

Downtown Core, Downtown Gateway sub-areas for the Downtown Precise Plan (see Figure 3-9 in Chapter 3, Project Description, of this Draft EIR).

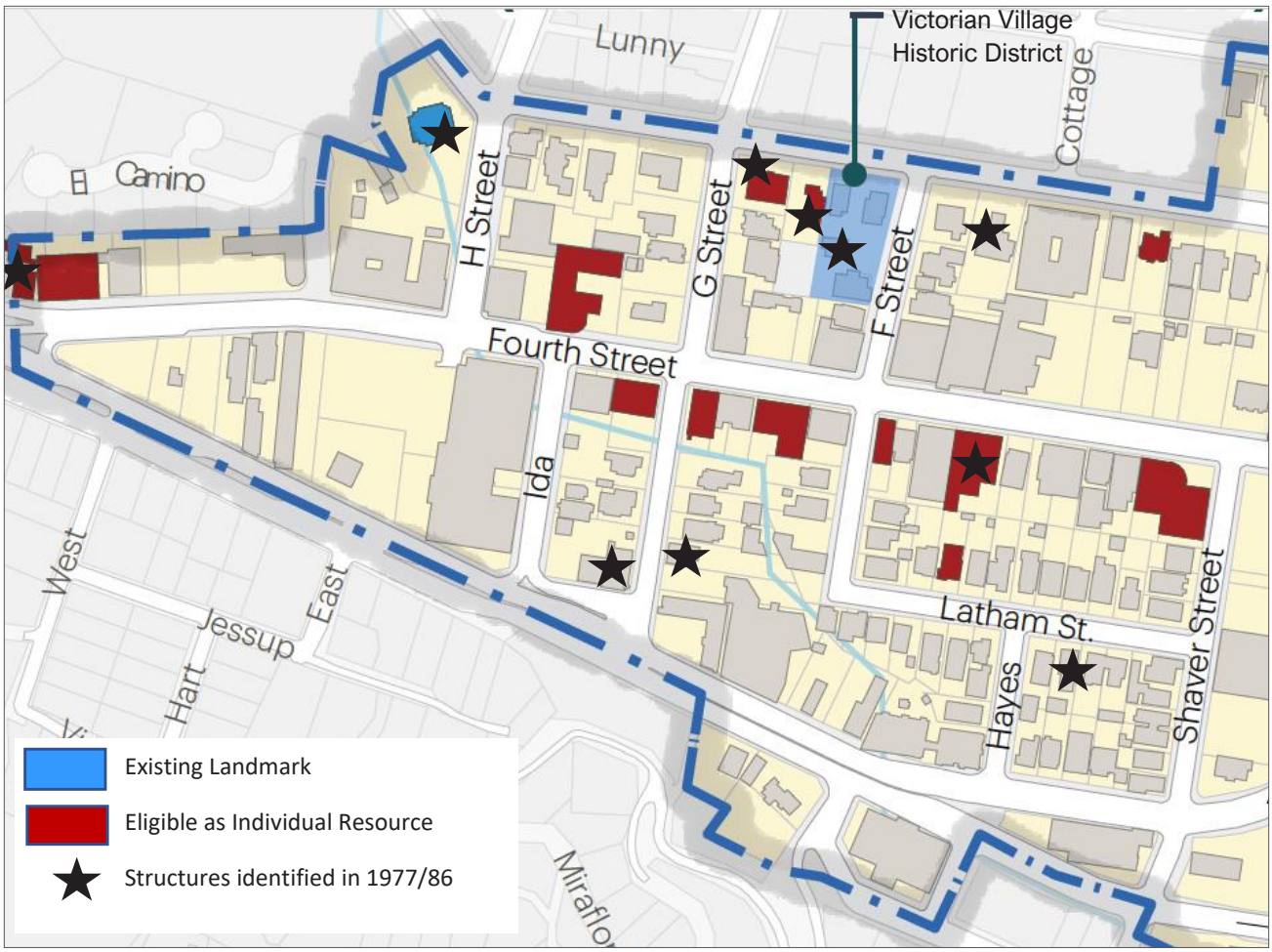
West End Village Sub-Area

The West End Village sub-area includes a National Register Historic Landmark and a designated local historic district (see Table 4.5-2). The 2019/20 Survey identified 13 additional individually eligible historic resources in the West End Village sub-area. Of this total, four had been previously identified in the 1977/86 survey and nine are newly identified. The West End Village sub-area also includes four properties that were listed in the 1977/86 Survey that were excluded from the 2019/20 Survey. Table 4.5-5 summarizes historic resource in the West End Village sub-area, including properties for which DPR forms were prepared in 2019. Figure 4.5-5 below shows the location of these resources.

TABLE 4.5-5 WEST END VILLAGE SUB-AREA HISTORIC RESOURCES OUTSIDE OF ELIGIBLE DISTRICTS

Name	Address	Rating in 1977/86 Survey	Added Through 2019/20 Survey? [a]
Residence	1629 Fifth Avenue	Good	--
Residence	1637 Fifth Avenue	Excellent	--
Residence	1539 Fifth Avenue	*	Yes, with DPR
Residence	1517 Fifth Avenue	Good	--
Cains Tire	1531 Fourth Street	*	Yes, with DPR
Mayflower Pub	1533 Fourth Street	*	Yes, with DPR
Retail/ Residential	1553-57 Fourth Street	Good	DPR Prepared
LaCrosse, Flooring, Salon	1605-09 Fourth Street	*	Yes, with DPR
Johnny's Doughnuts	1617 Fourth Street	*	Yes, with DPR
Red Dragon Yoga	1701 Fourth Street	*	Yes, with DPR
Jack Hunt Auto	1714 Fourth Street	*	Yes, with DPR
Pond Farm	1848 Fourth Street	*	Yes, with DPR
Office / ground floor store	1850-1852 Fourth Street	Good	DPR Prepared
Residence	30 Latham Street	*	Yes, with DPR
Properties Inventoried in 1977/86 Survey but not in 2019/20 Survey			
Residence	11 Latham Street	Good	Not Listed
Residence	6 G Street	Good	Not Listed
Arriverdici Restaurant	11 G Street	Good	Not Listed
Residence	1607 Fifth Avenue	Good	Not Listed

Notes: (*) = Not shown as eligible in 1977/86; APN = Assessor's Parcel Number; Table excludes properties outside of the Downtown Precise Plan Area, including north side of Fifth Avenue.
a. The Department of Parks and Recreation (DPR) 523 is a series of forms used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.
Source: City of San Rafael, 2020.



Source: PlaceWorks, 2020.

Figure 4.5-5
Historic Resources in West End Village Sub-Area

Southern Downtown Core Sub-Area

The 2019/20 Survey identified ten individually eligible resources in the southern portion of the Downtown Core sub-area which are located outside of the eligible historic districts. These properties are all located between E Street on the west, A Street on the east, Fourth Street on the north, and First Street on the south. Resources in this area are shown on Figure 4.5-6 and are listed in Table 4.5-6. Most of these properties are residences and a few are commercial buildings.

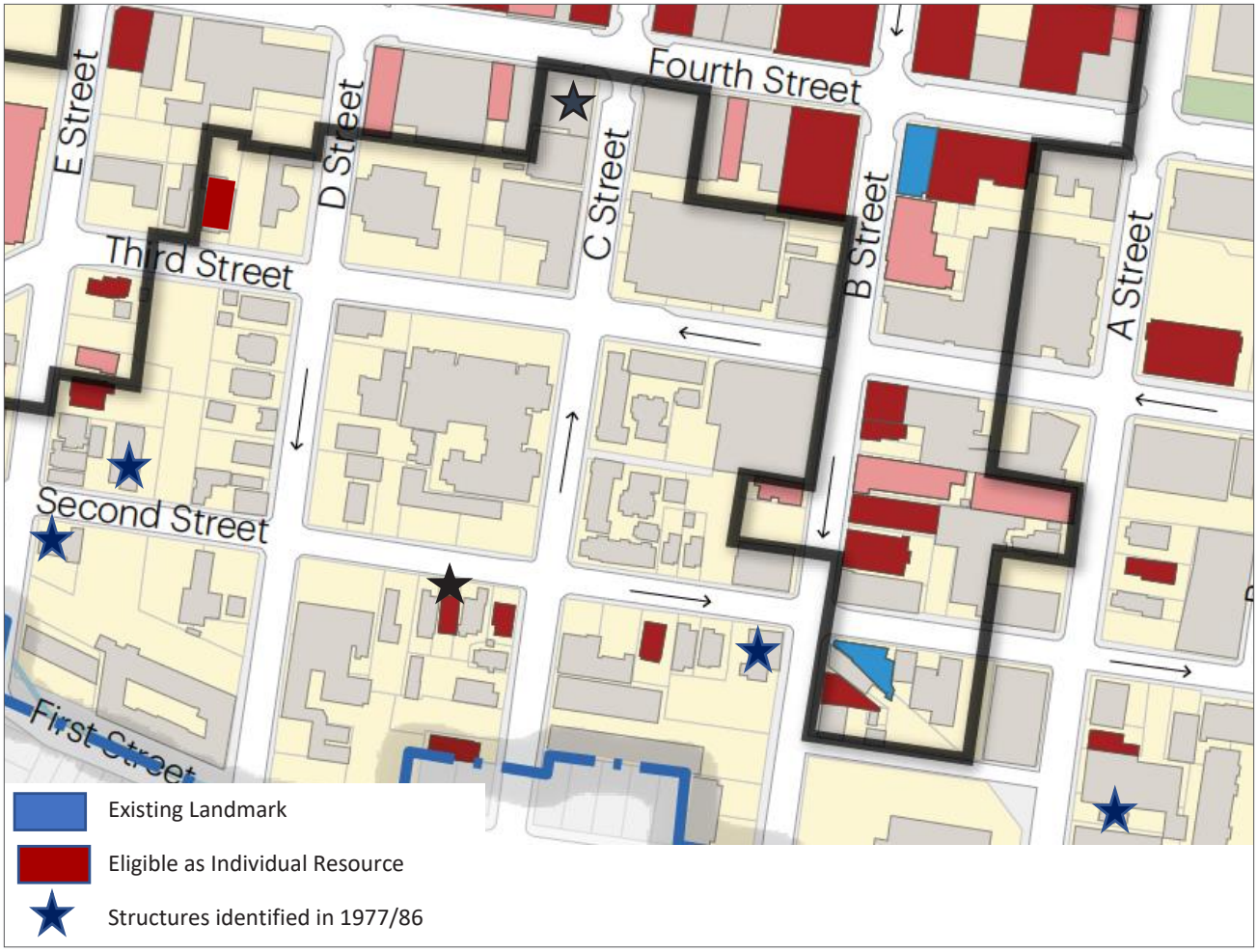
TABLE 4.5-6 SOUTHERN DOWNTOWN CORE SUB-AREA HISTORIC RESOURCES OUTSIDE OF ELIGIBLE DISTRICTS

Name	Address	Rating in 1977/86 Survey	Added Through 2019/20 Survey? [a]
Residence	1301 Second Street	*	Yes, with DPR
Residence	1215 Second Street	*	Yes, with DPR
Drummers Tradition (store)	740 A Street	*	Yes, with DPR
Residence	808 A Street	*	Yes, with DPR
Residence	810 E Street	*	Yes, with DPR
Residence	707 C Street	*	Yes, with DPR
First Federal Savings Bank	1030 Third Street	*	Yes, with DPR
Residence	1410 Third Street	*	Yes, with DPR
Relocated NWP rail depot	720 (728) A Street	Good	--
Residence	1307 Second Street	Good	--
Downtown Core Sub-Area Historic Resources Outside of Eligible Districts Inventoried in 1977/86 Survey but Not Eligible in 2019/20 Survey			
Residence	1416-20 Second Street	Good	Rated "E"
Le Comptoir Wine Bistro; Hayes Building (identified as not original)—	1301-1311 Fourth Street	Good	Rated "E"
Prandi Property Management; also known as Guenther Bldg	1321-1325 Third Street/ 822 D Street	Good	Not Listed
Pacifics Baseball Club/ Cosmopolitan Hotel	1201 Second / 747 B Street	Good	Rated "D"

Notes: (*) = Not shown as eligible in 1977/86; APN = Assessor's Parcel Number.
a. The Department of Parks and Recreation (DPR) 523 is a series of forms used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.
Source: City of San Rafael, 2020.

Downtown Gateway Sub-Area

The 2019/20 Survey identified 15 individually eligible resources in the Downtown Gateway sub-area that are generally located along Fifth Avenue and Mission Avenue east of the Mission San Rafael Arcangel, and in the area around the Downtown San Rafael SMART Station. This area is shown on Figure 4.5-7. Individual historic resources within this area are listed in Table 4.5-7. Twelve of the resources in the Downtown Gateway sub-area were also identified in the 1977/86 Survey. Three structures were added through the 2019/20 Survey including properties for which DPR forms were prepared in 2019.



Source: PlaceWorks, 2020.

Figure 4.5-6
Historic Resources in Southern Downtown Core Sub-Area

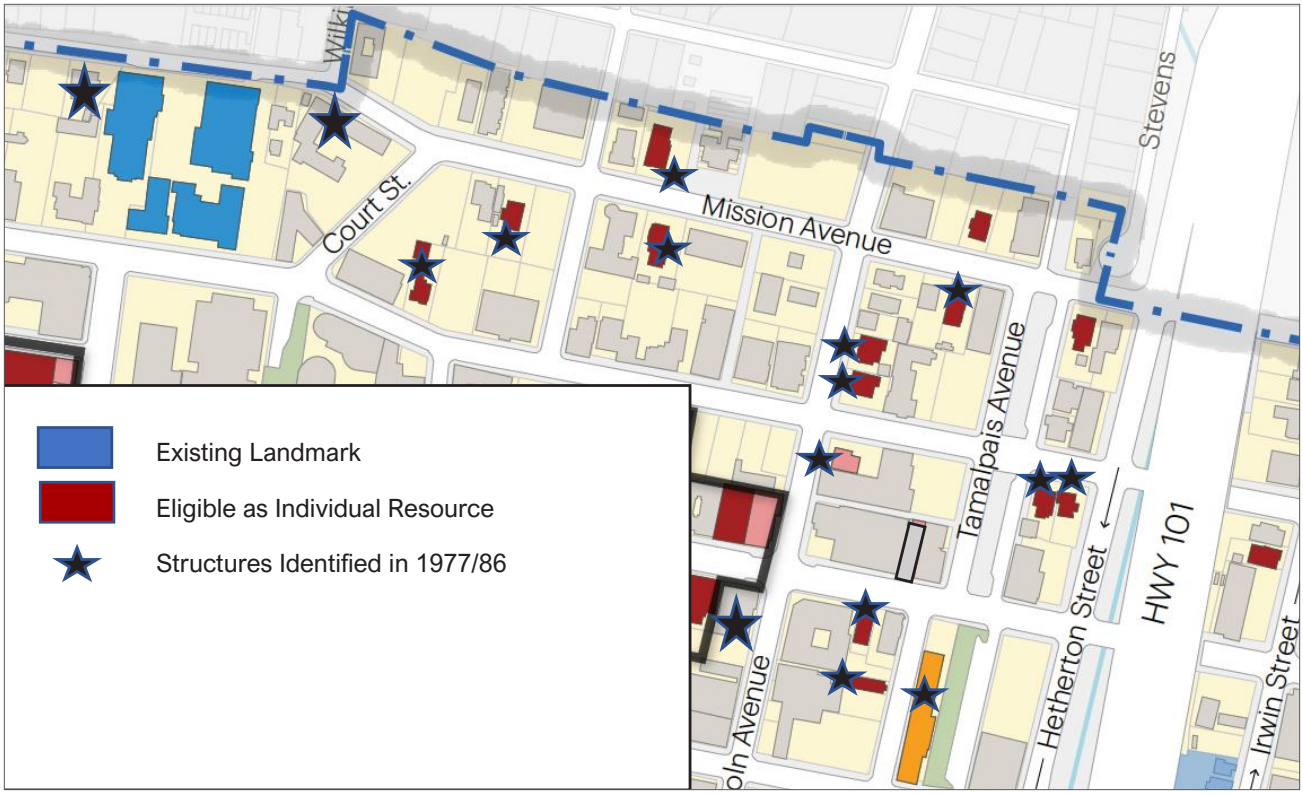
TABLE 4.5-7 DOWNTOWN GATEWAY SUB-AREA HISTORIC RESOURCES OUTSIDE OF ELIGIBLE DISTRICTS

Name	Address	Rating in 1977/86 Survey	Added Through 2019/20 Survey? [a]
Tavern on Fourth	709 Fourth Street	Excellent	--
Residential Conversion	633 Fifth Avenue	Good	--
Residential Conversion	637 Fifth Avenue	Good	--
Residence	918 Fifth Avenue	Good	--
Residence	637 Mission	*	Yes, with DPR
Residential Conversion	710 Mission	*	Yes, with DPR
Residential Conversion	705 Mission	Good	--
Residence	823-25 Mission	Exceptional	--
Residential Conversion	828 Mission	Exceptional	--
Residential Conversion	907 Mission	Excellent	--
Trevors Pub	927 Tamalpais	Good	--
Residential Conversion	1016 Lincoln	Good	--
Residence	1104 Lincoln	Good	--
Residence	1110 Lincoln	Good	--
Residence	1011 Irwin	*	Yes, with DPR
Downtown Core Properties Outside Districts Inventoried in 1977/86 Survey, not Listed in 2019/20 Survey			
Whistlestop	930 Tamalpais Ave	Good	Rated "E"
St Paul's Episcopal	1123 Court Street	Good	Rated "D"
DeCourtiex House	1135 Mission	Good	Rated "Not Individually Eligible"
Luna Travel/Boost Mobile/Office above	801 Fourth Street	Good	Rated "E"

Notes: (*) = Not shown as eligible in 1977/86; APN = Assessor's Parcel Number
a. The Department of Parks and Recreation (DPR) 523 is a series of forms used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.
Source: City of San Rafael, 2020.

Preliminary Assessment of Architectural Significance

When a proposed project may adversely affect a historical resource, CEQA requires the lead agency to carefully consider the possible impacts before proceeding (PRC Section 21084.1). CEQA equates a substantial adverse change in the significance of a historic resource with a significant effect on the environment (PRC Section 21084.1). The following discussion focuses on a preliminary evaluation of properties in the Downtown Precise Plan Area for their potential to be landmarked as a significant historical resource under the federal, state or local criteria discussed in Section 4.5.1.1, Regulatory Framework, of this Draft EIR.



Source: PlaceWorks, 2020.

Figure 4.5-7
Historic Resources in Downtown Gateway Sub-Area

Based on archival records and field survey records, a shortlist of 159 properties in the Downtown Precise Plan Area were identified as warranting further assessment of their potential to be historic landmarks or district contributors. The field survey was used to determine which properties were potentially eligible as landmarks and which were likely ineligible, based on the Secretary of the Interior's Standards. Notable concentrations of historic resources in geographic proximity to each other were evaluated for their eligibility as historic "districts." Where a potential district was identified, properties within that district were identified as individual resources, contributing resources, or noncontributing resources. Contributing resources fall within the period(s) of significance identified for the district and present character-defining features unique to the property and district.

Table 4.5-8 summarizes the results of the preliminary assessment for the 159 properties identified in the 2019/20 Survey. As shown on Table 4.5-8, each property was rated for eligibility as a historic resource at either the Federal, state or City of San Rafael levels, using letter rating of "A" through "E," as described below, along with the total number of parcels in each category:

A. **Eligible Landmark.** Eligible for consideration as a historic landmark (37 parcels).
B. **Eligible Contributor, Not Landmark**. Buildings would likely not be eligible individually but could be considered eligible as contributing resources in a historic district (37 parcels).
C. **May be Eligible.** Needs Research. Require additional research for eligibility determination (15 parcels).
D. **Probably Ineligible.** Require additional research for conclusion. (10 parcels).
E. **Ineligible.** Buildings determined to be ineligible as landmarks. (60 parcels).

The survey forms used for the evaluation can be found in the *Downtown San Rafael Precise Plan Historic Resources Inventory Summary Report*, in Appendix F, Cultural Resources Data, of this Draft EIR.

TABLE 4.5-8 DOWNTOWN PRECISE PLAN AREA PROPERTIES DOCUMENTED IN DETAILED FIELD SURVEY

Name	Address	Classification [a]
NW Pacific Rail (relocated)	720 (728) A Street	A
Drummers Tradition	740 A Street	B
Residence	808 A Street	B
Residence	812 A Street	E
Foam Store	813 A Street	B
Saigon Village Restaurant	720 B Street	C
Flatiron Building	724 B Street	A
Cosmopolitan Hotel (Pacific)	747 B Street/ 1201 Second Street	D
Worldwide Antiques/Grocery	810-814 B Street	A
Albion House/Hotel Carmel	826 B Street	C
Players Guitars	834-840 B Street	A
Milani Building	844-848 B Street	A
Garatti Grocery	926-930 B Street	D
Aileen Apts./ Scandinavian Design	1009 B Street / 1200-1212 Fourth Street	A
Albert Building	1010 B Street / 1138-1146 Fourth Street	A
McDermott Bldg./ Mulberry House	938 B Street/ 1143 Fourth Street	B+
offices	707 C Street	A-

TABLE 4.5-8 DOWNTOWN PRECISE PLAN AREA PROPERTIES DOCUMENTED IN DETAILED FIELD SURVEY

Name	Address	Classification [a]
offices	710-714 C Street	E
Youth in Arts	917 C Street	E
St Paul's Episcopal	1123 Court Street	D
Marin Medical Ctr	711 D Street	C
Residence	812 D Street	E
Residence	813 D Street	C
Residence	817 D Street	C
Post Office	910 D Street	E
Residence	809-11 E Street	C
Residence	810 E Street	A
E Street Grammar School	901 E Street	C
Keaton's Funeral Home	1022 E Street	A-
Residence	105 F Street	E
Residence	633 Fifth Avenue	A
Residence	637 Fifth Avenue	A
	634 Fifth Avenue	E
	638 Fifth Avenue	E
Juice Beauty	709 Fifth Avenue	E
Merrill's Drugs	835 Fifth Avenue	D
Apartments	845 Fifth Avenue	D
Residence	918 Fifth Avenue	A
Residence	1409 Fifth Avenue	E
Residence	1517 Fifth Avenue	A
Residence	1539 Fifth Avenue	B+
Victorian Village	1623-1627 Fifth Avenue	B
Residence	1637 Fifth Avenue	A
Thomas Morris House	1629 Fifth Avenue	A
Offices	1721 Fifth Avenue	E
San Rafael Impr. Club	1800 (01) Fifth Avenue	A
	712 Fifth Avenue	E
	455 1st Street/ 1621 Second Street	E
	505 Fourth Street	E
Thai Smile	532 Fourth Street	E
Extreme Pizza	705 Fourth Street	E
Marin Center for Independent Living	710 Fourth Street	E
Tavern on Fourth	709-11 Fourth Street	A
	716 Fourth Street	E
Bayside Marin	718-24 Fourth Street	E
Old San Rafael Mall	801-05 Fourth Street	E
	807 Fourth Street	E

TABLE 4.5-8 DOWNTOWN PRECISE PLAN AREA PROPERTIES DOCUMENTED IN DETAILED FIELD SURVEY

Name	Address	Classification [a]
Pizza Orgasmica/Redhill Imports	812 Fourth Street	B
Rafael Florist/Gold Rush Jewelers	827-831 Fourth Street	A
Mikes Bikes	836 Fourth Street	B
Glaze and Confused Pottery	846 Fourth Street	B
George's Night Club	842 Fourth Street	B
	866 Fourth Street	E
MMWD with new façade	874 Fourth Street	E
Masonic Bldg.	882-84 Fourth Street/ 1010 Lootens Street	B
	881-883 Fourth Street	A
Vin Antico	885-87 Fourth Street	A
	889-91 Fourth Street	E
Former EL Camino Theater	900 Fourth Street	E
California Bakery/Fenix	917 Fourth Street	A
Boiadeirus Steakhouse	925 Fourth Street	B
Rafael Theater	1118 Fourth Street	A
State Room	1122-1132 Fourth Street	E
Wilkins Hotel	1125-1139 Fourth Street	C
Rare Coin/ Cherry Blossom Salon	1219-1223 Fourth Street	E
Gamescape	1225 Fourth Street	A
Central Hotel	1222-1230 Fourth Street	E
Peters Bldg.	1242-1244 Fourth Street	A
Bank of Italy	1300 Fourth Street	A
Hayes Bldg. (replica)	1301 Fourth Street	E
Tenkuyu (replica)	1313-1317 Fourth Street	E
Pleasures of the Heart	1310 Fourth Street	E
Folk Art Gallery	1321 Fourth Street	B
Artworks/Gordon Opera House	1327-1337 Fourth Street	D
Mahon House/ Butchart Bldg.	1322-1328 Fourth Street	A
T&B Sports	1345 Fourth Street	B
	1344-46 Fourth Street	E
	1350 Fourth/ 1040 D Street	D
	1400 Fourth Street	E
	1414 Fourth Street	E
Bombay Grill	1444-1446 Fourth Street	E
Former Redwood Bank	1447 Fourth Street	A
Former Istanbul Rug	1504-1512 Fourth Street	B
	1508-1522 Fourth Street	E
Cains Tire	1531 Fourth Street	B+
Mayflower	1533 Fourth Street	B
	1538 Fourth Street	E

TABLE 4.5-8 DOWNTOWN PRECISE PLAN AREA PROPERTIES DOCUMENTED IN DETAILED FIELD SURVEY

Name	Address	Classification [a]
	1545 Fourth Street	E
	1553-1555 Fourth Street	B
	1560 Fourth Street	E
	1569 Fourth Street	E
	1605-1611 Fourth Street	B
	1617 Fourth Street	B
	1701 Fourth Street	C
	1714 Fourth Street	C
Pond Farm	1848 Fourth Street	B
	1850-52 Fourth Street	A
	963-977 Grand Avenue	D
	1H St/ 1820 4th Street	D
	914 Irwin Street	E
Residence	1011 Irwin Street	B
	1015 Irwin Street	E
Residence	30 Latham Street	B
Sol Food	901 Lincoln Avenue	E
	1016 Lincoln Avenue	C
	1103 Lincoln Avenue	D
San Rafael House	1104 Lincoln Avenue	B
Residence	1110 Lincoln Avenue	B
Residence	1116 Lincoln Avenue	E
Residence	1118 Lincoln Avenue	C
Residence	1120 Lincoln Avenue	B
	633 Mission Avenue	E
	637 Mission Avenue	B
	705 Mission Avenue	A
	710 Mission Avenue	A
	823-25 Mission Avenue	A
Residence	828 Mission Avenue	A
Residence	907 Mission Avenue	A-
Residence	1012 Mission Avenue	E
De Courtiex House	1135 Mission Avenue	B
Residence	1145 Mission Avenue	E
	16 Ritter Street	E
	826 Second Street	E
Mackey Frames	1115 Second Street	E
	1209 Second Street	E
	1211 Second Street	C
Residence	1215 Second Street	B

TABLE 4.5-8 DOWNTOWN PRECISE PLAN AREA PROPERTIES DOCUMENTED IN DETAILED FIELD SURVEY

Name	Address	Classification [a]
Residence	1301 Second Street	B+
	1305 Second Street	E
Residence	1307 Second Street	B
Residence	1309 Second Street	E
	1315 Second Street	E
Residence	1416-1420 Second Street	E
Residence	3 Stevens Place	C
Barrel House	927 Tamalpais Avenue	B
NWP Rail Depot/ Whistlestop	930 Tamalpais Avenue	E
French Quarter	610 Third Street	E
First Federal Savings and Loan	1030 Third Street	A
	1410 Third Street	A
Residence	1414 Third Street	E
Residence	1532 Third Street	B
Marin Shakespeare	514 Fourth Street	E
Lotus Restaurant	704 Fourth Street	E
Wells Fargo	1203 Fourth Street	C
	1001 Lincoln Avenue	B
Chisolm Residence	1505 Fifth Avenue	B
San Rafael Public Library	1100 E Street	A
Victorian Village	1623 Fifth Avenue, Building C	B
Victorian Village	1623 Fifth Avenue, Building D	B

Notes: Classification categories are as follows:
A. Eligible Landmark. Eligible for consideration as a historic landmark (37 parcels).
B. Eligible Contributor, not Landmark. Buildings would likely not be eligible individually, but could be considered eligible as contributing resources in a historic district (37 parcels).
C. May be Eligible. Needs Research. Require additional research for eligibility determination (15 parcels).
D. Probably Ineligible. Require additional research for conclusion. (10 parcels).
E. Ineligible. Buildings determined to be ineligible as a landmark. (60 parcels).
Source: City of San Rafael, 2020.

Native American Consultation

Pursuant to SB 18 and AB 52, requests were sent to the NAHC for a search of the Sacred Lands File and a Tribal Consultation List. The City sent letters to representatives of the Federated Indians of Graton Rancheria listed on the NAHC Native American Contacts list in November 2018.. The City received a request for Tribal Consultation from the Federated Indians of Graton Rancheria, dated November 16, 2018.

4.5.2 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:

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.

4.5.3 IMPACT DISCUSSION

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.**

General Plan 2040

Section 4.5.1.1, Regulatory Setting, under the subheading "Historic Resources" describes the types of cultural resources that meet the definition of historical resources under CEQA Section 15064.5. Under CEQA, both prehistoric and historic archaeological sites may qualify based on historical associations.[5] The following Impact Discussion focuses on impacts to historical architectural resources. Impacts to archaeological resources are described in Impact Discussion CULT-2, and human remains are addressed in Impact Discussion CULT-3.

As stated above in Section 4.5.1.2, Existing Conditions, there are numerous individual properties as well as several districts within the EIR Study Area that meet the CEQA definition of historical resource, including 16 City historic landmarks and three City historic districts, four California Historical Landmarks, and ten resources listed on the National Register. In establishing a policy framework to guide new development in areas where future development under the proposed General Plan 2040 could either directly or indirectly adversely affect an historic resource, the proposed General Plan 2040 would have the potential to impact historic resources.

[5] California Code of Regulations, Title 14, Chapter 3, Section 15064.5(c), Determining the Significance of Impacts on Historical and Unique Archaeological 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. The California Historical Building Code provides standards for rehabilitating, preserving, restoring, and relocating historical resources. SRMC Chapter 2.18, Historic Preservation, includes regulations for the recording, designation, and alterations to the historic resources within the city, as well as procedures for the demolition, destruction, relocation, or removal of a designated historic resource. Compliance with these existing regulations and procedures would help to reduce the effects from potential future development on a historical resource.

Even if the historical resources were retained as potential future development and redevelopment occurs, potential future development could cause a significant impact on historical resources if the new building were incompatible with existing historic properties (for example, by introducing new construction that extends to all property lines in an area where the historical pattern is to have setbacks), or if the massing (height and bulk) or design details (materials and features) of the new building were incompatible with existing historical resources. In this sense, implementation of the proposed General Plan 2040 could impair the historic integrity of important resources with larger and denser new construction.

The proposed Community Design and Preservation (CDP) Element contains goals, policies, and programs that require local planning and development decisions to consider key characteristics that contribute to San Rafael's identity and image, and that positively reinforcing its visual character and relationship to its natural setting and cultural context. The following goal, policies, and programs would serve to minimize impact to historic resources:

Goal CDP-5: Protected Cultural Heritage. Protect and maintain San Rafael's historic and archaeological resources as visible reminders of the city's cultural heritage.

- Policy CDP-5.1 Historic Buildings and Areas. Preserve buildings and areas with special and recognized historic, architectural or aesthetic value, including but not limited to those on the San Rafael Historical/ Architectural Survey. New development and redevelopment should respect architecturally and historically significant buildings and areas.
  - Program CDP-5.1A: Preservation Ordinance. Continue to implement the City's Historic Preservation Ordinance. The Ordinance should be reviewed at least once every 10 years to ensure that its criteria, classifications, and procedures provide the most effective measures to assess proposed changes to historic properties and are consistent with Secretary of the Interior standards.
  - Program CDP-5.1B: Oversight Responsibilities. Create a more formal means of oversight for review of planning and building applications affecting historic resources. This could include a contract with an architectural historian, or an advisory committee convened as needed to advise the Planning Commission and Design Review Board on matters and policies related to preservation or the modification of historic structures. If an oversight body is created, it should represent diverse perspectives and interests.

- Policy CDP-5.2 Inventorying Historic Resources. Maintain and periodically update inventories of local historic resources, using methods that are consistent with state and federal criteria, reflect local values, and do not unreasonably constrain property rights and interests. Historic resources may include sites associated with important historic events or people, archaeological resources, and landscape elements, in addition to older buildings.
  - Program CDP-5.2A: Context Statement. Prepare a citywide historic context statement to provide the framework for evaluating a property's historic significance and integrity.
  - Program CDP-5.2B: Inventory Update. Continue to update the City's Historical/ Architecture Survey, which is an inventory of buildings of architectural value, historic buildings and/or districts and historic elements such as signs, monuments, and gates. A priority should be placed on neighborhoods with large concentrations of older structures, as well as areas most likely to experience development pressure in the future.
  - Program CDP-5.2C: Criteria for Designation. Review and adjust the criteria for designation of historic resources so they align with those of state and federal preservation agencies.
  - Program CDP-5.2D: Additional Landmarking. Based on updated historic preservation data, identify additional structures or sites for local and/or state landmark status and/or potential nomination to the National Register of Historic Places.
- Policy CDP-5.3: Districts. Encourage the formation of historic or architectural conservation districts in areas where important historic resources are concentrated and where there is property owner and community support for such designations. Such districts should provide for preservation, restoration, and greater awareness of the resources they contain, while providing financial and property tax incentives for property owners.
  - Program CDP-5.3A: Downtown Districts. Consider the designation of an additional historic district in Downtown San Rafael based on the 2019 Downtown Precise Plan field survey of Downtown properties.
- Policy CDP-5.4: Preservation Incentives. Create innovative incentives that encourage stewardship of San Rafael's historic resources. Incentives should be enacted before (or concurrently with) placing additional restrictions on historic properties, to ensure that preservation makes economic sense.
  - Program CDP-5.4A: Zoning and Development Incentives. Support the use of transfer of development rights and façade easements to encourage preservation of historic buildings.
  - Program CDP-5.4B: Local Financial Incentives. Pursue development of a local Mills Act program to allow contracts with the owners of historic properties meeting criteria to be defined by the City. The contracts allow for reduced property taxes in exchange for an agreement to maintain the historic integrity and visibility of the structure. In addition, enact reductions or waivers of local permitting fees for qualifying historic preservation projects.
  - Program CDP-5.4C: Non-Local Financial Incentives. Support financial assistance for preservation through state and federal grants and loans, tax credits, National Trust Preservation funds, the Federal Historic Preservation Tax Incentives Program, and similar programs.
- Policy CDP-5.5: Adaptive Reuse. Encourage the adaptation and reuse of historic and older buildings as a way to preserve San Rafael's heritage, especially where the original use of the building is no longer viable.
  - Program CDP-5.5A: California Historic Building Code. Use the State historic building code to relieve historic buildings from modern code requirements, thus making it easier to reuse the

building. Explore other incentivizes or code changes that allow interior spaces in older buildings to be more easily and affordably updated.

- Program CDP-5.5B: Zoning. Investigate zoning exceptions for historic structures, such as reduced on-site parking, setback, and driveway width requirements. The range of permitted or conditionally permitted uses in historic structures should be expanded to make them more viable for reuse.

- Policy CDP-5.6:Protecting the Integrity of Historic Properties. Ensure that modifications to designated historic properties, including additions, alterations, and new structures, are visually compatible with the property's contributing features, as defined by the San Rafael Municipal Code.
  - Program CD-5.6A: Certificates of Appropriateness. Continue existing requirements for "Certificates of Appropriateness" (COA) for alterations to designated historic resources. Criteria for COAs should be consistent with State and federal standards.
  - Program CDP-5.6B: Design Guidelines. Address historic preservation in the City's design guidelines, including successful examples of (a) adaptive reuse, alterations, and other changes; and (b) new infill development in the context of an older neighborhood, including examples of contemporary architecture. Infill development in older areas does not need to mimic historic development but should acknowledge and respect its context.
  - Program CDP-5.6C: Landscapes and Natural Features. Consider landscapes, gardens, mature trees, and natural features as contextually relevant when defining historic value. Encourage the preservation of such features when they are determined to be significant.

- Policy CDP-5.7: Maintenance of Historic Properties. Strongly support the maintenance of historic properties and avoid their deterioration to the point where rehabilitation is no longer feasible (e.g., "demolition by neglect").
  - Program CDP-5.7A: Incentives. Support property owner efforts to maintain and restore historic properties through fee reductions, tax credits, and Code exceptions.

As previously indicated, under CEQA, conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties will normally mitigate impacts to a less-than-significant level.

While implementation of the goals, policies, and programs identified above, as well as compliance with federal and State laws and the SRMC, would minimize potential impacts to historical architectural resources, future development in San Rafael that is on, or adjacent to, historical architectural resources could lead to:

- Demolition, which by definition results in the material impairment of a resource's ability to convey its significance.
- Inappropriate modification, which may use incompatible materials, designs, or construction techniques in a manner that alters character-defining features.
- Inappropriate new construction, which could introduce incompatible new buildings that clash with an established architectural context.

As previously indicated, under CEQA, conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties will normally mitigate impacts to a less-than-significant level. For the proposed General Plan 2040, which is a broad-based policy plan, it is not possible to determine whether individual projects would be able to attain the Secretary of Interior's Standards. Therefore, any of these

scenarios described above, but especially demolition and alteration, have the potential to change the historic fabric or setting of an architectural resource such that the resource's ability to convey its significance may be materially impaired, which would result in a *significant* impact.

Impact CULT-1: Future development in San Rafael on sites that contain a historic resource may cause the demolition, destruction, or alteration of a historic resource such that the significance of the resource is "materially impaired." Such adverse changes or potential adverse changes in the significance of a CEQA-defined historic resource would constitute a significant impact.

Mitigation Measure CULT-1: To ensure sites that contain a historic resource that are subject to demolition, destruction, or alteration, are mitigated to an acceptable level, the City shall amend Program CDP-5.1A (Preservation Ordinance).

- Modifiy Program CDP-5.1A: Update Historic Preservation Ordinance. The City of San Rafael shall modify the City's Historic Preservation Ordinance to include updated procedures to mitigate impacts from the demolition, destruction, or alteration of historic resources.
  Procedures could include the following:
  For any discretionary project involving a property that contains a historic resource, the City shall make a preliminary determination as to whether or not the project may have a potentially significant adverse effect on the historic resource. If the City determines that the project may have a potentially significant effect, the City shall require the applicant to implement, to the extent feasible, the following mitigation measures.

  (a) If feasible, the applicant shall, to City satisfaction, ensure that the project adheres to one or both of the following standards:
    - Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings; or
    - Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer.

  The project shall be reviewed by a qualified architect or architectural historian approved by the City and meeting the Secretary of the Interior's Professional Qualifications Standards published in the Code of Federal Regulations (36 CFR part 61), who shall make a recommendation to the decision-making body as to whether the project fully adheres to the Secretary of the Interior's Standards for Rehabilitation, as well as to whether any specific modifications are necessary to do so. The final determination as to a project's adherence to the Standards for Rehabilitation shall be made by the or the body with final decision-making authority over the project.

  (b) If measure (a) is not feasible, and if relocation of the historic resources is a feasible alternative to demolition, the historic resource shall be moved to a new location compatible with the original character and use of the historical resource, and its historic features and compatibility in orientation, setting, and general environment shall be retained, such that the resource retains its eligibility for listing on the California Register of Historic Resources.

If neither measure (a) nor measure (b) is feasible, the City shall, as applicable and to the extent feasible, implement the following measures in the following order:

- Document the historic resource before any changes that would cause a loss of integrity and loss of continued eligibility. The documentation shall adhere to the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The level of documentation shall be proportionate with the level of significance of the resource. The documentation shall be made available for inclusion in the Historic American Building Survey (HASS) or the Historic American Engineering Record (HAER) Collections in the Library of Congress, the California Historical Resources Information System, and the Bancroft Library, as well as local libraries and historical societies.
- Retain and reuse the historic resource to the maximum feasible extent and continue to apply the Standards for Rehabilitation to the maximum feasible extent in all alterations, additions, and new construction.
- Through careful methods of planned deconstruction to avoid damage and loss, salvage character-defining features and materials for educational and interpretive use on-site, or for reuse in new construction on the site in a way that commemorates their original use and significance.
- Interpret the historical significance of the resource through a permanent exhibit or program in a publicly accessible location on the site or elsewhere within the city limits.

Significance with Mitigation: Significant and unavoidable. Although the preceding mitigation measures are intended to mitigate impacts on historic resources from potential future development in San Rafael to the extent feasible, the impacts to historic resources may nonetheless remain significant and unavoidable at the program level because project-level details of future development proposals are unknown. This program-level impact does not preclude the finding of less-than-significant impacts for subsequent development projects that comply with Secretary of the Interior's Standards. However, due to the programmatic nature of the proposed project, no additional mitigation measures are available, and the impact is considered *significant and unavoidable*.

DOWNTOWN PRECISE PLAN

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area has the potential to cause the demolition, destruction, or alteration of a historic resource such that the significance of the resource is materially impaired. The proposed Downtown Precise Plan addresses the regulation of historic resources in Chapter 3, Design Principals and Guiding Policies; Chapter 5, Historic Resources; Chapter 8, Implementation; and Chapter 9, Downtown Form Based Code.

Chapter 3, Design Principles and Guiding Policies, includes the following guiding policies, which are intended to provide guidance in evaluating strategies and actions for implementing the Plan vision.

- Guiding Policy 6A. Protect historic and cultural landmarks and celebrate them in the design of the built form and public realm.
- Guiding Policy 6B. Use appropriate historic preservation tools to safeguard the built character of historic resources while accommodating sensitive modifications and additions as needed.

- Guiding Policy 6C. Maintain and regularly update the inventory of notable historic and cultural resources in Downtown.
- Guiding Policy 6D. Employ the Form-Based Code to guide the physical form of new development on sites adjacent to Downtown's historic resources.
- Guiding Policy 6E. Utilize preservation and adaptive use strategies, and incentivize private developers to reinvest in existing buildings and redevelop sites with historic or cultural resources.
- Guiding Policy 6F. Plan activities and events focused on raising awareness about Downtown's history and cultural heritage.

Chapter 5, Historic Resources, of the Downtown Precise Plan provides an overview of historic resources in the DTPP area, including the historical context, existing preservation policies and regulations, a summary of the 2019/20 survey and inventory of historic resources (described in detail below), identification of two new historic districts, recommendations for a historic preservation ordinance, and procedures for additions, alterations, and demolition. Section 5.6, Procedures for Additions, Alterations, and Demolition, lists the criteria used to determine if a rehabilitation project qualifies as a "certified rehabilitation" under the Secretary of the Interior's Standards for Rehabilitation, as listed above in Section 4.5.1.1 under Federal Regulations. Section 5.6 of the proposed Downtown Precise Plan also includes regulating tables to provide guidance for future modifications and alterations to historic resources in the Downtown Precise Plan Area. Table 5A lists the allowed modifications to historic structures based on their status, and Table 5B lists allowed modifications for structures adjacent to historic resources. Table 5C lists procedures to be followed for modifications and alterations for different types of resources in the Downtown Precise Plan Area.

Chapter 8, Implementation, of the Downtown Precise Plan, includes Section 8.3, Recommended Actions. Subsection A., Historic Resources Management, lists the following actions for protecting historic resources in the Downtown Precise Plan Area:

1. Refine "Chapter 2.18- Historic Preservation" in the San Rafael Municipal Code. Refer to Section 5.5: Recommendations for Historic Preservation Ordinance for additional details.
    - Action 1A. The Plan recommends that the City appoint one of the following, as feasible:
        - A full Historic Preservation Commission as is recommended by the California Office of Historic Preservation (OHP)—note that the OHP recognizes this option may not be feasible in all cases; or
        - An advisory committee made up of a Design Review Board member, a Planning Commission member and an architectural historian who has up-to-date training on current preservation standards; or
        - An on-call professional Architectural Historian familiar with CEQA compliance.
    - Action 1B. Align with CA OHP procedures for evaluating and designating individual historic resources and Historic Districts, including industry accepted definitions.
    - Action 1C. Create a full suite of historic preservation economic and feasibility incentives.
    - Action 1D. Establish a clear process for local designation.
    - Action 1E. Add guidelines to relocate designated resources per Criteria Consideration B ("Moved Properties of the National Register of Historic Places Criteria for Designation") to avoid demolition when feasible.

TABLE 5A. ALLOWED MODIFICATIONS TO DOWNTOWN HISTORIC RESOURCES BASED ON HISTORIC STATUS

	National/ State/ Local Landmark	Individual Resource	Contributing Resource
House-Form Historic Resource			
Demolition	Not permitted	Not permitted	Permitted. Must avoid a cumulative or significant impact to the district, determined by a qualified architectural historian.
Relocation	Not permitted unless under threat of demolition in current location and with qualified historian's approval.	Not permitted unless under threat of demolition in current location and with qualified historian's recommendation.	Not permitted unless under threat of demolition in current location and with qualified architectural historian's recommendation.
Additions	Permitted up to 10 feet *, following Downtown Form-Based Code standards including Supplemental Standards complying with SISR #9.	Permitted up to 10 feet *, following Downtown Form-Based Code standards including Supplemental Standards complying with SISR #9.	Permitted up to 10 feet *, following Downtown Form-Based Code standards including Supplemental Standards complying with SISR #9.
Alterations	Permitted. Must comply with SISR #2: avoid altering defining features.	Permitted. Must comply with SISR #2: avoid altering defining features.	Permitted. Must comply with SISR #2: avoid altering defining features.
Repairs	Permitted. Must comply with SISR #6: maintain Integrity and be compatible/ differentiated.	Permitted. Must comply with SISR #6: maintain integrity and be compatible/ differentiated.	Permitted. Must comply with SISR #6: maintain integrity and be compatible/ differentiated.
Block-Form Historic Resource			
Demolition	Not permitted	Not permitted	Permitted. Must avoid a cumulative or significant impact to the district, determined by a qualified architectural historian.
Relocation	Not permitted unless under threat of demolition in current location and with qualified historian's recommendation.	Permitted only if under threat of demolition in current location.	Relocation
Additions	Permitted up to 20 feet following Downtown Form-Based Code standards including Supplemental Standards complying with SISR #9.	Permitted up to 20 feet *, following Downtown Form-Based Code standards including Supplemental Standards complying with SISR #9.	Additions
Alterations	Permitted. Must comply with SISR #2: avoid altering defining features.	Permitted. Must comply with SISR #2: avoid altering defining features.	Alterations
Repairs	Permitted. Must comply with SISR #6: maintain integrity and be compatible/ differentiated.	Permitted. Must comply with SISR #6: maintain integrity and be compatible/ differentiated.	Repairs

* Guidelines for the historic district apply to the district as a whole and as it's own resource being made up of all contributors and individually eligible buildings within it, not the individual buildings, which are discussed in subsequent portions of the chart. The recommendations for the number of additional stories allowed as stated in this table are as per industry best practices. In cases where this may not be a viable solution, the recommendation of a qualified historian may be considered as an alternative.

TABLE 5B. ALLOWED MODIFICATIONS TO DOWNTOWN NON-HISTORIC STRUCTURES ADJACENT TO HISTORIC RESOURCES

	Non-Historic House-Form Structures Adjacent to a Historic Resource	Non-Historic Block-Form Structures Adjacent to a Historic Resource
Demolition	Permitted, but must avoid potential damage through vibration or otherwise.	Permitted, but must avoid potential damage through vibration or otherwise.
Relocation	Permitted, but must avoid potential damage.	Permitted, but must avoid potential damage.
Additions	Permitted up to 1 story*, following Downtown Form-Based Code standards including Supplemental Standards.	Permitted up to 2 stories*, following Downtown Form-Based Code standards including Supplemental Standards.
Alterations	Permitted. Must comply with Downtown Form-Based Code including Supplemental Standards.	Permitted. Must comply with Downtown Form-Based Code including Supplemental Standards.
Repairs	Permitted.	Permitted.

CULTURAL AND TRIBAL CULTURAL RESOURCES

TABLE 5C. PROCEDURAL OPTIONS FOR DIFFERENT CATEGORIES OF PROJECTS IN THE PLAN AREA

Category 1 Non-resource with no adjacency	Category 2 Non-resource with adjacency
- Not a historic resource - Outside historic district - Not adjacent to a historic resource	- Not a historic resource but inside a historic district - Adjacent to a historic resource or historic district boundary (outside boundary)
Downtown Form-Based Code applies	Downtown Form-Based Code applies (step-backs or setbacks according to Code's Supplemental Standards)
Staff review and approval	

Category 3 Contributing Resources		Category 4 Individual Resources + Landmarks	
Contributing resource inside historic district: addition/ alteration	Contributing resource inside historic district: demolition*	Individual resource: addition/ alteration	Individual resource or individual resource which is also a contributor: demolition*
↓	↓	↓	↓
Downtown Form-Based Code applies (step-backs or setbacks according to Code's Supplemental Standards)	Additional Historic Preservation impact analysis on historic district including cumulative impacts	Downtown Form-Based Code applies (step-backs or setbacks according to Code's Supplemental Standards)	CEQA/ EIR analysis to assess impacts to an individual resource or to the individual resource and historic district
↓	If no significant impact: **Planning Commission approval** / If significant impact: **CEQA/ EIR process** to be followed	↓	↓ / If impact: **no project** without overriding consideration
Additional Historic Preservation impact analysis if potential or cumulative impacts on District are possible		If addition/ alteration exceeds Code's Supplemental Standards, additional Historic Preservation impact analysis for potential or cumulative impact on historic district or resource	
↓	↓	↓ / ↓	If no impact on individual resource and meets Code's Supplemental Standards and SISR standards but may impact historic district, additional Historic Preservation impact analysis
If no impact: **Staff/ Planning Commission approval** (depending on project complexity)	If impact: **CEQA/ EIR process** to be followed	If no impact: **Planning Commission discretionary review** / If impact: **CEQA/ EIR process** to be followed	↓ **Planning Commission discretionary review and approval**

* Demolitions must be tied to a specific project

2. Maintain Inventory and Map of Historic Resources
   - Action 2A. Maintain the City's recently prepared historic context statement by updating it every five years.
   - Action 2B. Maintain an inventory and map of the historic resources in Downtown, informed by a field survey and updated every five years.
   - Action 2C. Maintain the inventory of historic resources in the City's Geographic Information Systems (GIS) database.
3. Streamline Permitting Processes and Procedures. Refer to Section 5.6: Procedures for Additions, Alterations and Demolition for additional details.
   - Action 3A. Assess and streamline planning procedures and permitting processes for review of projects involving historic resources, and eliminate possible redundancies and extraneous processes. Adopt the guidance and procedures described in Section 5.6 and illustrated in Tables 5A and 5B. Establish clear procedures compliant with The Secretary of the Interior's Standards for the Treatment of Historic Properties for individual properties, and in identified eligible historic districts.
4. Develop Educational Materials for Historic Resources
   - Action 4A. Develop educational materials for building owners (and potential owners) of historic resources, including information on grants and other sources of funding for maintaining the properties. This will further the preservation and development goals of San Rafael and provide factual info about the opportunities, benefits, and responsibilities for historic building ownership.
5. Offer Design Guidance
   - Action 5A. To create efficiencies early on in the development of a project, design guidance should be provided to current and potential owners of historic resources in Downtown. This should be done in advance of design guidelines.
6. Preservation Recognition and Education Programs
   - Action 6A. Develop programs to celebrate and educate the citizens about their City's history and built environment.
   - Action 6B. Provide information about the sustainability of preservation and rehabilitation of older structures, as compared to new construction.

Chapter 9, Form Based Code, contains regulatory standards intended to guide future development near historic resources in the Downtown Precise Plan Area. Section 3.2.070 Historic Resource Adjacency Standards requires that:

- The massing of any new building or proposed modification on or immediately adjacent to a historic resource, as identified in the Regulating Plan, reflect the scale of the adjacent historic resource by matching the ceiling heights of the first and second floor with that of the resource.
- Where new development is immediately adjacent to a "house-form historic resource," a minimum 20-foot forecourt is required immediately adjacent to the historic resource, and that the new development be setback from the sidewalk to match the setback of the historic resource.
- For additions to existing historic resources, the additions must be set back from the historic façade as determined by the City's Architectural Historian and Design Review; be limited to one or two stories,

depending on the zone, and must be in compliance with all standards of the zone and Secretary of the Interior's Standards for Rehabilitation #9 (New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.)

The Downtown Precise Plan includes a set of Procedures for Additions, Alterations, and Demolition (Section 5.6) to allow a level of modification to a structure, that are based on the Secretary of the Interior's Standards for a "Certified Rehabilitation." The Downtown Precise Plan also includes Form Based Code regulatory standards that regulate building massing, height, and setbacks for new projects adjacent to landmarked buildings, and for alterations to landmarked buildings.

As previously indicated, under CEQA, conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties will normally mitigate impacts to a less-than-significant level. Within the Downtown Precise Plan, only the Procedures for Additions, Alterations, and Demolition allow alterations or additions to a historic resource to allow new uses. Under the Standards for Rehabilitation, new additions, alterations, or adjacent new construction must not destroy character-defining features, spaces and spatial relationships. New work must be differentiated from the old and must be compatible with the historic materials, features, size, scale, proportion, and massing. New additions, alterations and new construction must be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Through approval of the Downtown Precise Plan, the City is directing future infill growth through higher density development into an area with a high concentration of historic resources. As shown in Table 4.5-8, Downtown Precise Plan Area Properties Documented in Detailed Field Survey, of the 159 sites surveyed, 37 parcels were found to be eligible for consideration as a historic landmark; 37 parcels were found likely not to be eligible individually, but could be considered eligible as contributing resources in a historic district; 15 parcels require additional research for eligibility determination; 10 parcels were found to be likely ineligible, but require additional research for conclusion; and 60 parcels were found to be ineligible as a landmark.

In some cases, it can be very challenging to accommodate the needs of new uses while fully adhering to the Standards for Rehabilitation and, in many situations, it can be altogether infeasible. In addition, changes to the condition of historic resources and their surroundings between now and the time that individual development proposals are received for specific properties could affect the extent to which the DTPP's historic resource protection provisions can effectively mitigate potential impacts on historic resources.

As a result, for all but the 60 parcels identified in the 2019/20 Survey as ineligible for landmarking status, it cannot be determined at this time, without consideration of a specific development proposal, whether it would be feasible to mitigate to a less than significant level the impacts of any given subsequent development project under the Downtown Precise Plan involving properties that contain historic resources. Accordingly, like the General Plan 2040, impacts would be *significant and unavoidable*.

Significance with Mitigation: Significant and unavoidable. An evaluation of project-specific details for future development could demonstrate future projects meet the Secretary of Interior's Standards; therefore, this program-level conclusion does not prohibit a less-than-significant conclusion at the project level in the future.

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.

General Plan 2040

Archaeological deposits 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 for utilities) associated with development allowed under the General Plan. Should this occur, the ability of the deposits to convey their significance, either as containing information about prehistory or history, or as possessing traditional or cultural significance to Native American or other descendant communities, would be materially impaired.

The proposed Community Design and Preservation (CDP) Element contains goals, policies, and programs that require local 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 CDP-5: Protected Cultural Heritage. Protect and maintain San Rafael's historic and archaeological resources as visible reminders of the city's cultural heritage.

- Policy CDP-5.13: Protection of Archaeological Resources. Protect significant archaeological resources by:
  - Consulting the City's archaeological resource data base prior to issuing demolition or construction permits in known sensitive areas.
  - Providing information and direction to property owners to make them aware of these resources and the procedures to be followed if they are discovered on-site.
  - Identifying, when possible, archaeological resources and potential impacts on such resources.
  - Implementing measures to preserve and protect archaeological resources, including fines and penalties for violations.
  - Program CDP-5.13A: Archaeological Resources Ordinance. Continue to implement the existing Archaeological Resources Ordinance and the City's Archaeological Resources data base.
- Policy CDP-5.14: Tribal Cultural Resources. Coordinate with representatives of the Native American community to protect historic Native American resources and raise awareness of San Rafael's Native American heritage.
  - Program CDP-5.14A: AB 52 Compliance. Implement the requirements of Assembly Bill 52 by providing opportunities for meaningful input from Native American representatives in the development review process.

- Program CDP-5.14B: Protection of Tribal Resources. Incorporate standard approval conditions in future development projects that ensure that Native American resources are protected during construction. In the event tribal resources are discovered, earth-disturbing work must be temporarily suspended pending evaluation by a qualified archaeologist and an appropriate Native American representative. Where appropriate, a mitigation plan shall be developed in accordance with state guidelines and tribal input.

As discussed in Section 4.5.1.2, Existing Conditions, 86 prehistoric archaeological sites have been documented within the EIR Study Area. There could be not-yet-identified archaeological resources within the EIR Study Area.

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project would increase future development in existing urban areas within the EIR Study Area, half of which growth would occur in the Downtown Precise Plan Area. 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 greater 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. However, some future projects could result in substantial excavation at significant 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, impacts to archaeological resources would be *significant*.

Impact CULT-2: Implementation of the proposed project could have the potential to cause a significant impact to an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Mitigation Measure CULT-2: To ensure sites where archaeological resources are unearthed during the construction phase of development projects are mitigated to an acceptable level, the City shall amend Program CDP-5.13A (Archaeological Resources Ordinance).

- Modify Program CDP-5.13A: Update Archaeological Resources Ordinance. The City of San Rafael shall modify the City's Archaeological Resources Ordinance to include construction best management practices 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 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 San Rafael, Northwest Information Center, and State Historic Preservation Office, if required.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area could unearth unknown archaeological resources. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations related to archaeological resources; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant.*

Significance with Mitigation: Less than significant.

CULT-3 Implementation of the proposed project would not disturb any human remains, including those interred outside of dedicated cemeteries.

General Plan 2040

Human remains associated with precontact archaeological deposits could exist in the EIR Study 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. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. If the NAHC is unable to identify a 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, and mediation by the NAHC fails to provide measures acceptable to the landowner, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.

Descendant communities may ascribe religious or cultural significance to such remains and may view their disturbance as an unmitigable impact. Disturbance of unknown human remains would be a *significant* impact.

Impact CULT-3: Ground-disturbing activities as a result of future development in the EIR Study Area could encounter human remains, the disturbance of which could result in a significant impact under CEQA.

Mitigation Measure CULT-3: To ensure human remains that are unearthed during the construction phase of development projects are protected, the City shall adopt a new Program to support Policy CDP-5.13 (Protection of Archaeological Resources).

- New Program: Human Remains. Any human remains encountered during ground-disturbing activities would be required to be treated in accordance with California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and the California Code of Regulations Section 15064.5(e) (CEQA), which state the mandated procedures of conduct following the discovery of human remains.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area could unearth human remains. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations related to the protection of human remains; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant with mitigation.*

Significance with Mitigation: Less than significant.

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.**

General Plan 2040

As previously described in Section 4.5.1.1, Regulatory Framework, a TCR is defined under AB 52 as a site, feature, place, 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 if the City of San Rafael, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.[6]

As discussed under impact discussions CULT-2 and CULT-3, impacts from potential future development in the EIR Study 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 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 Measures CULT-2 and CULT-3 would reduce any impacts to a TCR discovered in the EIR Study Area as a result of future development under the proposed project.

Impact CULT-4: Ground-disturbing activities as a result of future development under the proposed project could encounter Tribal Cultural Resources, the disturbance of which could result in a significant impact under CEQA.

Mitigation Measure CULT-4: Implement Mitigation Measures CULT-2 and CULT-3.

Significance with Mitigation: Less than significant.

[6] Public Resources Code Sections 21074(a)(1) and (2).

Downtown Precise Plan

Same as potential future development in the remainder of the city, the potential future development in the Downtown Precise Plan Area could unearth unknown TCRs. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations related to TCRs; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, impacts would be *less than significant with mitigation.*

Significance with Mitigation: Less than significant.

CULT-5 Implementation of the proposed project would cause impacts that are cumulatively considerable when viewed in connection with the effects of past, present, and reasonably foreseeable projects.

The impacts of potential future development under implementation of the proposed project on cultural resources and TCRs tend to be site specific, and cumulative impacts would occur when a series of actions leads to the loss of a substantial type of site, building, or resource. For example, while the loss of a single historic building may not be significant to the character of a neighborhood or streetscape, continued loss of such resources on a project-by-project basis could constitute a significant cumulative effect. This is most obvious in historic districts, where destruction or alteration of a percentage of the contributing elements may lead to a loss of integrity for the district overall. For example, changes to the setting or atmosphere of an area by adding modern structures on all sides of a historically significant building, thus altering the aesthetics of the streetscape, would create a significant impact. Destruction or relocation of historic buildings would also significantly impact the setting.

Future development planned for under the General Plan 2040 would be primarily located within the developed portions of the EIR study area, this, in conjunction with buildout of the city and the region, has the potential to cumulatively impact historical resources. As previously discussed, impacts to historic architectural resources would be mitigated with implementation of Mitigation Measure CULT-1 on a project-level, but would be significant and unavoidable at the program level due to the lack of development level details. 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 Measures CULT-2, CULT-3, and CULT-4 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 San Rafael. Continued compliance with these regulations substantially decrease potential impacts to historical resources, archaeological resources, human remains, and TCRs to the maximum extent practicable.

Significance with Mitigation: Significant and Unavoidable. While implementation of Mitigation Measures CULT-2, CULT-3, and CULT-4 would reduce impacts to archaeological resources, human remains, and TCRs to a less-than-significant level, it is unknown if future projects that are proposed on sites or adjacent to sites with historic buildings would be able to achieve the Secretary of Interior's Standards at the program level. Therefore, this impact remains *significant and unavoidable*.

4.6 ENERGY

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to energy demand, energy conservation, and energy infrastructure. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act contains provisions designed to increase energy efficiency and availability of renewable energy. This act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliances and equipment.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair, and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Update to Corporate Average Fuel Economy Standards (2021 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. A consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards

nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America, and Volkswagen Group of America. The framework supports continued annual reductions of vehicle GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that these auto companies will only sell cars in the United States that meet these standards.

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;[1]
- 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.

With respect to the commercial sector, the *Long Term Energy Efficiency Strategic Plan* notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts for 38 percent of the State's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of the State's electricity and gas use.

The CPUC and the California Energy Commission (CEC) have adopted the following goals to achieve zero net energy levels by 2030 in the commercial sector:

- Goal 1. New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2. 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

[1] Zero net energy buildings are buildings in which the total amount of energy used by the building on an annual basis is equal to or less than the amount of renewable energy created on the site.

- Goal 3. Transform the commercial lighting market through technological advancement and innovative utility initiatives.

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 is the most recent version and improves upon the previous 2016 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic (PV) systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential PV systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); (3) residential and nonresidential ventilation requirements; and (4) nonresidential lighting requirements.[2] Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient.[3] 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.[4] The City regularly adopts updates under the San Rafael Municipal Code (SRMC) Title 12, Building Regulations, Chapter 12.100, Adopted Codes.

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. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings. CALGreen encourages sustainable construction practices in energy efficiency. Compliance with the CALGreen Code is not a substitution for meeting the certification requirements of any green building program. The City of San Rafael has adopted all sections of the California Code of Regulations Title 24, Part 11, in SRMC Title 12, Building Regulations, Chapter 12.100, Adopted Codes.

[2] California Energy Commission, 2018, News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation, accessed February 27, 2020.

[3] California Energy Commission, 2018, 2019 Building Energy and Efficiency Standards Frequently Asked Questions, http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed February 27, 2020.

[4] California Energy Commission, 2018, 2019 Building Energy and Efficiency Standards Frequently Asked Questions, http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed February 27, 2020.

California Energy Commission

The California Energy Commission (CEC) was created in 1974 as the State's principal energy planning organization. The CEC is charged with six basic responsibilities as follows:

- Forecast statewide electricity needs
- License power plants to meet those needs
- Promote energy conservation and efficiency measures
- Develop renewable energy resources and alternative energy technologies
- Promote research, development, and demonstration
- Plan for and direct the state's response to energy emergencies

2019 Appliance Efficiency Regulations

The 2019 Appliance Efficiency Regulations (Title 20, California Code of Regulations Sections 1601 through 1609) include standards for both federally regulated appliances and non-federally regulated appliances. There are 24 categories of appliances included in the scope of these regulations, including such devices as washing machines, microwave ovens, dishwashers, and furnaces. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state, and those designed and sold exclusively for use in recreational vehicles or other mobile equipment. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

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. The statewide Renewables Portfolio Standard requirements do not directly apply to individual development projects, but to utilities and energy providers, such as MCE and PG&E, whose compliance with Renewables Portfolio Standard requirements would contribute to the State of California objective of transitioning to renewable energy.

Senate Bill 1368

On September 29, 2006, SB 1368 was signed into law.[5] This law limits long-term investments in baseload generation by the State's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC. The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of carbon dioxide (CO_2) per megawatt-hour. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the State's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard.[6]

California Energy Benchmarking and Disclosure

Assembly Bill (AB) 1103 (2007) requires that electric and gas utilities maintain records of the energy consumption data of all nonresidential buildings to which they provide service and that by January 1, 2009, upon authorization of a nonresidential building owner or operator, an electric or gas utility shall upload all of the energy consumption data for the specified building to the United States Environmental Protection Agency Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This statute further requires a nonresidential building owner or operator to disclose Energy Star Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, AB 802 was signed into law to revise and recast the above provisions. The new law directs the CEC to establish a statewide energy benchmarking and disclosure program and enhances the CEC's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning and program design. Among the specific provisions, AB 802 would require utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning no later than January 1, 2017, AB 802 would require each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements.

[5] Public Utilities Code, Chapter 598, Statutes of 2006.
[6] Public Utilities Code, Chapter 598, Statutes of 2006.

Senate Bill 350

SB 350, signed into law on October 7, 2015, expands the California Renewables Portfolio Standard by establishing a renewable energy goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 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. SB 350 also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the California Independent System Operator to those markets, pursuant to a specified process.

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. Implementation of the regulation was delayed by lawsuits filed by automakers and by the USEPA's denial of an implementation waiver. The USEPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase is during the 2009 through 2016 model years. When fully phased in, the near-term (2009 to 2012) standards resulted in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013 to 2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed-valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

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.

California Code of Regulations Title 13, Motorized Vehicles

California Code of Regulations Section 2449(d)(2) of Article 4.8, In-Use Off-Road Diesel-Fueled Fleets, regulates the idling time to reduce oxides of nitrogen (NOx), diesel particulate matter (PM), and other

criteria pollutant emissions from in-use off-road diesel-fueled vehicles and certain types of motorized equipment. Such practices limit wasteful and unnecessary energy consumption. Article 4.8 is in Division 3, Air Resources Board, Chapter 9, Off-Road Vehicles and Engines Pollution Control Devices.

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 4.8, 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 Communities and 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 in the 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, 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*. The 2040 update to *Plan Bay Area* was adopted jointly by the ABAG and MTC on July 26, 2017. *Plan Bay Area 2040* proposes the Climate Initiatives Program, which promotes the densification of land use and a relative decrease in per capita energy consumption, in addition to a net reduction in vehicle fuel use while also allowing growth within the region. As part of the implementing framework for *Plan Bay Area*, local governments have identified Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. TPAs are half-mile buffers surrounding major transit stops or terminals. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated within PDAs. As shown on Figure 4-1, in Chapter 4.0, Environmental Analysis, the EIR Study Area has three PDAs and three TPAs.[7] The current *Plan Bay Area* 2040 is currently being updated to extend the planning horizon to 2050.[8]

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs that are relevant to energy are primarily in the Sustainability Element. As part of the proposed project, some existing General Plan policies would be amended, substantially changed, or new policies would be added. The Sustainability Element is being eliminated and its policies and programs are being moved to other elements. 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 Section 4.6.3, Impact Discussion.

San Rafael Municipal Code

The SRMC includes various directives pertaining to energy use, conservation, and infrastructure. The SRMC is organized by title, chapter, and section. Most provisions related to energy impacts are included in Title 12, Building Regulations, and Title 14, Zoning, as follows:

- Chapter 12.100, Adopted Codes. This chapter adopts the California Building Code in its entirety.
- Chapter 12.230, California Existing Building Code Amendments. Section 12.230.020, Amendments, describes the deletions and amendments to the adopted 2019 California Existing Building Code Standards, as described in Section 12.100.010, Adopted Codes.
- Chapter 12.235, California Green Building Construction Standards Code Amendments. Section 12.235.020, Amendments, describes the deletions and amendments to the adopted 2019 CALGreen Building Code Standards as described in Section 12.100.010, Adopted Codes.

[7] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, *Plan Bay Area 2040 Final*, http://2040.planbayarea.org/, accessed on March 12, 2019.

[8] To read more about *Plan Bay Area,* go to www.planbayarea.org.

- Chapter 12.315, Expedited Permitting Process for Electric Vehicle Charging Stations. This chapter is intended to promote the use of electric vehicles by streamlining the permitting process for electric vehicle charging stations.
- Chapter 12.320, Expedited Permit Process for Small Residential Rooftop Solar Systems. This chapter ensures a streamlined solar permitting process that complies with the Solar Rights Act and AB 2188, to achieve timely and cost-effective installations of small residential rooftop solar energy systems.
- Section 14.16.305, Small Wind Energy Systems. This section establishes standards to regulate the design and placement of small wind energy systems on public and private property in order to minimize the potential safety and aesthetic impacts on neighboring properties. Such systems are allowed in all zones except for parks/open space and water zoning districts. Standards include height, setbacks, noise, and access.
- Section 14.16.307, Solar Installations. This section establishes standards for the installation of solar systems along with the required permit approvals necessary to install such systems.

San Rafael 2019 Climate Change Action Plan

The San Rafael 2019 *Climate Change Action Plan* (CCAP), completed in Spring of 2019, contains policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. The 2019 CCAP builds off the 2009 CCAP and the San Rafael 2016 Greenhouse Gas Emission Inventory, providing a comparison between baseline and more recent emissions to identify where reductions have occurred. The 2019 CCAP 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. In San Rafael, that means emissions would need to drop to 241,455 metric tons of CO_2 equivalents ($MTCO_2e$) by 2030 and 80,485 $MTCO_2e$ by 2050, which include energy reduction and efficiency measures. Strategies that are relevant to the analysis of potential energy impacts and conservation actions within the EIR Study Area are provided in more detail in Chapter 4.8, Greenhouse Gas Emissions, of this Draft EIR.

4.6.1.2 EXISTING CONDITIONS

California's Energy Supplies

In 2017, California's power mix supply of electricity was derived from the following sources: natural gas (33.67 percent), nuclear (9.08 percent), "large" hydroelectric (14.72 percent), renewables (29.00 percent), coal (4.13 percent), and unspecified (9.25 percent).[9] Overall, electricity demand is forecast to increase an average of 1.27 percent[10] annually from 2016 through 2030, even with the more aggressive building and appliance energy efficiency standards and programs.

[9] California Energy Commission, Energy Almanac, Total Electricity System Power. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html, accessed on April 3, 2019.

[10] California Energy Commission, 2018, Tracking Progress, Statewide Energy Demand (CED 2017 Revised Mid Energy Demand scenario) , http://www.energy.ca.gov/renewables/tracking_progress/documents/statewide_energy_demand.pdf, accessed on April 3, 2019.

Natural gas has become an increasingly important source of energy since the State's power plants rely on this fuel. Nearly 45 percent of the natural gas burned in California was used for electricity generation, and much of the remainder consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.[11] Overall natural gas demand is forecast to increase by 0.37 to 0.98 percent annually from 2016 to 2028.[12]

A third major source of energy for California is crude oil, which is the primary source of transportation fuels in the State. Oil supply sources for the State include in-state production, Alaska, and foreign imports. Of the approximately 642 million barrels of crude oil delivered to refineries in the State in 2018, California itself produced 31.10 percent,[13] while foreign sources and Alaska provided 57.54 percent and 11.36 percent, respectively.[14]

Major transportation fuels include gasoline and diesel. Gasoline is the largest transportation fuel by volume used in California, followed closely by diesel fuel. In 2018, approximately 15.5 billion gallons of gasoline and 3.1 billion gallons of diesel fuel were sold in California's retail market.[15,16] Nearly all semi-trucks, delivery vehicles, buses, trains, ships, buses, and other equipment have diesel engines.

Energy Providers

Marin Clean Energy

Marin Clean Energy (MCE) is the default electricity provider for all communities in Marin County, including San Rafael, 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

[11] California Energy Commission, 2017, Supply and Demand of Natural Gas in California, http://www.energy.ca.gov/almanac/naturalgas_data/overview.html, accessed on April 3, 2019.

[12] California Energy Commission, 2017, Draft Natural Gas Market Trends and Outlook, Page 12. 2017_Draft_Natural_Gas_Market_Trends_and_Outlook.pdf.

[13] This total may include minor amount from North Dakota and the Gulf Coast States.

[14] California Energy Commission, 2019, Oil Supply Sources to California refineries, https://www.energy.ca.gov/almanac/petroleum_data/statistics/2018_monthly_oil_sources.html, accessed on April 3, 2019.

[15] State of California Board of Equalization, 2019, Net Taxable Gasoline Gallons.

[16] State of California Board of Equalization, 2019, Net Taxable Diesel Gallons.

receiving their electricity through PG&E with no substitution by MCE.[17] All electric energy provided by MCE is conveyed to customers through PG&E's existing infrastructure. PG&E continues to maintain the grid, repair lines, and conduct customer billing within the MCE service area. The EIR Study 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. Starting in 2017, 33 percent of PG&E's electricity was generated from renewable energy.

Pacific Gas and Electric Company

PG&E provides natural gas services to the EIR Study 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 EIR Study Area. Both gas and electrical service is available throughout the entirety of the EIR Study Area.

PG&E's service territory is 70,000 square miles, roughly extending north to Eureka, south to Bakersfield, west to the Pacific Ocean and east to the Sierra Nevada mountain range. PG&E's electricity distribution system consists of 106,681 circuit-miles of electric distribution lines and 18,466 circuit-miles of interconnected transmission lines. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy, such as wind turbines and PV plants, also known as solar farms. The bulk electric grid (collectively referred to as "The Grid"), is a network of high-voltage transmission lines, linked to power plants within the PG&E system. The distribution system, made up of lower voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

PG&E produces or buys its energy from a number of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2017 consisted of non-emitting nuclear generation (27 percent), large hydroelectric facilities (18 percent) and eligible renewable resources (33 percent), such as wind, geothermal, biomass, solar, and small hydro.[18] The remaining portion came from natural gas/other (20 percent) and unspecified power (2 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. PG&E met California's 2020 renewable energy goal three years ahead of schedule, supplying 33 percent of electricity from renewable resources that qualify under California's Renewables Portfolio Standard. PG&E continues to add more renewable energy

[17] Marin Clean Energy, 2016, Your Energy Choices, https://www.mcecleanenergy.org/your-energy-choices/, accessed on April 3, 2019.

[18] Pacific Gas and Electric Company, 2018, PG&E's 2017 Power Mix, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf, accessed on April 3, 2019.

to their power mix and are projected to supply electricity from 50 percent eligible renewables by the end of 2030.[19]

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. [20] 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. [21]

Existing Energy Infrastructure in San Rafael

Electricity

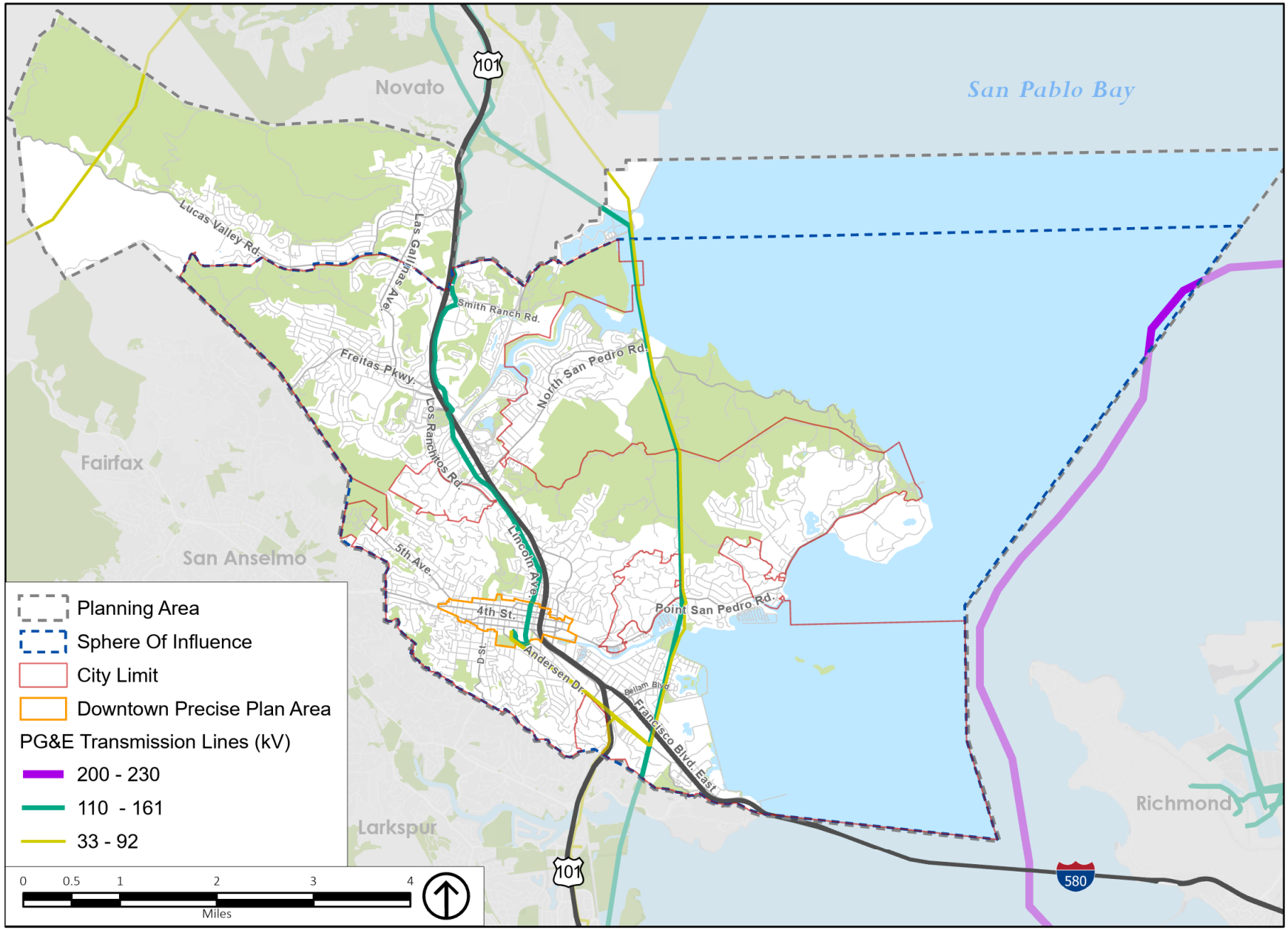
As shown on Figure 4.6-1, four 60-kilovolt (kV) underground electrical lines and two 115 kV underground electrical lines run through the EIR Study Area.[22] The two 60 kV electric transmission lines under Anderson Drive terminate in the Downtown Precise Plan Area at the San Rafael substation. The substation is located on Second Street between A Street and Lindaro Street. The 115 kV electric transmission line along Lincoln Avenue also runs through the Downtown Precise Plan Area. These lines are managed and controlled by PG&E. During high wind events, also known as "red flag events," PG&E has the ability to turn off the powerlines through the Public Safety Power Shutoff Program, to prevent arcing and sparking of the electrical transmission lines, which reduces the risk of wildfires from downed power lines. PG&E is undertaking programs and improvements to minimize shutoffs and their impacts in San Rafael and the remainder of the service area.

[19] Pacific Gas and Electric. October 2018. Where Your Electricity Comes From. https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf

[20] Pacific Gas and Electric. 2019. Company Profile. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page

[21] Pacific Gas and Electric. 2009. Pipeline 2020 Program. https://www.pge.com/about/newsroom/mediaevents/pipeline2020/index.shtml

[22] California Energy Commission. April 3, 2018. API Explorer, California Electric Transmission Line. https://cecgis-caenergy.opendata.arcgis.com/datasets/california-electric-transmission-line



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.6-1
PG&E Electric Transmission Lines

Natural Gas

Seven PG&E gas high-pressure transmission pipelines run beneath the EIR Study Area, as shown on Figure 4.6-2. Three of these pipelines are within the Downtown Precise Plan Area:

- One 16-inch pipeline running in Lindaro Street to 3rd street to Lincoln Avenue
- One 12-inch pipeline running in Lindaro Street to 2nd Street
- One 12-inch pipeline running along Ida Street to H Street.[23]

PG&E's 2018 California Gas Report projects total system demand to decline at an annual average rate of 0.4 percent between 2018 and 2035. PG&E anticipates that sufficient supplies will be available from a variety of sources at market-competitive prices to meet existing and projected market demands in its service area.[24] Table 4.6-1 shows the winter peak-day demand, the summer peak-day demand, and the total resources available to meet demands.

TABLE 4.6-1 DEMAND AND SUPPLY FORECAST FOR PG&E

Year	Demand	Resources Available to Meet Demand
Winter Peak Demand		
2018	3,671	5,200
2019	3,557	4,317
2020	3,463	4,317
Summer Peak Demand		
2018	1,805	5,200
2019	1,681	4,317
2020	1,557	4,317

Source: San Rafael Department of Public Works, 2018, 3-Year Capital Improvement Program.

Existing Energy Use within San Rafael

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., gallons of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

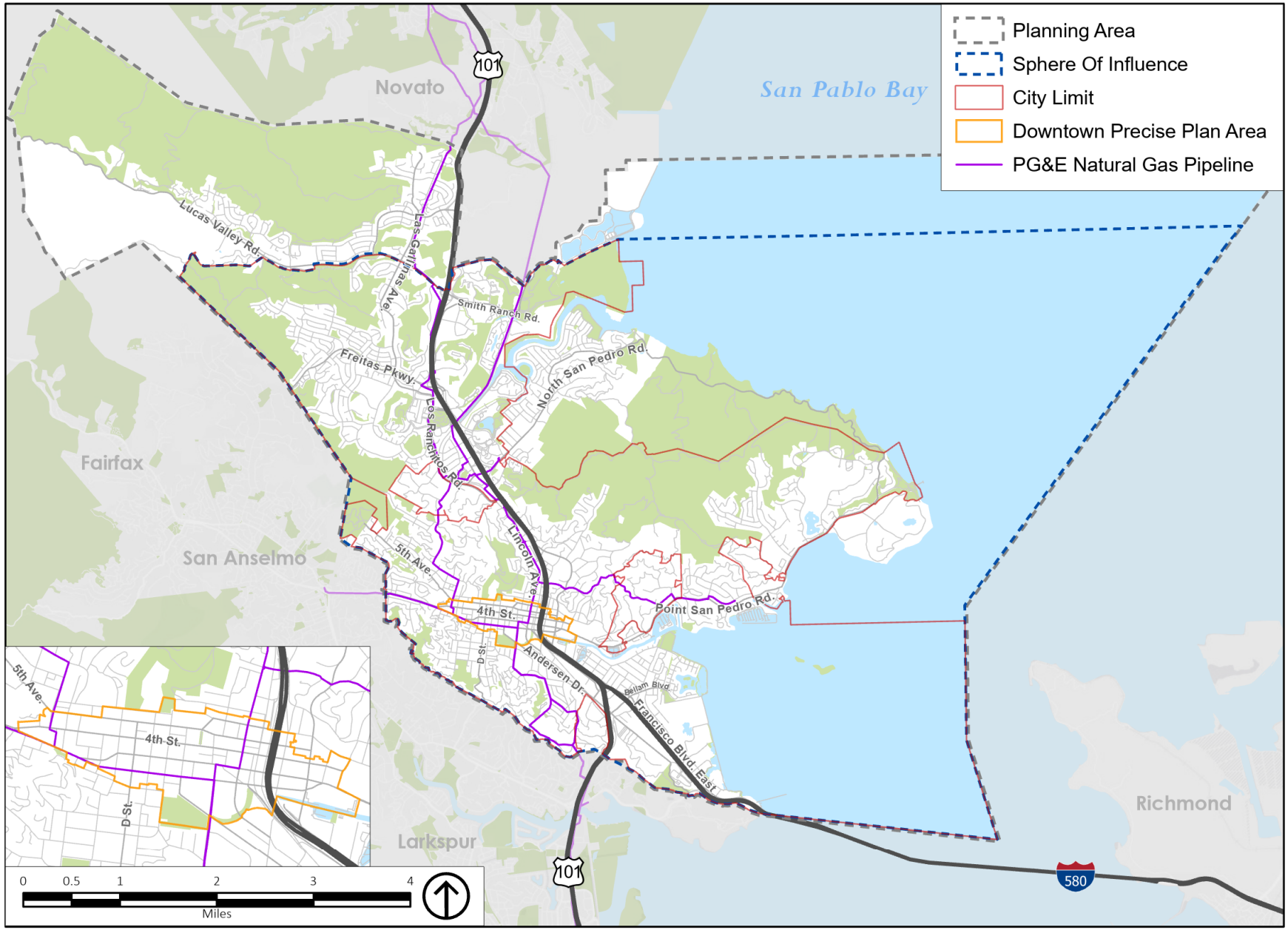
Electricity consumption citywide in 2016 for residential land uses was 118,031,218 kWh and nonresidential land uses was 214,481,019 kWh, totaling approximately 332,512,237 kWh or 332.5 million kWh.[25] Natural gas consumption citywide in 2016 for residential land uses was 9,467,604 therms and nonresidential land uses was 5,687,627 therms, totaling approximately 15 million therms.[26]

[23] Pacific Gas and Electric. 2019. Gas Transmission System Map. https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/gas-transmission-pipeline/gas-transmission-pipelines.page

[24] California Gas and Electric Utilities. 2018. 2018 California Gas Report. https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf

[25] Marin Climate & Energy Partnership. April 2019. City of San Rafael Community and Government Operations Greenhouse Gas Inventory for 2016.

[26] Marin Climate & Energy Partnership. April 2019. City of San Rafael Community and Government Operations Greenhouse Gas Inventory for 2016.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.6-2
PG&E Natural Gas Transmission Pipeline Map

Automotive fuel consumption data available for 2019 reported that San Rafael used approximately 42,928 gallons of gasoline and 1,650 gallons of diesel, per day. This equates to approximately 15,668,720 gallons of gasoline per year and 602,250 gallons of diesel per year.[27]

In the City of San Rafael there are 1,900 locations that have installed solar photovoltaic (PV) panels or cells. Of these solar PV installations, 1,803 of them are at residential properties, while 97 are located on non-residential properties that include commercial buildings, institutions, educational facilities, non-profits, and industrial land uses.[28] The total amount of solar PV installations in San Rafael have a total capacity of 14,372.08 kW of direct current. Over the course of a year, one kW is able to generate 1,619 kWh, meaning that solar PV installations in San Rafael are able to generate a total of approximately 23.3 million kWh annually.[29]

4.6.2 STANDARDS OF SIGNIFICANCE

Pursuant to Appendix G, Environmental Checklist, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would result in significant energy impact 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.

4.6.3 IMPACT DISCUSSION

ENE-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.**

General Plan 2040

Construction

Potential future development in the EIR Study Area would require the temporary use of construction equipment for grading, hauling, and building activities. Energy use during construction would vary based on the type of construction (i.e., demolition, grading, site preparation, etc.). The majority of construction

[27] California Air Resources Board, 2019, EMFAC2011 Emissions Model.

[28] California Distributed Generation Statistics, April 30, 2020, Download Data, Distributed Generation Interconnection Program Data, NEM Currently Interconnected Data Set, https://www.californiadgstats.ca.gov/downloads/, accessed September 11, 2020.

[29] U.S. Department of Energy, National Renewable Energy Laboratory, PVWatts Calculator, https://pvwatts.nrel.gov/, accessed on September 11, 2020.

equipment during demolition and grading would be gas or diesel powered, and other equipment during building construction would be electricity powered. Construction would also include the vehicles of construction workers traveling to and from each project site 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.

The proposed Conservation and Climate Change (C) Element contains a goal, policy, and program that requires local planning and development decisions to conserve energy during construction-related activities. The following goal, policy, and program would limit wasteful and unnecessary energy consumption in the EIR Study Area:

Goal C-4: Sustainable Energy Management. Use energy in a way that protects the environment, addresses climate change, and conserves natural resources.

- Policy C-4.2: Energy Conservation. Support construction methods, building materials, and home improvements that improve energy efficiency in existing and new construction.
  - Program C-4.2B: Green Building Standards. Implement State green building and energy efficiency standards for remodeling projects and new construction. Consider additional measures to incentivize green building practices, low carbon concrete, and sustainable design.

There would be no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. All operation of construction equipment would cease upon completion of project construction. Furthermore, the construction contractors are anticipated 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. Projects within the city would be similar to projects currently in development within San Rafael. No projects consisting of multiple phases over an extended period are anticipated. Furthermore, construction vehicles for model years 2017 to 2025 are mandated by 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

Operation of new development projects accommodated under the General Plan Update 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.

Electrical Energy

While the electricity and natural gas demand for the potential future development in the EIR Study 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 proposed Conservation and Climate Change (C) Element contains goals, policies, and programs that require local planning and development decisions to address efficient use of energy and energy conservation. The following goals, policies, and programs would further limit wasteful and unnecessary energy consumption in the EIR Study Area, beyond those listed in the construction discussion.

Goal C-4: Sustainable Energy Management. Use energy in a way that protects the environment, addresses climate change, and conserves natural resources.

- Policy C-4.1: Renewable Energy. Support increased use of renewable energy and remove obstacles to its use.
  - Program C-4.1B: PACE Financing. Participate in a Property Assessed Clean Energy (PACE) financing program to fund installation of renewable energy systems, energy efficiency upgrades to existing buildings, and other improvements such as electric vehicle chargers and battery storage. Consider other funding sources to improve local energy generation and storage.
  - Program C-4.1C: Regulatory Barriers. Continue efforts to remove regulatory barriers and provide creative incentives for solar energy installations, such as rooftop solar systems and parking lot canopies. The installation of renewable energy systems that are consistent with the Climate Change Action Plan should be encouraged and accelerated.
  - Program C-4.1D: Reducing Natural Gas Use. Promote electrification of building systems and appliances in new buildings and those that currently use natural gas.
  - Program C-4.1E: Municipal Buildings. Wherever feasible, incorporate renewable energy technology such as solar, cogeneration, and fuel cells, in the construction or retrofitting of City facilities. Continue use of Marin Clean Energy (MCE) Deep Green (100 percent renewable) power.
- Policy C-4.2: Energy Conservation. Support construction methods, building materials, and home improvements that improve energy efficiency in existing and new construction.
  - Program C-4.2A: Energy Efficiency Outreach. Continue to inform businesses and residents of programs and rebates to conserve energy and weatherize their homes.
  - Program C-4.2B: Green Building Standards. Implement State green building and energy efficiency standards for remodeling projects and new construction. Consider additional measures to incentivize green building practices, low carbon concrete, and sustainable design.

- Program C-4.2C: Energy Efficiency Incentives. Provide financial incentives, technical assistance, streamlined permitting processes, and partnerships to encourage energy-efficiency upgrades in new and existing buildings. Typical improvements include the use of energy-efficient windows, lighting, and appliances, induction and convection cooking, insulation of roofs and exterior walls, higher-efficiency heating and air conditioning (including electrical heat pump systems), and other projects that lower electricity and natural gas consumption.
- Program C-4.2D: Time-of-Sale Energy Audits. Consider requiring energy audits for residential and commercial buildings prior to property sales, including identification of cost savings from energy efficiency measures and potential rebates and financing options. An energy audit is a property inspection that identifies opportunities to improve energy efficiency.
- Program C-4.2E: Cool Roofs and Pavement. Encourage the use of materials that minimize heat gain for future outdoor surfaces such as parking lots, roadways, roofs and sidewalks.

- Policy C-4.3: Managing Energy Demand. Reduce peak demands on the electric power grid through development of local sources, use of battery storage, deployment of "smart" energy and grid systems that use technology to manage energy more efficiently, and public education.
  - Program C-4.3A: Innovative Technologies. Apply innovative technologies such as micro-grids, battery storage, and demand response programs that improve the electric grid's resilience and meet demand during high use periods. Encourage emergency battery back-up for power outages in lieu of generators.

- Policy C-4.4: Sustainable Building Materials. Encourage the use of building materials that reduce environmental impacts and the consumption of non- renewable resources.
  - Program C-4.4A: Use of Alternative Building Materials. Evaluate opportunities to amend the City's building codes and zoning ordinances to allow the use of acceptable resource-efficient alternative building materials and methods.

- Policy C-4.5: Resource Efficiency in Site Development. Encourage site planning and development practices that reduce energy demand and incorporate resource- and energy-efficient infrastructure.
  - Program C-4.5A: Solar Site Planning. Use the development review process to:
    - Encourage opportunities for passive solar building design and the use of photo-voltaic materials and devices.
    - Review proposed site design for energy efficiency, such as shading of parking lots and summertime shading of south-facing windows.
  - Program C-4.5B: Solar Access Ordinance. Consider developing a solar access ordinance to protect solar access rights and prevent restrictions on solar energy systems. The ordinance should address potential impacts related to development or modification of existing structures on neighboring properties.

Transportation Energy

As discussed in Chapter 4.3, Air Quality, and shown in Table 4.3-9 of that chapter, implementation of the proposed General Plan 2040 would increase daily VMT by 124,000 vehicle miles per day in the city, or about 3 percent, when compared to existing conditions. However, implementation of the proposed General Plan 2040 would result in 16 percent lower VMT per capita than under existing conditions. Compared to the demographic and VMT growth projections of the 2040 Without Project conditions (i.e.,

growth that would occur as currently allowed and projected under General Plan 2020), the 2040 With Project conditions would also decrease total VMT by approximately 2 percent in the EIR Study Area. This indicates that buildout conditions under the proposed General Plan 2040 would be more efficient in reducing VMT on a per service population basis, thus reducing energy demand from transportation.

Additionally, the efficiency of vehicles would also increase by 3.41 miles per gallon (mpg) and 3.71 mpg, respectively, compared to 2020 conditions. A decrease in VMT and fuel usage for gasoline-powered vehicles and increase in VMT and fuel usage for electric-powered vehicles are primarily based on the assumption in emission factors that a greater mix of light-duty automobiles would be electric-powered in future years based on regulatory (e.g., Advanced Clean Cars) and consumer trends. Fuel efficiency will improve over time, and implementation of the proposed General Plan 2040 would not result in less efficiency in transportation fuel usage. The improvement in fuel efficiency would be attributable to regulatory compliance (e.g., CAFE standards), resulting in new cars that are more fuel efficient and the attrition of older, less fuel-efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, residents and employees of San Rafael do not have direct control in determining the fuel efficiency of vehicles manufactured and that are made available. However, compliance with the CAFE standards by car manufacturers would ensure that vehicles produced in future years have greater fuel efficiency and would generally result in an overall benefit of reducing fuel usage by providing the population of the city more fuel-efficient vehicle options.

In conjunction with the regulatory (i.e., Renewables Portfolio Standard, SB 350, and SB 100) and 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 in 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 San Rafael, many goals and policies in the proposed General Plan 2040 appear in the Mobility Element. These proposed goals, policies, and programs focus on minimizing VMT through land use and transportation planning efforts that work in conjunction. Goal M-5 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 M-4 supports a more robust public transit system, to make it easier to travel without a car. Goal M-6 supports pedestrian and bicycle improvements, making it safer and easier to walk or cycle around the city. Goal M-7 supports parking to accommodate a more sustainable transportation system, including parking for transit users and charging stations for electric vehicles. Goal CSI-3 supports public safety services to maintain safe streets for all users. Collectively, these goals and policies would minimize overall VMT, and thus fuel usage associated with potential future development in San Rafael.

Furthermore, roughly half of the potential new population and employment opportunities would occur within the PDAs and TPAs, 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 contribute to minimizing VMT.

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. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the General Plan Update would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

The Downtown Precise Plan Area is mostly within the Downtown San Rafael PDA and TPA (see Figure 4-5 in Chapter 4, Environmental Analysis, of this Draft EIR), surrounding the San Rafael Transit Center. About 200 acres of the Downtown Precise Plan Area is within 0.25 miles, or within a 10-minute walking distance, of the San Rafael Transit Center. Potential future development would primarily occur within this TPA and PDA and/or 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, and in areas within close proximity to public transportation.

The Downtown Precise Plan Area is served by the same electric and natural gas facilities as the remainder of the EIR Study Area. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to ensure energy efficiency beyond what is proposed in the General Plan 2040; therefore, the impacts described above for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. New development or redevelopment in the Downtown Precise Plan Area would be required to comply with the same regulations and efficiency standards as the proposed General Plan 2040, which would ensure energy efficiency. Accordingly, potential future development would not result in wasteful, inefficient, or unnecessary consumption of energy resources and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-2 Implementation of the proposed project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

General Plan 2040

As stated in Section 4.6.1.2, Existing Conditions, the EIR Study 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 EIR Study Area were to opt-out of the light green program, and therefore 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 2020 renewable energy goal of 50 percent of the total electricity sold to California retail customers per year by December 31, 2020.

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. Furthermore, as discussed for Impact Discussion ENE-1, the proposed General Plan 2040 includes Conservation and Climate Change Element goals, policies, and programs, which would support the statewide goal of transitioning the electricity grid to renewable sources. 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

Implementation of the proposed General Plan 2040 would be consistent with *Plan Bay Area* 2040, as roughly half of the potential future development would be concentrated within the Downtown Precise Plan Area, which makes up the majority of the Downtown San Rafael PDA and TPA, and potential future development would also occur within the other PDAs and TPAs in the city. Potential future development would also occur 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, and in areas with close proximity to public transportation. Development of this nature promotes the densification of land uses, which would reduce vehicle fuel use and per-capita energy consumption.

San Rafael Climate Change Action Plan

The 2019 Climate Change Action Plan (CCAP) was approved and adopted by the City on May 20, 2019, 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 policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. Actions provided in the 2019 CCAP 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 Discussion ENE-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. Thus, implementation of the proposed General Plan 2040 would not interfere with the goals and measures of the City's CCAP, and impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As described in Impact Discussion ENE-1, the Downtown Precise Plan Area is located in the service area of both MCE and PG&E and potential future development would occur in the Downtown San Rafael PDA and TPA and/or 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, and in areas within close proximity to public transportation. As such, development in this location would further the goals of the California's Renewables Portfolio Standard Program and the City's CCAP and would not impede their ability to be implemented. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to ensure energy efficiency beyond what is proposed in the General Plan 2040; therefore, the impacts described above for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not conflict with California's Renewables Portfolio Standard Program and the City's CCAP and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-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 development projects within the vicinity of the EIR Study Area are 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 associated with population growth. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the MCE and PG&E service area 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 San Rafael CCAP. 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 as indicated in the San Rafael CCAP and proposed goals, policies, and programs.

Future development would also increase annual fuel consumption. However, vehicles would be subject to the USEPA CAFE standards for vehicular fuel efficiency, and average corporate fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets.

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 impact to energy and cumulative impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

4.7 GEOLOGY AND SOILS

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to geology, soils, and seismicity. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of project impacts and cumulative impacts.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 REGULATORY FRAMEWORK

Federal Regulations

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency. Additionally, it specifies these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. This act incorporates key findings of a report, *Fossils on Federal Land and Indian Lands*, issued by the Secretary of the Interior in 2000, that establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources.[1]

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface fault rupture to structures used for human occupancy.[2] The main purpose of the act is to prevent the construction of buildings used for human occupancy on top of active faults. This act only addresses the hazard of surface fault rupture—not other earthquake hazards such as earthquake-induced liquefaction or landslides.[3] The act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around surface traces of active faults and to issue appropriate maps.[4] The maps, which are developed using existing United States Geological Survey's (USGS) 7.5-minute quadrangle map bases, are then distributed to all affected cities, counties, and State agencies for their use in planning

[1] U.S. Department of the Interior, May 2000, *Fossils on Federal & Indian Lands, Report of the Secretary of the Interior*, May 2000. https://www.blm.gov/sites/blm.gov/files/programs_paleontology_quick%20links_Assessment%20of%20Fossil%20Management%20on%20Federal%20%26%20Indian%20Lands%2C%20May%202000.pdf, accessed on May 3, 2019.

[2] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed on May 3, 2019.

[3] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed on May 3, 2019.

[4] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed on May 3, 2019.

and controlling new or renewed construction. Generally, construction within 50 feet of an active fault zone is prohibited.

California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The City of San Rafael regularly adopts each new CBC update under the San Rafael Municipal Code (SRMC) Chapter 12.100, Adopted Codes. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. They also regulate grading activities, including drainage and erosion control.

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.

California Penal Code Section 622.5

The California Penal Code Section 622.5 details the penalties for damage or removal of paleontological resources, whether from private or public lands.

Regional Regulations

Marin County Emergency Operations Plan

The County of Marin adopted an *Emergency Operations Plan* in October 2014[6] to better prepare for responses to "extraordinary" emergency situations that could result from natural disasters and

[5] Society of Vertebrate Paleontology, 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[6] County of Marin, 2014, Marin Operational Area Emergency Operations Plan. https://www.marinsheriff.org/assets/downloads/EOP-Final-Draft-10.14.2014.pdf.

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 San Rafael 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 Area, which includes the Environmental Impact Report (EIR) Study 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-Jurisdictional Local Hazard Mitigation Plan (MCLHMP) was adopted in 2018 to assess risk of natural hazards and to develop a mitigation strategy for reducing the risks for all Marin County municipalities and special districts. The MCLHMP was jointly prepared by several jurisdictions in Marin County, including the City of San Rafael. Jurisdictions benefit in several ways when participating in a multijurisdictional planning process, including comprehensive approaches to mitigation of hazards that affect multiple jurisdictions while leveraging individual jurisdiction capabilities, sharing costs and resources, avoiding duplication of efforts, and adopting an external review and discipline process to ensure progress. The MCLHMP incorporates the existing plans, studies, and reports from county jurisdictions and agencies to inform uniform analyses and mitigation actions that all municipalities and special jurisdictions can use. In July 2019, the City adopted the MCLHMP, which complements the City's local hazard mitigation plan (LHMP) with additional programs covering a broader geographic area and wider range of hazards.

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs relevant to geology and soils are primarily in the Safety and Resilience Element. Appendix F of the 2020 General Plan includes the Geotechnical Review Matrix that contains the requirements for site specific geotechnical review of proposed developments. As part of the proposed project, many existing General Plan policies would be amended or substantially changed, and new policies would be added. The changes are mostly in response to the LHMP, which was adopted by the City in November 2017. 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 under Section 4.7.3, Impact Discussion.

San Rafael Municipal Code

The SRMC includes various directives to minimize adverse impacts to geology, soil, and seismicity-related issues in San Rafael. The SRMC is organized by title, chapter, and section. Most provisions related to erosion, grading, drainage, and soil stability are in Title 9, Urban Runoff Pollution Prevention, Title 12, California Existing Building Code, Title 14, Zoning, and Title 15, Subdivisions.

- Chapter 9.30.150, Erosion and Sediment Control Plan Requirements. The purpose of this section is to ensure that projects required by Phase II Stormwater Permits or by the agency have Erosion and Sediment Control Plans with specific control measures. Erosion and Sediment Control Plans are required for any project within the City boundaries that:
  - Is subject to a grading permit under Chapter 12.12;
  - Is subject to a building permit or other permit that has the potential for significant erosion and/or significant non-stormwater discharges of sediment and/or construction site waste; and
  - As required by the City considering factors such as whether the project involves hillside soil disturbance, rainy season construction, construction near a creek or an intermittent or ephemeral drainageway, or any other condition or construction site activity that could lead to a non-stormwater discharge to a storm drain if not managed by effective implementation of an Erosion and Sediment Control Plan.
- Chapter 12.100, Adopted Codes. The City of San Rafael has adopted the CBC with certain modifications as Section 12.12.101 et seq.
- Chapter 12.340, Unreinforced Masonry Building Mitigation Program. The purpose of this chapter is to promote public health and safety by reducing the potential for injury or loss of life in an earthquake due to unreinforced masonry buildings. This chapter provides minimum standards for structural seismic resistance and systematic procedures for identification and classification of unreinforced masonry buildings, and requires qualified Historical Buildings to comply with the State Historical Building Code.
- Chapter 14.12, Hillside Development Overlay District. The purpose of the Hillside Development Overlay District is to minimize hazards associated with seismic events, landslides, soil erosion, fire danger, and development on steep or unstable slopes. This chapter also encourages preservation of natural hillside features, ensures adequate emergency access and on-site parking, and implements site design policies of the General Plan. This overlay applies to parcels with an average slope of 25 percent or greater or located in the Hillside Resource Residential or Hillside Residential land use designation.
- Section 14.16.170, Geotechnical Review. This section requires that geotechnical reports consistent with the geotechnical matrix in the General Plan appendices to assess such hazards as potential seismic hazards, liquefaction, landsliding, mudsliding, erosion, sedimentation, and settlement and hazardous soils conditions to determine the optimum location for structures, to advise of special structural requirements, and to evaluate the feasibility and desirability of a proposed facility in a specific location.
- Chapter 15.06, Grading and Drainage. This chapter states that no subdivision of land into two or more lots or parcels for the purpose of development shall be approved by the City unless it is determined that wastewater and sewage disposal for all new lots or parcels shall be provided by either the San

Rafael Sanitation District or the Las Gallinas Valley Sanitary District, depending upon the property location. The creation of an individual on-site septic system intended to serve a new lot or parcel is prohibited.

San Rafael Local Hazard Mitigation Plan

The LHMP, adopted in November 2017, is a guide to hazard mitigation in the EIR Study Area and serves as a tool to help decision-makers direct hazard mitigation activities and resources. In the context of the LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including seismically induced hazards and expansive soils. The LHMP contains hazard mitigation actions to help reduce the risk of damage or injury from geologic and soil hazards, as shown in Table 4.7-1.

TABLE 4.7-1 LOCAL HAZARD MITIGATION PLAN ACTIONS RELEVANT TO GEOLOGY AND SOILS

Number	Actions
Geology and Soil Mitigation Actions	
Action 27	Retrofit/Upgrade Four Remaining Unreinforced Masonry Buildings.
Action 28	Earthquake Hazard Study.
Action 29	Public Facility Vulnerability Assessment and Improvements.
Action 30	Structural Soft Story Identification and Mitigation Plan.
Action 39	70-96 Bret Harte Sewer Easement Repair (seismic reinforcement).
Action 40	Landslide Identification and Management Program.
Action 41	Fairhills Slide Repair.

Source: San Rafael LHMP, 2017

4.7.1.2 EXISTING CONDITIONS

Geology

The EIR Study Area is in the USGS's San Rafael, Novato, San Quentin, and Petaluma Point Quadrangle 7.5-minute topographic map areas.[7,8,9,10] The area is typified by northwest-southwest-trending mountain ridges and intervening valleys.[11] Elevations range from sea level to approximately 1,800 feet along Big Rock Ridge. Regional mapping completed by the USGS indicates that there are 16 geologic units in the EIR Study Area. These units are broadly categorized by the California Geologic Survey (CGS) as Franciscan Complex, Colluvium/Landslide Deposits, Alluvium, Artificial Fill/Bay Mud, and Serpentinite. Figure 4.7-1 shows the location of each geologic category in the EIR Study Area.[12]

[7] United States Geological Survey, 1981, Petaluma Point Quadrangle California 7.5-Minute Topographic Map, scale 1:24,000.
[8] United States Geological Survey, 1980, Novato Quadrangle California 7.5-Minute Topographic Map, scale 1:24,000.
[9] United States Geological Survey, 1995, San Rafael Quadrangle California 7.5-Minute Topographic Map, scale 1:24,000.
[10] United States Geological Survey, 1995, San Quentin Quadrangle California 7.5-Minute Topographic Map, scale 1:24,000.
[11] City of San Rafael, 2004, General Plan 2020 Background Report: Geology, Soils, and Seismicity, page 1.
[12] City of San Rafael, 2017, Local Hazard Mitigation Plan. Page 4-51.

- Franciscan Complex: The bedrock in the EIR Study Area consists of Franciscan Melange, which is a weak matrix of sheared and altered shale and sandstone that contains serpentine, greenstone, chert, limestone, and schist. Franciscan Melange is susceptible to landslides, whereas Franciscan sandstone and shale are more stable. This geologic unit is found primarily in the hillsides of the EIR Study Area.
- Colluvium/Landslide Deposits: The colluvium geologic unit contains deposits of unconsolidated solid material and weathered rock fragments that gather at the base of slopes by gravitational or slope wash processes (i.e., landslides). Colluvium may be susceptible to flow failures.
- Alluvium: The alluvium geologic units consists of sedimentary rock that has been transported and deposited by streams. Alluvium is vulnerable to seismically induced instability.
- Artificial Fill/Bay Mud: The bay mud geologic unit is located in the marshes, mudflats, and valley floors and is approximately 130 feet deep in portions of the bay and 90 feet deep in diked and filled areas in the EIR Study Area. Bay mud consists of soft, unconsolidated, water-saturated materials and is susceptible to both subsidence and liquefaction.
- Serpentinite: Serpentinite is a metamorphic rock which forms at tectonic plate boundaries. Serpentinite is often formed in Franciscan Complexes when ocean water is heated and moved through upper mantle and ocean crust rocks, which hydrates the magnesium and iron-rich materials in the rocks.

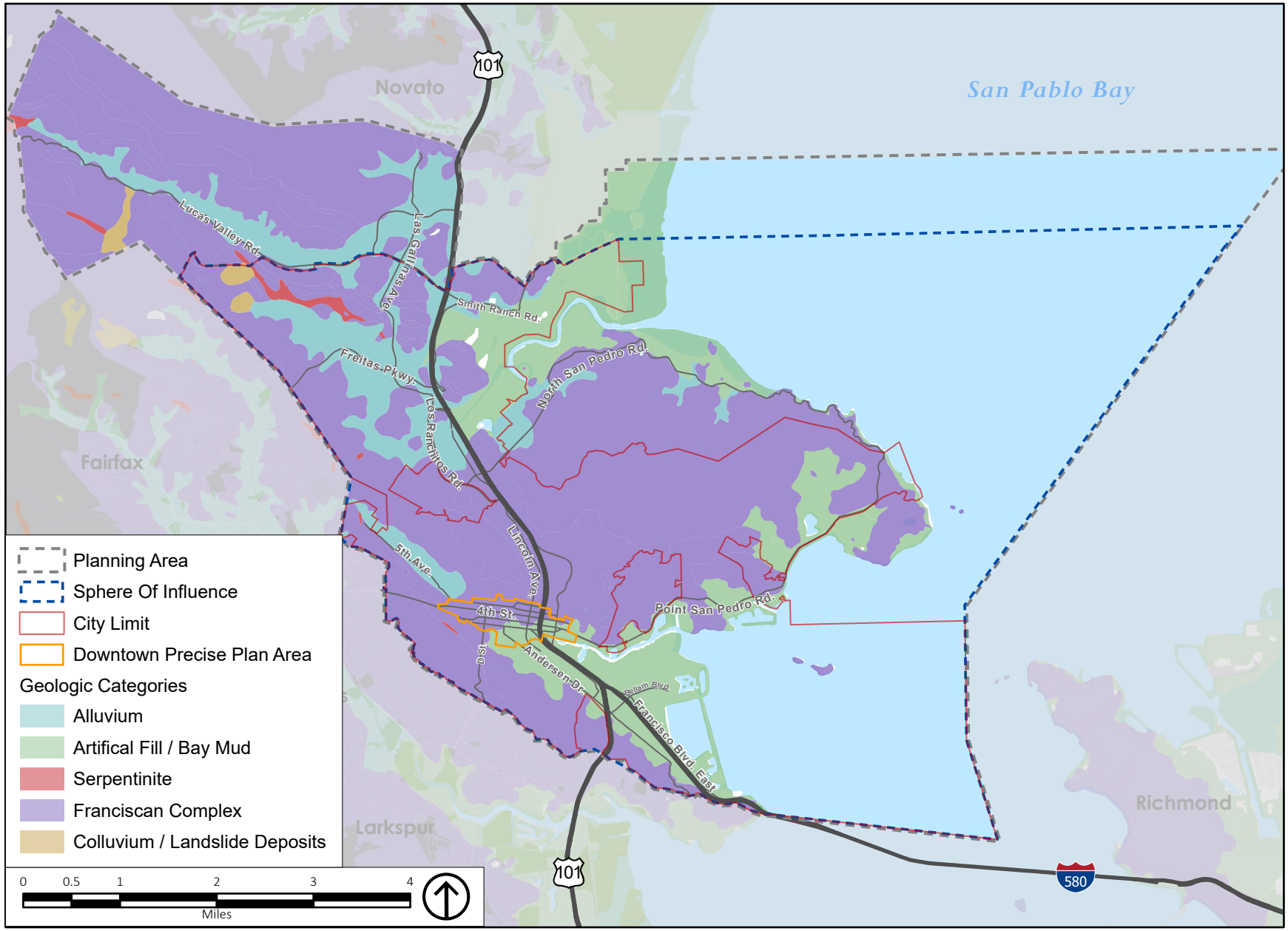
Unique geologic features are those that are unique to the field of geology. Each rock unit tells a story of the natural processes operating at the time it was formed. The rocks and geologic formations exposed at the earth's surface or revealed by drilling and excavation are our only record of that geologic history. What makes a geologic unit or feature unique can vary considerably. For example, a geologic feature may be considered unique if it is the best example of its kind and has distinctive characteristics of a geologic principle that is exclusive locally or regionally, is a key piece of geologic information important to geologic history, contains a mineral that is not known to occur elsewhere in the area, or is used as a teaching tool. Unique geological features are not common in San Rafael or the EIR Study Area. The geologic processes are generally the same as those in other parts of the state, country, and even the world. The geology and soils in the EIR Study Area are common throughout the city and region and are not considered to be unique.

Soils

The soils in the EIR Study Area have been mapped by the United States Department of Agriculture (USDA) Natural Resource Conservation Services. In general, the soils beneath the EIR Study Area are dominated by well-drained, shallow to moderately deep, fine-loamy soils such as loam and clay loam in the uplands, with additional areas of poorly drained clay and silty soils in the tidal flats and salt marshes.[13] Xerorthents soils consist of tidal flats, valley floors, and salt marshes. According to the USDA, the most prevalent soil types are the Tocaloma, McMillin, Xerorthents, urban land, water, Saurin, and Bonnydoon, as shown on Figure 4.7-2.[14]

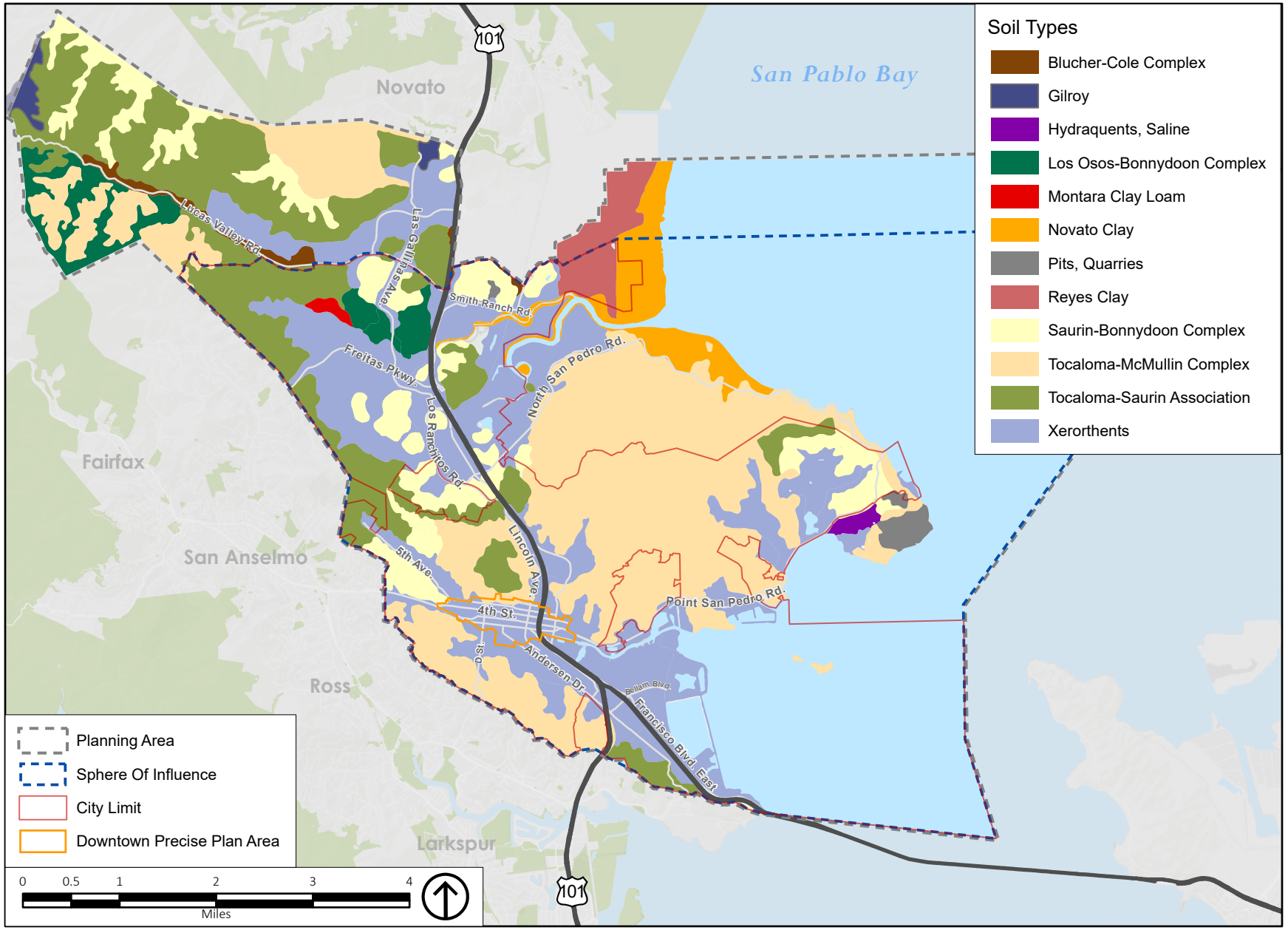
[13] USDA Soil Conservation Service, 1985, Soil Survey of Marin County California.

[14] United States Department of Agriculture, Natural Resources Conservation Service, 2019, Custom Soil Resource Report for San Rafael, from United States Department of Agriculture Web Soil Survey website.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.7-1
Geology Map



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.7-2
Soils Map

The properties of these soils are variable, ranging from fine-loamy soils of the Tocaloma-McMillin series and Saurin-Bonnydoon series, to completely urbanized in the Xerorthents-urban complex, to 100 percent water. According to published soil data, several soil types, notably the Tocaloma-McMillin, are characterized by steep slopes and erosion hazards, where landslides and flows are possible.[15]

Regional Seismicity

The Earth's crust includes tectonic plates that collide or slide past one another along plate boundaries. California is particularly susceptible to such plate movements, notably the largely horizontal or "strike-slip" movement of the Pacific Plate as it impinges on the North American Plate. In general, earthquakes occur when the accumulated stress along a plate boundary or fault is suddenly released. This slippage can vary widely in magnitude, from a few millimeters or centimeters to tens of feet.

The performance of human-made structures during a major seismic event varies widely due to a number of factors, including location with respect to active fault traces or areas prone to liquefaction or seismically induced landslides; the type of building construction (e.g., wood frame, unreinforced masonry, nonductile concrete frame); and the proximity, magnitude, depth, and intensity of the seismic event itself. In general, evidence from past earthquakes shows that wood-frame structures tend to perform well, especially when their foundations are properly designed and anchored. Conversely, older, unreinforced masonry structures and nonductile reinforced concrete buildings (especially those built in the 1960s and early 1970s) do not perform well, especially if they have not undergone appropriate seismic retrofitting. Applicable building code regulations, such as those in the CBC, include seismic requirements that are designed to ensure the satisfactory performance of building materials under prescribed seismic conditions.

The EIR Study 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 the EIR Study 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 4.7-3.[16] 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.[17]

When earthquake faults within the San Francisco Bay Area's nine-county area were considered, the USGS estimated that the probability of a magnitude (M) 6.7 or greater earthquake prior to year 2032 is 62 percent, or roughly a two-thirds probability. The forecast probability for each individual fault to produce a

[15] USDA Soil Conservation Service, 1985, Soil Survey of Marin County California.

[16] Quaternary faults are faults which are known to have been active in the past 2.6 million years.

[17] Southern California Earthquake Center (SCEC), 2011, *Putting Down Roots in Earthquake Country*, Lucile M. Jones, United States Geological Survey (USGS), and Mark Benthien, SCEC.

M 6.7 or greater seismic event by the year 2032 is 27 percent for the Hayward Fault, 21 percent for the San Andreas Fault, 11 percent for the Calaveras Fault, and 10 percent for the San Gregorio Fault.[18] 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 EIR Study Area are expected to experience "strong" shaking, and the central, eastern, and southeasternmost portions of the EIR Study Area are expected to experience "very strong" shaking, as shown on Figure 4.7-4.[20] The April 1906 earthquake on the San Andreas Fault, estimated between M 7.7 and M 8.3, was the largest seismic event in recent history that affected the EIR Study Area. More recently, the M 6.9 Loma Prieta earthquake of October 1989 on the San Andreas Fault caused significant damage throughout the San Francisco Bay Area, although no deaths were reported in Marin County.

Liquefaction typically occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong, seismically induced ground shaking. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid material to a fluid state, which can result in the horizontal movement of soils on gentle slopes, called lateral spreading. Liquefaction is a serious hazard and may result in buildings that subside and suffer major structural damage. Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. In dry soils, seismic shaking may cause soil to consolidate rather than flow, a process known as densification. Liquefaction in the EIR Study Area ranges from very low in the hillsides of the city to very high in the marshland and tidal marshes on the eastern side of the EIR Study Area, as shown on Figure 4.7-5.

The northeastern and southeastern portions of the EIR Study Area along the San Pablo Bay and San Rafael Bay, respectively, are predominantly Artificial Fill/Bay Mud soils, which consist of soft, unconsolidated, water-saturated, silty clay with peaty material, plant material, and mollusk shells.[21] These low-lying areas that front the bay are particularly susceptible to liquefaction. According to the hazard maps published by USGS, areas surrounding Miller Creek and the outlets to Gallinas Creek and San Rafael Creek have been designated as liquefaction hazard zones.[22] In the central-northern and eastern portions of the EIR Study Area, the soils consist of colluvium and bedrock, which have a low susceptibility to liquefaction. As shown on Figure 4.7-5, the majority of the high and very high liquefaction susceptibility areas in the EIR Study Area are in urbanized, low-lying areas near creeks or the waterfront. Many of the open space areas and hillside neighborhoods are in low or very low liquefaction susceptibility areas.

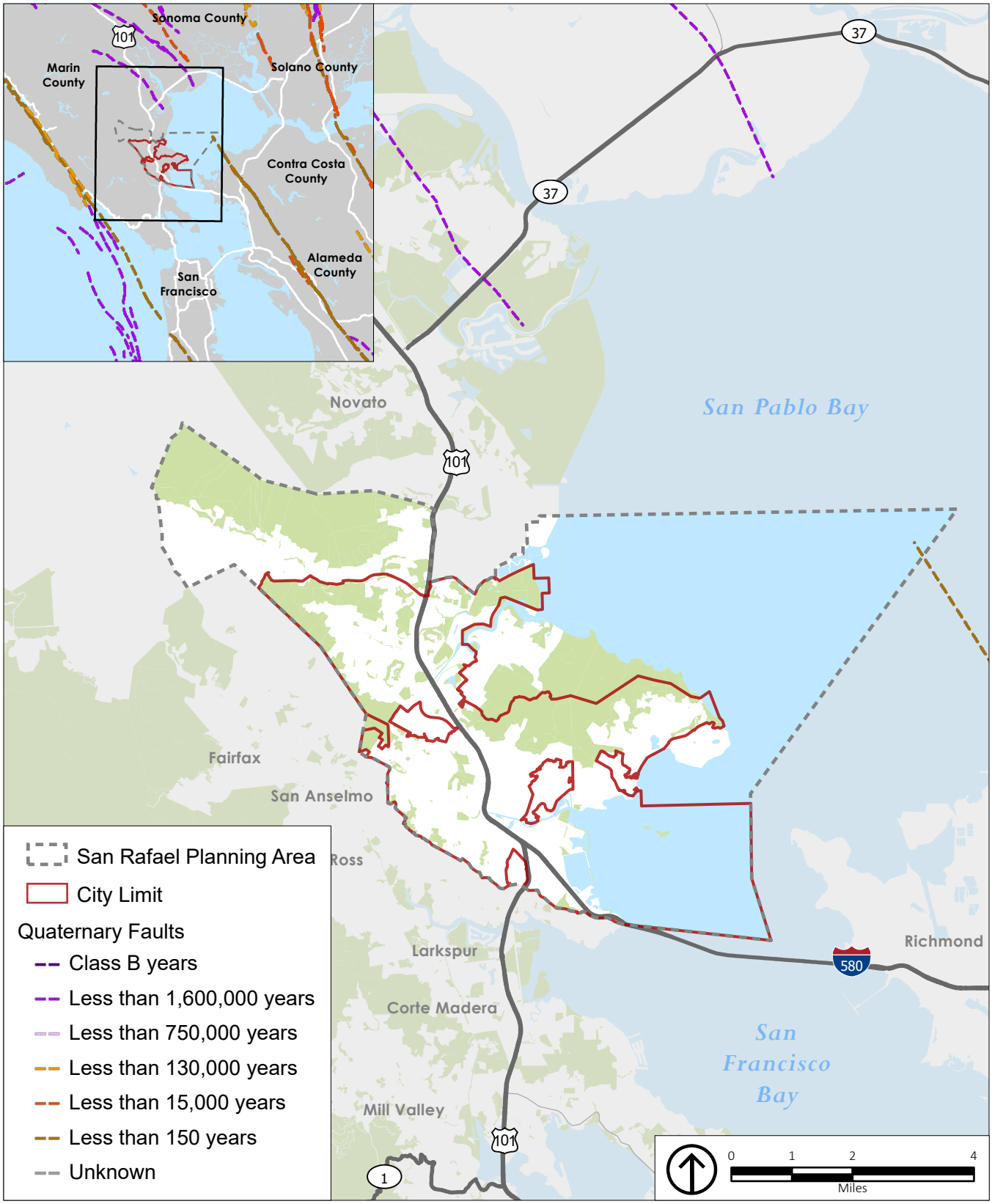
[18] United States Geological Survey (USGS), San Francisco Region Earthquake Probability, http://earthquake.usgs.gov/regional/nca/wg02/images/percmap-lrg.html, accessed on May 4, 2019.

[19] Association of Bay Area Governments (ABAG), 1995, *The San Francisco Bay Area On Shaky Ground*, Publication Number P95001EQK, 13 maps, scale 1:1,000,000.

[20] Association of Bay Area Governments (ABAG), 2013, Interactive Hazards Map, Earthquake Shaking Scenarios, http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas, accessed on May 6, 2019.

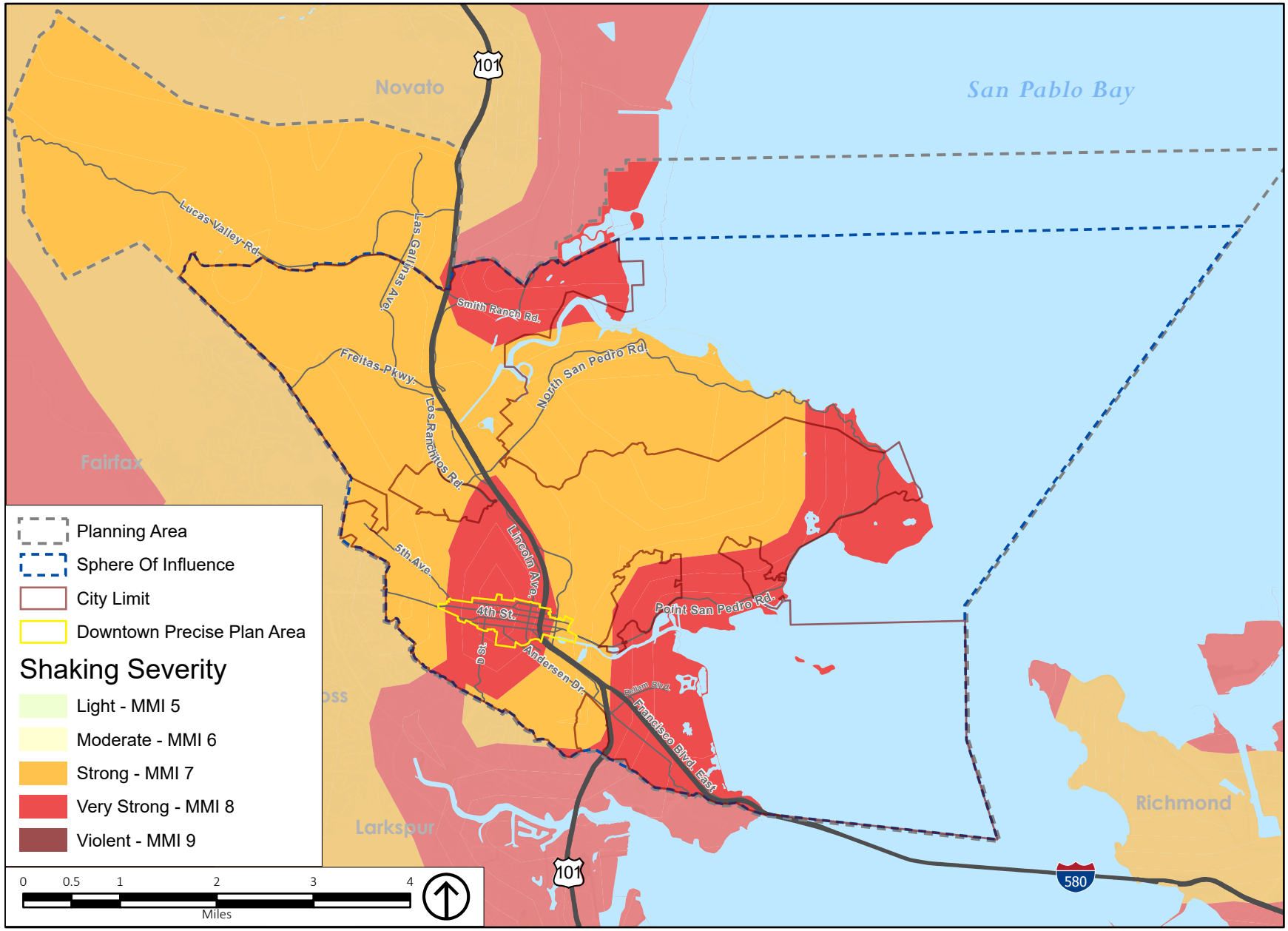
[21] City of San Rafael, 2017, Local Hazard Mitigation Plan. Page 4-51.

[22] ABAG Resilience Program, 2019, Liquefaction Susceptibility, http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas&co=6041#nogo1, accessed on May 6, 2019.



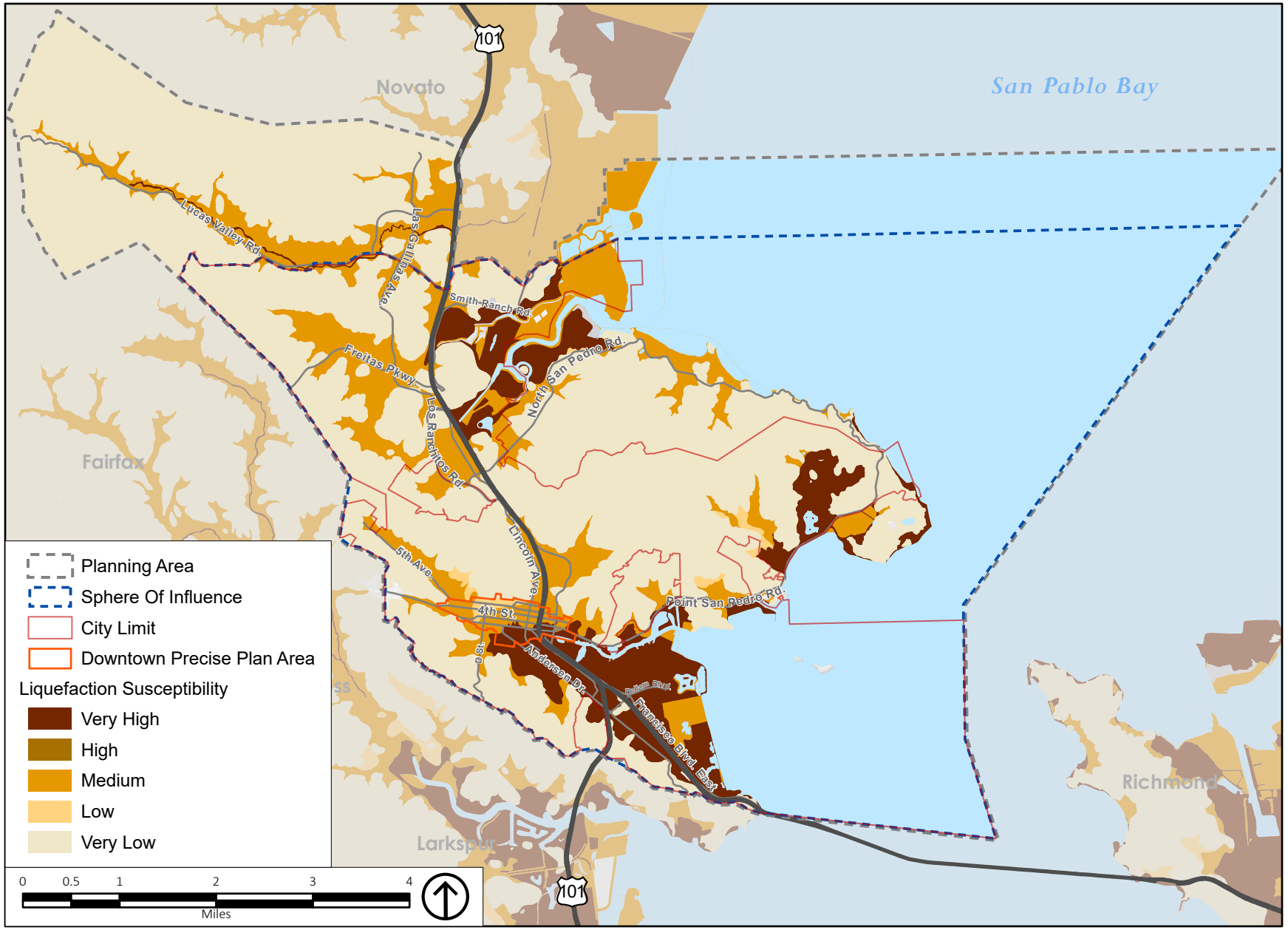
Source: City of San Rafael, 2019; ESRI, 2017; PlaceWorks, 2019; USGS, 2018.

Figure 4.7-3
Quaternary Faults



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.7-4
Ground Shake Potential Map



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; USGS, 2006; PlaceWorks, 2019; California Geological Survey, 2017.

Figure 4.7-5
Liquefaction Map

Landslides

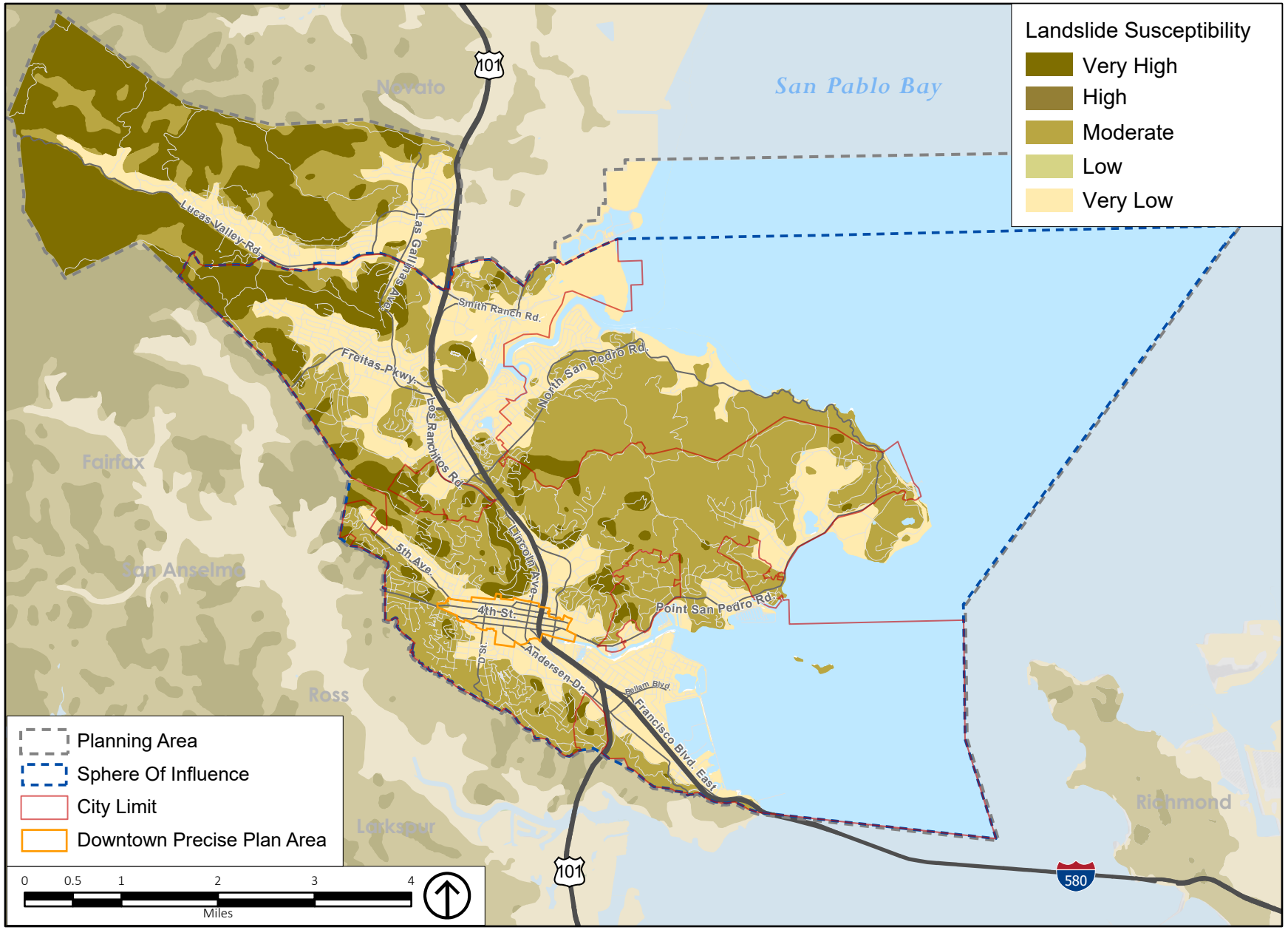
Landslides are gravity-driven movements of earth materials that can include rock, soil, unconsolidated sediment, or combinations of such materials. The rate of landslide movement can vary considerably; some move rapidly, as in a soil or rock avalanche, and others "creep," or move slowly for long periods of time. The susceptibility of a given area to landslides depends on many variables, although the general characteristics that influence landslide hazards are widely acknowledged. Some of the more important contributing factors are:

- Slope Material. Loose, unconsolidated soils and soft, weak rocks are more hazardous than are firm, consolidated soils or hard bedrock.
- Slope Steepness. Most landslides occur on moderate to steep slopes.
- Structure and Physical Properties of Materials. This includes the orientation of layering and zones of weakness relative to slope direction.
- Water Content. Increased water content increases landslide hazard by decreasing friction and adding weight to the materials on a slope.
- Vegetation Coverage. Abundant vegetation with deep roots promotes slope stability.
- Proximity to Areas of Erosion or Man-Made Cuts. Undercutting slopes can greatly increase landslide potential.
- Earthquake Ground Motions. Strong seismic ground motion can trigger landslides in marginally stable slopes or loosen slope materials, which increases the risk of future landslides.

Landslides have the potential to occur in the EIR Study Area, most notably on the steeper slopes that lie on the western edge of the EIR Study Area, in addition to hilly areas surrounding China Camp State Park, Boyd Park, and Harry Barbier Memorial Park (see Figure 4.7-6). In these areas, landslides are commonly associated with slopes underlain with Franciscan Melange and pre-existing landslide deposits, which indicate unstable underlying materials.[23] Historically, five major landslide events have been recorded in the EIR Study Area in 1925, 1982, April 2006, January 2017, and February 2017.[24]

Shale is the most unstable of the many rock types within the Franciscan Formation, whereas sandstone and conglomerate units tend to be more stable with a lower landslide risk. Many of the upland areas in the EIR Study Area are characterized by steep slopes and soils that overlie Franciscan bedrock. Landslides are not an issue in parts of the EIR Study Area where the topography is flat. Due to the differences in the physical characteristics of slope materials, which markedly influence landslide potential, some superficially similar areas may differ widely in terms of landslide hazards. For this reason, site-specific geotechnical investigations are essential to the accurate assessment of potential landslide hazards at any given site.

[23] City of San Rafael, 2017, Local Hazard Mitigation Plan, Page 4-81.
[24] City of San Rafael, 2017, Local Hazard Mitigation Plan, Page 4-81 to 4-85.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.7-6
Landslide Areas

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.[25] 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 EIR Study 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.

Land Subsidence

Subsidence hazards are known to be present in the EIR Study Area. In areas containing Artificial Fill/Bay Mud materials, including the northeastern and southeastern edge of the EIR Study Area and the area around Northgate Business Park, historical subsidence has been attributed to the highly compressible nature of the underlying fill and sediments. This has caused development in the southeastern portions of the EIR Study Area to subside below the 100-year flood elevation.[26] With sea level rise, subsidence rates could increase in the EIR Study Area.[27] These areas are also susceptible to differential settlement, which is when a building's support foundation settles in an uneven fashion, often leading to structural damage. Differential settlement occurs on soils that are loosely compacted or have weak bearing capacity, and in cases where soil moisture changes. Such characteristics are common in Artificial Fill/Bay Mud soils.

Expansive Soils

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; when dry, they can contract or shrink. Sources of moisture that can trigger this shrink-swell phenomena can include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can exhibit wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils.

Expansive soils are typically very fine grained with a high to very high percentage of clay, typically montmorillonite, smectite, or bentonite clay. Linear extensibility soil tests are often used to identify expansive soils, wherein soil sample volume/length changes in response to reduced moisture content.[28] A linear extensibility of 3 percent or greater connotes moderate to high shrink-swell potential. This soil behavior has the potential to cause damage to buildings, roads, and other structures.

[25] City of San Rafael, 2004, General Plan 2020 Background Report.

[26] City of San Rafael, 2004, General Plan 2020 Background Report.

[27] City of San Rafael, 2017, Local Hazard Mitigation Plan. Page 4-145.

[28] Army Corps of Engineers Field Manual TM 5-818-7, 1985, http://armypubs.army.mil/eng/DR_pubs/dr_a/pdf/tm5_818_7.pdf, accessed on May 7, 2019.

Expansive soils are not common in the EIR Study Area; however, they can exist in localized areas such as the Bay Mud geologic units that underlie eastern San Rafael.[29] The USDA Web Soil Survey (a nationwide data repository) for the EIR Study Area demonstrates low ratings of linear extensibility and plasticity for the majority of the soils in the EIR Study Area, with moderate or high ratings dispersed throughout the northern and eastern areas of the EIR Study Area.[30] Expansive soils are typically identified during project review stages prior to construction, and require specific engineering methods to reduce stresses to buildings and infrastructure. A geotechnical investigation generally provides the most reliable means of evaluating and mitigating such soil characteristics.

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.). These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontological sites are areas that show evidence of prehuman activity. Often, they are simply small outcrops visible on the surface or sites encountered during grading. While the sites are important indications, it is the geologic formations that are the most important since they may contain important fossils. The Society of Vertebrate Paleontology defines a significant fossil resource as, "identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."[31] 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 EIR Study Area.

Downtown Precise Plan Area

In the Downtown Precise Plan Area, the majority of soils are characterized as Franciscan Complex soils, and the southeastern portion is composed of Artificial Fill/Bay Mud.[32]

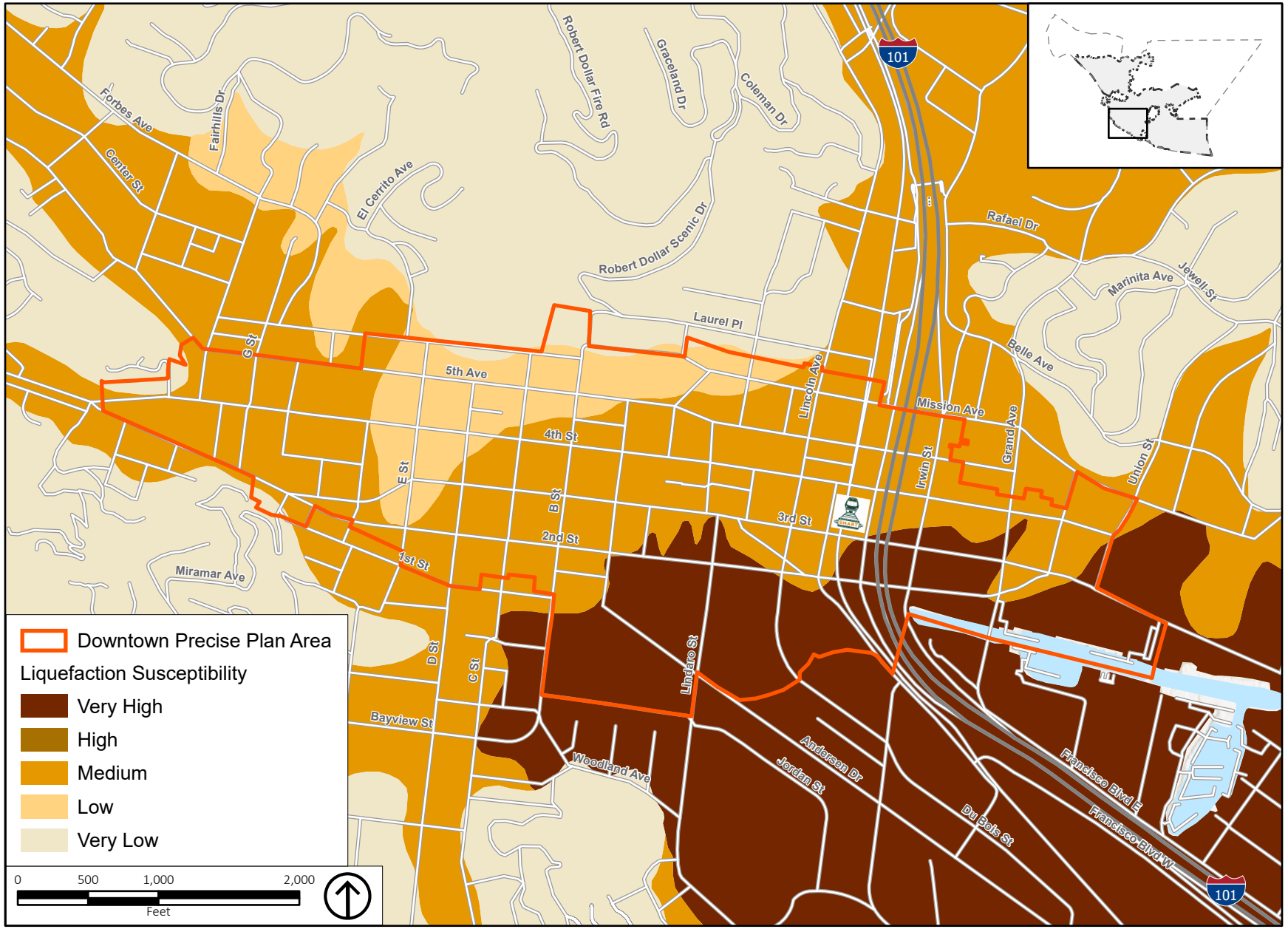
The most prominent active fault near the Downtown Precise Plan Area is the San Andreas Fault, approximately 10 miles to the west. As shown on Figure 4.7-7, the southern portion of the Downtown Precise Plan Area is in a very high liquefaction area, which transitions to moderate and low liquefaction zones as the elevation becomes higher in the northern areas of the Downtown Precise Plan Area.

[29] City of San Rafael, 2004, General Plan 2020 Background Report, Environmental Context.

[30] USDA, 2018, Web Soil Survey, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on May 7, 2019.

[31] Society of Vertebrate Paleontology, 2010*, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources,* page 11. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee.

[32] United States Department of Agriculture, Natural Resources Conservation Service, 2019, Custom Soil Resource Report for San Rafael, from United States Department of Agriculture Web Soil Survey website.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019; California Geological Survey, 2017

Figure 4.7-7
Downtown Liquefaction Map

4.7.2 STANDARDS OF SIGNIFICANCE

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

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; iv) 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 by Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect 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.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
7. Result in significant cumulative impacts to geology and soils.

4.7.3 IMPACT DISCUSSION

GEO-1	**Implementation of the proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; iv) Landslides.**

General Plan 2040

Earthquake Fault Rupture

As discussed in Section 4.7.1.2, Existing Conditions, there are no known active faults in the EIR Study Area, and the nearest fault is the Hayward Fault, approximately 9 miles to the east. The EIR Study Area is not in

an Alquist-Priolo Fault Zone.[33] Based on the lack of known active faults in the EIR Study Area and the required geotechnical investigations for all grading within the EIR Study Area, implementation of proposed General Plan 2040 would not directly or indirectly cause the risk of loss, injury, or death involving rupture of a known earthquake fault. Therefore, the impact would be *less than significant.*

Seismic Ground Shaking

The intensity of ground shaking at a given location depends on several factors, primarily on the earthquake magnitude, the distance from the epicenter, and the characteristics of the soils or bedrock units underlying the site. The Hayward and San Andreas Faults, which are closest to the EIR Study Area, are potentially capable of producing the most intense ground accelerations in the EIR Study Area due to their proximity. Secondary effects of earthquakes are nontectonic processes such as liquefaction, lateral spreading, seismically induced landslides, and ground lurching, which can lead to ground deformation. Ground deformation, including fissures, settlement, displacement, and loss of bearing strength, are the leading causes of damage to structures during a moderate to large earthquake.

In northern California, there is no method to completely avoid earthquake hazards. However, appropriate measures to minimize the effects of earthquakes are included in the most recent CBC, with specific provisions for seismic design. The design of structures in accordance with the CBC would minimize the effects of ground shaking to the greatest degree feasible, except for during a catastrophic seismic event. Additionally, development projects under the proposed General Plan 2040 would be required to comply with the standards in the San Rafael Geotechnical Review Matrix, which requires a geotechnical report defining and delineating seismic hazards on a project-by-project basis. Because potential future development would be required to comply with both the CBC and the Geotechnical Review Matrix, implementation of the proposed General Plan 2040 would not cause or worsen seismic ground shaking; therefore, the impact would be *less than significant*.

Liquefaction

The EIR Study Area contains a range of geological and soil profiles. Within the EIR Study Area, liquefaction susceptibility ranges from low in steeply sloped areas to moderate and very high in the marshland and tidal marshes on the eastern side of the EIR Study Area, as shown on Figure 4.7-5. As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development under the proposed General Plan 2040 is expected to occur in existing urban 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 residential and residential-serving development. These urban areas are generally located in portions of the EIR Study Area that have low liquefaction susceptibility. However, some existing urban areas in the EIR Study Area are built atop Artificial Fill/Bay Mud soil materials, which have a high liquefaction susceptibility. In the event that future development is proposed on Artificial Fill/Bay Mud materials, the development would be required to comply with existing regulations in the CBC and undergo a geotechnical review in accordance with Appendix F, Geotechnical Review Matrix, of the proposed General Plan 2040. Compliance with these regulations would minimize

[33] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed on March 24, 2020.

the risk of loss, injury, or death involving liquefaction after a seismic-related ground failure, and impacts would be *less than significant*.

Landslides

Portions of the EIR Study Area susceptible to landslides are on the steep slopes to the west and in hilly areas surrounding China Camp State Park, Boyd Park, and Harry Barbier Memorial Park. As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development under General Plan 2040 is expected to occur in existing urban 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 residential and residential-serving development. New development or redevelopment in any of the portions of the EIR Study Area deemed to be within landslide-susceptible areas would be required to comply with grading, erosion, and sediment control regulations in the CBC and the provisions in SRMC Chapter 14.12, Hillside Development Overlay District, and Chapter 15.06, Grading and Drainage.

The proposed Safety (S) Element contains goals, policies, and programs that require local planning and development decisions to consider impacts that contribute to the risk of loss, injury, or death as a result of earthquakes. The following General Plan goals, policies, and programs would serve to minimize potential adverse impacts from earthquakes:

Goal S-1: A Safer, More Resilient City. Minimize San Rafael's vulnerability to the impacts of environmental hazards and public health emergencies.

- Policy S-1.1: Local Hazard Mitigation Plan (LHMP). The San Rafael LHMP is adopted by reference into the General Plan. Policies and actions throughout the General Plan shall be consistent with the LHMP and support its goals and objectives.
  - Program S-1.1A: LHMP Mitigation Action Plan. Implement the Mitigation Action Plan in the LHMP. The City will consider opportunities to advance each action through operating procedures, development approvals, budgets, public education, and capital improvement projects.
  - Program S-1.1B: Mitigation Program Funding. Develop an overall funding strategy to prioritize and pursue mitigation projects, including identification and tracking of grants and regular coordination with FEMA and State hazard mitigation agencies.
  - Program S-1.1C: LHMP Updates. Periodically update the Local Hazard Mitigation Plan to reflect new data, technology, available resources, partnership opportunities, and state and federal requirements.
- Policy S-1.2: Location of Future Development. Permit development only in those areas where potential danger to the health, safety, and welfare of the community can be adequately mitigated. Land uses and densities should take environmental hazards such as earthquakes, flooding, sea level rise, and wildfires into consideration.
  - Program S-1.2A: Entitlement Process. Use the entitlement process to evaluate the potential for hazards and to require appropriate mitigation measures and approval conditions.
  - Program S-1.2B: Use of Hazard Maps in Development Review. Review slope stability, seismic, flood hazard, sea level rise, wildfire, and other environmental hazard maps when development is

proposed. Require appropriate studies and actions to ensure that hazards are identified and mitigated.

- Policy S-1.3: Location of Public Improvements. Avoid locating public improvements and utilities in areas with high hazard levels. When there are no feasible alternatives, require effective mitigation measures to reduce the potential for damage.
  - Program S-1.3A: Critical Facilities in Vulnerable Areas. Prepare a Public Facility Vulnerability Assessment to identify City buildings and other infrastructure that are susceptible to environmental hazards. Measures should be taken to avoid extraordinary maintenance and operating expenses associated with hazardous conditions and minimize damage potential and interruption of service following a disaster.

Goal S-2: Resilience to Geologic Hazards. Minimize potential risks associated with geologic hazards, including earthquake-induced ground shaking and liquefaction, landslides, erosion, sedimentation, and settlement.

- Policy S-2.1: Seismic Safety of New Buildings. Design and construct all new buildings to resist stresses produced by earthquakes. The minimum level of seismic design shall be in accordance with the most recently adopted building code as required by State law.
  - Program S-2.1A: Seismic Design. Adopt and enforce State building codes which ensure that new or altered structures meet the minimum seismic standards set by State law. State codes may be amended as needed to reflect local conditions.
  - Program S-2.1B: Geotechnical Review. Continue to require geotechnical studies and peer review for proposed development as set forth in the City's Geotechnical Review Matrix (Appendix F). Such studies should determine the extent of geotechnical hazards, optimum design for structures and the suitability of proposed development for its location, the need for special structural requirements, and measures to mitigate any identified hazards. Periodically review and update the Geotechnical Review Matrix to ensure that it supports and implements the Local Hazard Mitigation Plan.
  - Program S-2.1C: Earthquake Hazard Study. As recommended by the Local Hazard Mitigation Plan, complete an Earthquake Hazard Study that examines geologic hazards in the city.
- Policy S-2.2: Minimize the Potential Effects of Landslides. Development proposed in areas with existing or potential landslides (as identified by a registered geologist or geotechnical engineer) shall not be endangered by, or contribute to, hazardous conditions on a site or adjoining properties. The City will only approve new development in areas of identified landslide hazard if the hazard can be appropriately mitigated, including erosion control and replacement of vegetation. Landslide mitigation should include measures to reduce secondary impacts such as loss of vegetation and soil erosion.
  - Program S-2.2A: Landslide Mitigation and Repair Projects. Undertake landslide hazard mitigation and repair projects, as outlined in the LHMP. These projects include a landslide identification and management program, repair of the Fairhills Drive landslide, and repair of the Bret Harte sewer easement.
- Policy S-2.3: Seismic Safety of Existing Buildings. Encourage the rehabilitation or elimination of structures susceptible to collapse or failure in an earthquake. Historic buildings shall be treated in

accordance with the Historic Preservation Ordinance and Historic Building Code (see also Program CDP-5.5A).

- Program S-2.3A: Seismic Safety Building Reinforcement. Enforce State and local requirements for reinforcement of existing buildings, including the City's remaining unreinforced masonry (URM) buildings.
- Program S-2.3B: Soft-Story Building Mitigation Plan. Complete a citywide assessment of soft-story buildings and develop a mitigation strategy and cost-benefit analysis to modify these structures to reduce their potential to collapse during an earthquake.

Implementation of the above goals, policies, and programs, as well as compliance with State, regional, and local regulations pertaining to structural safety regarding fault rupture, ground shaking, liquefaction, and landslides, would ensure that potential future development that results from implementation of the proposed project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death. Therefore, impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Earthquake Fault Rupture

As discussed in Section 4.7.1.2, Existing Conditions, there are no known active faults within the Downtown Precise Plan Area, and the nearest fault is the Hayward Fault, approximately 9 miles to the east. The Downtown Precise Plan Area is not in an Alquist-Priolo Fault Zone.[34] Based on the lack of known active faults within the Downtown Precise Plan Area and the required geotechnical investigations for all grading within the Downtown Precise Plan, implementation of the Downtown Precise Plan would not directly or indirectly cause the risk of loss, injury, or death involving rupture of a known earthquake fault. Therefore, the impact would be *less than significant.*

Seismic Ground Shaking

There is no way to entirely avoid earthquake hazards in northern California. However, earthquake hazard mitigation is addressed in many State, regional, and local regulations. Appropriate measures to minimize the effects of earthquakes are included in the most recent CBC, with specific provisions for seismic design. Potential future development under the Downtown Precise Plan would be required to comply with the CBC. The design of structures in accordance with the CBC would minimize the effects of ground shaking to the greatest degree feasible. As discussed in Section 4.7.1.1, Regulatory Framework, the SRMC includes Chapter 12.340, which provides minimum standards for structural seismic resistance and systematic procedures for identification and classification of unreinforced masonry buildings and requires qualified Historical Buildings to comply with the State Historical Building Code. Additionally, potential future development would be required to comply with the procedures set forth in the Geotechnical Review Matrix, included as Appendix F of the proposed General Plan 2040, which requires a geotechnical report

[34] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed on March 24, 2020.

defining and delineating seismic hazards on a project-by-project basis. Therefore, implementation of the Downtown Precise Plan would not cause or worsen seismic ground shaking, and the impact would be *less than significant*.

Liquefaction

Liquefaction susceptibility is very high in the southeastern portion of the Downtown Precise Plan Area, and moderate to low as the slopes increase in the western and northern portions of the Downtown Precise Plan Area. Although liquefaction susceptibility is very high within the Downtown Precise Plan Area, potential future development would be required to comply with existing regulations. Compliance with these regulations would minimize the risk of loss, injury, or death involving liquefaction due to a seismic-related event, and impacts would be *less than significant*.

Landslides

Areas susceptible to landslides are largely located on the western and southwestern edges of the Downtown Precise Plan Area. New development or redevelopment in any of the portions of the Downtown Precise Plan Area deemed to be within landslide-susceptible areas would be required to comply with grading, erosion, and sediment control regulations in the CBC and provisions in SRMC Chapter 14.12, Hillside Development Overlay District, and Chapter 15.06, Grading and Drainage. Compliance with existing regulations would minimize the risk of loss, injury, or death, and impacts due to landslides would be *less than significant.*

Significance without Mitigation: Less than significant.

GEO-2 Implementation of the proposed project could result in substantial soil erosion or the loss of topsoil.

General Plan 2040

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development under General Plan 2040 is expected to occur in urban 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 residential and residential-serving development. Substantial soil erosion or the loss of topsoil during construction of future development could undermine structures or minor slopes, which would be a concern during implementation of the proposed General Plan 2040.

The CBC provides regulations for construction to provide proper grading, drainage, and erosion and sediment control. In addition, SRMC Section 9.30.150, Erosion and Sediment Control Plan Requirements, requires erosion and sediment control plans for projects that are subject to a grading permit; projects that are subject to a building permit or other permit with the potential for significant erosion or non-stormwater discharges of sediment or construction site waste; and as required by the City based on project characteristics, such as location on hillsides or near creeks, or construction during rainy seasons. Erosion control measures in an erosion and sediment control plan can include seeding slopes, installation

of temporary dikes and swales, placement of straw bales and filter fences, outlet protection, grass-lined swales, and installation of sediment retention structures, as appropriate for specific sites. In addition, SRMC Section 15.06.110, Grading and Drainage, requires grading of development to conform to site-specific soil and geologic conditions with minimal tree removal.

Furthermore, because future development is anticipated to occur as infill or redevelopment in urban areas, development is not likely to result in substantial soil erosion or loss of topsoil. Adherence to existing regulatory requirements that include, but are not limited to, the CBC and the SRMC grading and drainage requirements for new developments, would ensure that impacts associated with substantial erosion and loss of topsoil from potential future development would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As discussed in Chapter 3, Project Description, of this Draft EIR, the Downtown Precise Plan Area is an existing urban area in the city of San Rafael and potential future development would occur 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. Substantial soil erosion or the loss of topsoil during construction of future development could undermine structures or minor slopes, which would be a concern during implementation of the Downtown Precise Plan. However, development in the Downtown Precise Plan Area is subject to the same CBC and SRMC regulations as development under the proposed General Plan 2040, detailed above. Adherence to these regulations would ensure that impacts associated with substantial erosion and loss of topsoil from potential future development would be *less than significant*.

Significance without Mitigation: Less than significant.

GEO-3	**Implementation of the proposed project could 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.**

General Plan 2040

Unstable geologic units are known to be present within the EIR Study Area. As discussed under Impact Discussion GEO-1, landslides have historically occurred and could continue to occur in areas with steeper slopes and less stable soil types. These include areas with Franciscan bedrock, particularly in the upland areas, on the steeper slopes to the west, and on the hillside areas surrounding China Camp State Park, Boyd Park, and Harry Barbier Memorial Park. Subsidence hazards are also known to be present in the EIR Study Area in areas containing Bay Mud and fill materials on the eastern edge of the EIR Study Area. Liquefaction susceptibility ranges from low in upland and hillside areas, to very high in the marshland and tidal marshes along the San Pablo and San Rafael Bay.

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development as a result of implementation of the proposed General Plan 2040 would occur in existing urban 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 residential and residential-serving development. The areas of high liquefaction susceptibility are not located in the highly urbanized portions within the EIR Study Area where potential future development is anticipated to occur; therefore, implementation of General Plan 2040 would not be intentionally located on a geologic unit or on soil that is unstable. However, there is the potential that future development could occur near areas of potential landslides, lateral spreading, subsidence, liquefaction, or collapse.

As determined in Impact Discussions GEO-1 and GEO-2, future development under General Plan 2040 would be required to comply with the CBC, which provides regulations for building design and construction to ensure geologic and soil stability. Additionally, the City requires that geotechnical reports be prepared and submitted to the City prior to approval or construction of applicable projects pursuant to the requirements set forth in the Geotechnical Review Matrix (see Appendix F of the General Plan 2040). In addition to protections afforded by State laws, General Plan goals, policies, and programs listed under Impact Discussion GEO-1 would require local planning and development decisions to consider potential risks of development on unstable soils or geologic units. Policy S-1.2, Program S-1.2A, Policy S-1.3, Program S-1.3A, and Program S-1.3B, listed in Impact Discussion GEO-1, specifically address the location of future development and include development standards that prohibit development in areas where there is a potential danger from geologic hazards.

All potential future development under implementation of the proposed General Plan 2040 would be required to comply with State and local regulations, including SRMC provisions and General Plan goals, policies, and programs that minimize impacts related to unstable geologic units and soils where landslide, lateral spreading, subsidence, liquefaction, or collapse could occur in the EIR Study Area. General Plan 2040 goals, policies, and programs would also require ongoing review, identification, and maintenance of maps and regulations related to geologic and seismic hazards. Therefore, implementation of proposed General Plan 2040 would not result in development on a geologic unit or on soils that are unstable and could result in landslides, lateral spreading, subsidence, liquefaction, or collapse, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As discussed in Chapter 3, Project Description, of this Draft EIR, the Downtown Precise Plan Area is an existing urban area in the city of San Rafael and potential future development would occur 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. The Downtown Precise Plan Area contains both landslide and liquefaction susceptibility areas. However, future development under the proposed Downtown Precise Plan would be required to comply with the CBC, which provides regulations for building design and construction to ensure geologic and soil stability. Additionally, the City's Geotechnical Review Matrix requires that geotechnical reports be prepared and

submitted to the City prior to approval or construction of projects in areas with known geological hazards. Therefore, impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

GEO-4 Implementation of the proposed project could be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

General Plan 2040

As discussed in Chapter 3, Project Description, of this Draft EIR, potential future development as a result of implementation of the proposed General Plan 2040 would occur in existing urban areas, would be concentrated on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed, underutilized, and/or in close proximity to existing residential and residential-serving development. While expansive soils are not common in the EIR Study Area, they could potentially exist in localized areas such as the Artificial Fill/Bay Mud geologic units underlying the northeastern and southeastern portions of the EIR Study Area. These soils are typically identified during project review stages and require specific engineering methods to reduce stresses to buildings and infrastructure.

The EIR Study Area consists of some State- or County-owned land where future development would not be under the purview of the City of San Rafael. Furthermore, because potential future development under the proposed General Plan 2040 is anticipated to occur in urbanized areas, it is not likely that development would occur in these portions of the EIR Study Area. However, in the event that future development is proposed in these portions of the EIR Study Area and is located on an Artificial Fill/Bay Mud geologic unit, a geotechnical investigation would be required to evaluate soil characteristics and identify mitigation if the soils are determined to be expansive. Such investigations are required both by the SRMC Chapter 12.100 and the proposed General Plan 2040. Both the SRMC and the proposed General Plan 2040 would require that future development proposed on expansive soils follow regulations imposed by the CBC, such as standards for seismic safety, excavation, foundations, retaining walls, site demolition, and grading activities including drainage and erosion control. Furthermore, requirements for geotechnical investigations at development site locations where potential hazards, including land instability, have already been identified are bolstered by various goals, policies, and programs of the proposed General Plan 2040 ,as listed in Impact Discussion GEO-1.

As discussed, potential future development under the proposed General Plan 2040 would be required to comply with existing regulations adopted to minimize development on expansive soils in the EIR Study Area as part of the City's project approval process. Potential future development would also comply with the proposed General Plan goals, policies, and programs that require ongoing review, identification, and maintenance of maps and regulations related to geologic and seismic hazards, impacts would be *less-than-significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As determined above, expansive soils are located to the east of the EIR Study Area, several miles away from the Downtown Precise Plan Area. Therefore, potential future development in the Downtown Precise Plan Area would not occur on expansive soils and *no impact* would occur.

Significance without Mitigation: No impact.

GEO-5	**Implementation of the proposed project could utilize septic tanks or alternative wastewater disposal systems where soils would be incapable of adequately supporting the in cases where sewers are not available for the disposal of wastewater.**

General Plan 2040

As discussed in Section 4.7.1.1, Regulatory Framework, of this Draft EIR, SRMC Chapter 15.06 prohibits the creation of an individual on-site septic system intended to serve a new lot or parcel. Wastewater from new lots or parcels would be discharged into the existing public sanitary sewer system serviced by the San Rafael Sanitation District and Las Gallinas Valley Sanitation District. Therefore, development in the EIR Study Area would not result in the use of septic tanks or alternative wastewater disposal systems. Additionally, the proposed General Plan 2040 includes Policy S-2.6, Septic Systems, which discourages the use of septic systems in the EIR Study Area, and in the event that no other alternatives exist, on-site soil tests would be required to determine if the soils are suitable for a septic system. Therefore, potential future development would not result in septic tanks or alternative wastewater disposal systems where soils are not capable of adequately supporting such systems, and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As discussed in Chapter 3, Project Description, of this Draft EIR, the Downtown Precise Plan Area is an existing urban area in San Rafael, and potential future development would occur in an urban area where septic systems are not permitted. Potential future development in the Downtown Precise Plan Area are either already connected to the San Rafael Sanitary District's system or would be required to be as a condition of project approval. Therefore, *no impact* would occur.

Significance without Mitigation: No impact.

GEO-6 Implementation of the proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

General Plan 2040

No fossils, unique paleontological resources, or unique geologic features have been recorded in the EIR Study Area. The geology and soils in the EIR Study Area are common throughout the city and region and are not considered to be unique. However, geological formations underlying the EIR Study Area have the potential to contain unique paleontological resources. Potential future development would be required to comply with the federal Paleontological Resources Preservation Act that limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency and the California Public Resources Code Section 5097 that prohibits the removal of any paleontological site or feature from public lands without the permission of the jurisdictional agency. Ground-disturbing construction activities (e.g., grading and excavation) associated with potential future development in the EIR Study Area could uncover fossilized remains of organisms from prehistoric environments that have not been recorded. The implementation protocols and adherence to the Society of Vertebrate Paleontology standards would ensure the protection of unique paleontological resources during construction of future development. Some protocol include, but are not limited to:

- Excavations within a 50-foot radius of the find shall be temporarily halted or diverted.
- Ground-disturbance work shall cease until a City-approved, qualified paleontologist determines whether the resource requires further study.
- The paleontologist shall document the discovery as needed, in accordance with Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 1995) as appropriate, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5.
- The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find.
- If is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of San Rafael for review and approval prior to implementation.
- All construction activities shall adhere to the recommendations in the excavation plan.

Until such protocol are adopted by the City, ground-disturbing activities could cause damage to, or destruction of, unique paleontological resources. This is considered a *significant* impact.

Impact GEO-6: Construction activities associated with potential future development could have the potential to directly or indirectly affect a unique paleontological resource.

> Mitigation Measure GEO-6: To ensure sensitive and unique paleontological resources are not directly or indirectly affected in the event that such resources are unearthed during project grading, demolition, or building (such as fossils or fossil-bearing deposits), the City shall adopt the following new General Plan Policy and associated Program:

- New Policy: Paleontological Resource Protection. Prohibit the damage or destruction of paleontological resources, including prehistorically significant fossils, ruins, monuments, or objects of antiquity, that could potentially be caused by future development.
  - New Program: Paleontological Resource Mitigation Protocol. The City shall prepare and adopt a list of protocols in accordance with Society of Vertebrate Paleontology standards that protect or mitigate impacts to paleontological resources, including requiring grading and construction projects to cease activity when a paleontological resource is discovered so it can be safely removed.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

Although the Downtown Precise Plan Area is urban and built out, future development could require substantial excavation that could reach significant depths below the ground surface, where no such excavation has previously occurred. Such excavation could result in the unearthing of unrecorded fossils of potential scientific significance and other unique geologic features. This could result in damage to or destruction of unknown paleontological resources or unique geologic features, and impacts would be *significant*. However, potential future development in the Downtown Precise Plan Area would be required to comply with the Policy and associated Program adopted in the General Plan 2040 as required by Mitigation Measure GEO-6, which would reduce impacts to *less-than-significant* levels.

Significance with Mitigation: Less than significant.

GEO-7 Implementation of the proposed project could result in a cumulatively considerable impact to geological resources.

As discussed in Chapter 4, Environmental Analysis, of this Draft EIR, the cumulative setting includes growth within the EIR Study Area in combination with projected growth in the rest of Marin County and the surrounding region. Anticipated development in the EIR Study Area would be subject to regulations pertaining to seismic safety, including the CBC and SRMC requirements. Compliance with these requirements would, to the maximum extent practicable, reduce cumulative, development-related impacts that pertain to seismic shaking, seismic-related ground failure, seismically induced landslides, soil erosion, and unstable soils. Similarly, compliance with relevant SRMC requirements, as well as the requirements of the CBC, would minimize the cumulative impacts associated with substantial erosion or loss of topsoil. While none of the soils in the EIR Study Area are considered to have unique geological resources, unique paleontological resources may occur. Site specific evaluation in the event that previously unknown resources are discovered during construction activities for new development or redevelopment would be required. Future development would be focused on specific sites or areas, which would be evaluated for site development constraints on a case-by-case basis and required to implement Mitigation Measure GEO-6, which would ensure the projection of unearthed unique paleontological resources. Therefore, the proposed project would not result in a cumulatively considerable impact to geology and soils and cumulative impacts would be *less than significant.*

Significance with Mitigation: Less than significant.

4.8 GREENHOUSE GAS EMISSIONS

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to greenhouse gas (GHG) emissions. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project.

The analysis in this chapter is based on buildout of the proposed General Plan 2040, which includes the buildout in the Downtown Precise Plan Area. The proposed buildout is modeled using California Air Resources Board's (CARB's) Emissions Factor Model (EMFAC2017), the Off-Road Emissions Factor Model (OFFROAD2017), and energy use data provided by Pacific Gas and Electric Company (PG&E) and Marin Clean Energy (MCE) compiled for the City's recent GHG emissions inventory. This analysis also uses the trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers. Trip generation is in Appendix I, Transportation Data, and VMT calculation are in Chapter 4.16, Transportation, of this Draft EIR. GHG emissions modeling is in Appendix D, Air Quality and Greenhouse Gas Emissions Data, of this Draft EIR.

Discussions regarding climate-related hazards, such as air quality, landslides, sea-level rise, flooding, drought, and wildfires are located in Chapter 4.3, Air Quality; Chapter 4.7, Geology and Soils; Chapter 4.10, Hydrology and Water Quality; and Chapter 4.18, Wildfire, of this Draft EIR.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 TERMINOLOGY

The following are definitions for terms used throughout this chapter.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period (20, 100, and 500 years). CO_2 has a GWP of 1.
- **Carbon dioxide-equivalent (CO_2e)**. The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- **$MTCO_2e$.** Metric ton of CO_2e.
- **$MMTCO_2e$.** Million metric tons of CO_2e.

4.8.1.2 GREENHOUSE GASES AND CLIMATE CHANGE

Human activities contribute to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, CO_2, methane (CH_4), and ozone (O_3)—that may cause an increase in global average temperatures. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride

(SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2,3] The major GHGs are briefly described as follows:

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of applicable GHG emissions are shown in Table 4.8-1. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.[4]

TABLE 4.8-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

GHGs	Second Assessment Report (SAR) Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2[a]	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	1	1	1
Methane[b] (CH_4)	21	25	28
Nitrous Oxide (N_2O)	310	298	265

Notes:
a. Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2.
b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
Sources: Intergovernmental Panel on Climate Change, 1995, *Second Assessment Report: Climate Change 1995*; Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report: Climate Change 2007*. New York: Cambridge University Press; Intergovernmental Panel on Climate Change. 2014. *Fifth Assessment Report: Climate Change 2014*. New York: Cambridge University Press.

[1] Intergovernmental Panel on Climate Change, 2001, *Third Assessment Report: Climate Change 2001*, New York: Cambridge University Press.

[2] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of radiative forcing.

[3] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (California Air Resources Board, 2017, March 14. *Short-Lived Climate Pollutant Reduction Strategy*, https://www.arb.ca.gov/cc/shortlived/shortlived.htm). However, State and national GHG inventories do not include black carbon due to ongoing work resolving the precise GWP of black carbon. Guidance for CEQA documents does not yet include black carbon.

[4] CO_2e is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The GWP of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

California's GHG Sources and Relative Contribution

In 2019, the statewide GHG emissions inventory was updated for 2000 to 2017 emissions using the GWPs in IPCC's AR4.[5] Based on these GWPs, California produced 424.10 $MMTCO_2e$ GHG emissions in 2017. California's transportation sector was the single-largest generator of GHG emissions, producing 40.1 percent of the state's total emissions. Industrial-sector emissions made up 21.1 percent, and electric power generation made up 14.7 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.6 percent), high GWP (4.7 percent), and recycling and waste (2.1 percent).[6]

California's GHG emissions have followed a declining trend since 2007. In 2017, emissions from routine GHG emitting activities statewide were 424 $MMTCO_2e$, 5 $MMTCO_2e$ lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 $MMTCO_2e$ below the 1990 level and the state's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14 $MTCO_2e$ per capita to 10.7 $MTCO_2e$ per capita in 2017, a 24-percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining, representing a 41-percent decline since the 2001 peak, while the state's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources, such as hydro, solar, wind, and nuclear energy. [7]

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the twentieth century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO_2 in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation.[8] These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.[9] In the past, gradual changes in temperature changed the distribution of species, availability of

[5] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

[6] California Air Resources Board (CARB). 2019, August 26. 2019 Edition California Greenhouse Gas Inventory for 2000-2017: By Category as Defined in the 2008 Scoping Plan. https://www.arb.ca.gov/cc/inventory/data/data.htm.

[7] California Air Resources Board. 2019, August 26. California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators. https://www.arb.ca.gov/cc/inventory/data/data.htm, accessed November 21, 2019.

[8] Intergovernmental Panel on Climate Change, 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

[9] California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.

water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but in a human's lifetime.[10]

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty; for example, on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas,
- Warmer and more frequent hot days and nights over most land areas,
- An increase in frequency of warm spells/heat waves over most land areas,
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas,
- Larger areas affected by drought,
- Intense tropical cyclone activity increases, and
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide average temperatures increased by about 1.7 degrees Fahrenheit (°F) from 1895 to 2011, and warming has been greatest in the Sierra Nevada.[11] The years from 2014 through 2016 have shown unprecedented temperatures with 2014 being the warmest.[12] By 2050, California is projected to warm by about 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels.[13]

In California and western North America, observations of the climate have shown: (1) a trend toward warmer winter and spring temperatures; (2) a smaller fraction of precipitation falling as snow; (3) a decrease in the amount of spring snow accumulation in the lower and middle-elevation mountain zones; (4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and (5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms.[14] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and

[10] Intergovernmental Panel on Climate Change, 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

[11] California Climate Change Center, 2012. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

[12] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed November 21, 2019.

[13] California Climate Change Center, 2012. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

[14] California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.

unprecedented dry years in 2014 and 2015. Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015.[15]

According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency (CalEPA)—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 4.8-1), and the inertia of the Earth's climate system could produce as much as 0.6 degrees Celsius (°C) (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are described herein and in Table 4.8-2.

- Water Resource Impacts. By late this century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. Even in projections with relatively little or no decline in precipitation, central and southern parts of the state are expected to be drier from the warming effects alone because the spring snowpack will melt sooner, and the moisture in soils will evaporate during long, dry summer months.[16]
- Wildfire Risks. Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase by 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.[17]
- Sea-Level Rise. Sea-level rise threatens existing or planned infrastructure, development, and ecosystems (wetlands, estuaries, and fisheries) along California's coast. Critical infrastructure lies less than four feet above the high tide, including two international airports—Oakland and San Francisco—and about 172,000 homes.[18] Thermal expansion of ocean waters and melting glaciers have contributed to the rise in global mean sea level by 7 inches. Along the California coast, sea levels have generally risen. Since 1900, mean sea level has increased by about 7 inches at San Francisco and by about 6 inches since 1924 at La Jolla. In contrast, sea level at Crescent City has declined by about 3 inches since 1933 due to an uplift of the land surface from the movement of the Earth's plates.[19]
- Health Impacts. Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and simultaneous heat waves in several regions throughout the state. Public health could also be affected by climate

[15] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed April 3, 2019.

[16] California Council on Science and Technology, 2012. California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2019.

[17] California Council on Science and Technology, 2012. California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2019.

[18] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed April 3, 2019.

[19] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed April 3, 2019.

change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Wildfires can increase particulate air pollution in the major air basins.[20]

- **Increased Energy Demand.** Increases in average temperature and higher frequency of extreme heat events, combined with new residential development across the state, will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.[21]

TABLE 4.8-2 SUMMARY OF GHG EMISSIONS RISK TO CALIFORNIA

Impact Category	Potential Risks
Public Health Impacts	▪ Heat waves will be more frequent, hotter, and longer ▪ Poor air quality made worse ▪ Higher temperatures increase ground-level ozone (i.e., smog) levels
Water Resource Impacts	▪ Decreasing Sierra Nevada snow pack ▪ Challenges in securing adequate water supply ▪ Potential reduction in hydropower ▪ Loss of winter recreation
Agricultural Impacts	▪ Increasing temperature ▪ Increasing threats from pests and pathogens ▪ Expanded ranges of agricultural weeds ▪ Declining productivity ▪ Irregular blooms and harvests
Coastal Sea-Level Impacts	▪ Accelerated sea-level rise ▪ Increasing coastal floods ▪ Shrinking beaches ▪ Worsened impacts on infrastructure
Forest and Biological Resource Impacts	▪ Increased risk and severity of wildfires ▪ Lengthening of the wildfire season ▪ Transitioning forest areas ▪ Conversion of forest to grassland ▪ Declining forest productivity ▪ Increasing threats from pests and pathogens ▪ Shifting vegetation and species distribution ▪ Altered timing of migration and mating habits ▪ Loss of sensitive or slow-moving species
Energy Demand Impacts	▪ Potential reduction in hydropower ▪ Increased energy demand

Sources: California Climate Change Center, 2012, Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California. California Energy Commission, 2006. Our Changing Climate: Assessing the Risks to California, 2006 Biennial Report, CEC-500-2006-077. California Energy Commission, 2009. The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California. CEC-500-2008-0077. California Natural Resources Agency, 2014. Safeguarding California: Reducing Climate Risk, An Update to the 2009 California Climate Adaptation Strategy.

[20] California Council on Science and Technology, 2012. California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2019.

[21] California Council on Science and Technology, 2012. California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2019.

4.8.1.3 REGULATORY FRAMEWORK

This section summarizes key federal, state, regional, and local regulations and programs related to GHG emissions resulting from the proposed project.

Federal Regulations

The U.S. Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The USEPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission-reduction requirements but allowed the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation. [22]

To regulate GHGs from passenger vehicles, the USEPA issued an endangerment finding.[23] The finding identifies emissions of six key GHGs—CO_2, CH_4, N_2O, HCFCs, PFCs, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the proposed project's GHG emissions inventory because they constitute the majority of GHG emissions and, per Bay Area Air Quality Management District (BAAQMD) guidance, they are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

- US Mandatory Reporting Rule for GHGs (2009). In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2e per year are required to submit an annual report.
- Update to Corporate Average Fuel Economy Standards (2021 to 2026). The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. However, on March 30, 2020, the USEPA finalized updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 through 2026. However, consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America, and Volkswagen Group of America. The framework supports continued annual reductions of vehicle GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto

[22] US Environmental Protection Agency (USEPA). 2009, December. USEPA: Greenhouse Gases Threaten Public Health and the Environment. Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html.

[23] U.S. Environmental Protection Agency (USEPA), 2009. USEPA: Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-c lean, accessed November 21, 2019.

companies party to the voluntary agreement will only sell cars in the United States that meet these standards. [24]

- USEPA Regulation of Stationary Sources under the Clean Air Act (Ongoing). Pursuant to its authority under the Clean Air Act, the USEPA has been developing regulations for new, large stationary sources of emissions, such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the USEPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the USEPA issued the final Affordable Clean Energy (ACE) rule, which became effective on August 19, 2019. The ACE rule was crafted under the current administration's Energy Independence Executive Order. It officially rescinds the Clean Power Plan rule issued during the previous administration and sets emissions guidelines for states in developing plans to limit CO+ emissions from coal-fired power plants.

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Assembly Bill (AB) 32, Senate Bill (SB) 32, Executive Order B-30-15, and SB 375. These major GHG regulations are summarized as follows:

- Executive Order S-03-05. Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:
  - 2000 levels by 2010.
  - 1990 levels by 2020.
  - 80 percent below 1990 levels by 2050.
- Assembly Bill 32. Also known as the Global Warming Solutions Act, AB 32 was signed August 31, 2006, to reduce California's contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05. Under AB 32, CARB prepared the *2008 Climate Change Scoping Plan*, the *2014 Climate Change Scoping Plan,* and the *2017 Climate Change Scoping Plan,* which are discussed below.
- Executive Order B-30-15. Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. 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 and Assembly Bill 197. In September 2016, SB 32 and AB 197 were signed into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary,

[24] California Air Resources Board (CARB) 2019, July 25. California and major automakers reach groundbreaking framework agreement on clean emission standards. Accessed April 14, 2020. https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission

mobile, and other sources. Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) to address the 2030 target for the state. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40-percent decrease in 1990 levels by 2030.[25]

- Senate Bill 375. In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions-reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. Pursuant to the recommendations of the Regional Transportation Advisory Committee (RTAC), CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

Table 4.8-3 provides a summary list of regulations adopted in California that reduce GHG emissions. A complete description of these regulations is in included in Appendix D, Air Quality and Greenhouse Gas Emissions Data, of this Draft EIR.

TABLE 4.8-3 LIST OF STATE GHG REGULATIONS

Sector	Regulations
State GHG Targets	AB 32, SB 32, Executive Order S-03-05, Executive Order B-15-30
Transportation	AB 1493, Executive Order S-01-07, SB 375
Renewable Energy	SB 1078, SB 107, SB X1-2, Executive Order S-14-08, SB 350, SB 100, Executive Order B-55-18
Energy Efficiency	Title 24, Part 6, Building Energy Efficiency Standards, Title 24, Part 11, Green Building Standards Code (CALGreen), Title 20, Appliance Efficiency Regulations
Solid Waste	AB 939, AB 341, AB 1327, AB 1826
Water	SB X7-7, AB 1881
Short-Lived Pollutants	SB 1383

Source: PlaceWorks, 2020

Regional Plans and Regulations

Plan Bay Area: Strategy for a Sustainable Region

[25] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

Plan Bay Area is the Bay Area's Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS). *Plan Bay Area* 2040, adopted jointly by the Association of Bay Area Governments (ABAG) and MTC in July 26, 2017, is the current version of the plan. The 2040 *Plan Bay Area* is a limited and focused update to the 2013 *Plan Bay Area*, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years. This document describes how the San Francisco Bay Area will develop over the next two decades and the SCS integrates transportation, land use, and housing to meet GHG reduction targets set by CARB. *Plan Bay Area* 2040 proposes the Climate Initiatives Program, which promotes the densification of land use and a relative decrease in per-capita energy consumption, in addition to a net reduction in vehicle fuel use while also allowing growth within the region. An update to *Plan Bay Area*, moving the time horizon to 2050, was underway when the General Plan 2040 and Downtown Precise Plan were published.

As part of the implementing framework for *Plan Bay Area*, local governments have identified Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. TPAs are half-mile buffers surrounding major transit stops or terminals. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated within PDAs. [26] San Rafael has three PDAs and three TPAs (see Figure 4-1 in Chapter 4, Environmental Analysis, of this Draft EIR). ABAG indicates that these areas are expected to absorb about 40 percent of the City's household growth in the next 20 years, although General Plan 2040 is anticipating an even higher capture rate. [27]

Bay Area Clean Air Plan

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 that encompasses the following:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.[28]

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

[26] Bay Area Air Quality Management District, 2017, Final 2017 *Clean Air Plan*, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area, http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans, accessed on March 18, 2019.

[27] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

[28] Metropolitan Transportation Commission, Priority Development Areas, http://opendata.mtc.ca.gov/datasets/priority-development-areas-current, and Transit Priority Areas, http://opendata.mtc.ca.gov/datasets/d97b4f72543a40b2b85d59ac085e01a0_0, accessed April 17, 2020.

air contaminants, and GHG from a full range of emission sources. These control measures cover the following sectors: (1) stationary (industrial) sources; (2) transportation; (3) energy; (4) agriculture; (5) natural and working lands; (6) waste management; (7) water; and (8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

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

Bay Area Commuter Benefits Program

Under Air District Regulation 14, Model Source Emissions Reduction Measures, Rule 1, Bay Area Commuter Benefits Program, employers with 50 or more full-time employees within the BAAQMD are required to register and offer commuter benefits to employees. In partnership with the BAAQMD and the MTC, the rule's purpose is to improve air quality, reduce GHG emissions, and decrease the Bay Area's traffic congestion by encouraging employees to use alternative commute modes, such as transit, vanpool, carpool, bicycling, and walking. The benefits program allows employees to choose from one of four commuter benefit options, including a pre-tax benefit, employer-provided subsidy, employer-provided transit, and alternative commute benefit.

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs that are relevant to the reduction of GHG emissions are primarily in the Sustainability Element. As part of the proposed project, this element is being eliminated and its policies and programs are being reallocated to other elements. 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 Section 4.8.3, Impact Discussion.

San Rafael Municipal Code

The San Rafael Municipal Code (SRMC) includes various directives pertaining to GHG emissions. The SRMC is organized by title, chapter, and section. Most provisions related to GHG emissions impacts are included in Title 5, Traffic Regulations; Title 10, Business, Professions, Occupations, Industries, and Trades; and Title 12, Building Regulations, as follows:

- Chapter 5.81, Trip Reduction and Travel Demand Requirements. Requires the City to implement a trip reduction and travel demand ordinance (Ord. 1657 Section 1 (part), 1994).

- **Chapter 10.92, Prohibits Polystyrene Foam Disposal Food Packaging.** Retail food vendors are prohibited from providing prepared food or takeout food to customers in, on, or with disposable food packaging, that includes polystyrene foam. This is a waste reduction measure, with secondary GHG reduction benefits.
- **Chapter 10.94, Single Use Carry Out Bags.** Prohibits store operators from providing customers with plastic carryout bags, except product bags for prescription medication. This is a waste reduction measure, with secondary GHG reduction benefits.
- **Chapter 12.100, Adopted Codes.** This chapter adopts all sections, with amendments to include Appendix 4a of CALGreen, of the California Code of Regulations Title 24, Part 11, California Green Building Standards Code.
- **Chapter 12.320, Expedited Permit Process for Small Residential Rooftop Solar Systems.** This chapter ensures a streamlined solar permitting process that complies with the Solar Rights Act and AB 2188, to achieve timely and cost-effective installations of small residential rooftop solar energy systems.
- **Chapter 12.315, Expedited permitting Process for Electric Vehicle Charging Stations.** This chapter is intended to promote the use of electric vehicles by streamlining the permitting process for electric vehicle charging stations.
- **Chapter 14.18, Parking Standards.** Section 14.18.45, Designated Parking for Clean Air Vehicles, requires parking spaces serving new nonresidential buildings be designated for low-emitting, fuel-efficient, and carpool/van pool vehicles, as defined by Section 5.102 of CALGreen. Section 14.18.090. Bicycle Parking, requires bicycle parking be provided for new nonresidential buildings and major renovations of nonresidential buildings that have 30 or more parking spaces, and for all public/quasi-public uses.
- **Chapter 14.16, Site and Use Regulations.** Section 14.16.305, Small Wind Energy Systems., establishes standards to regulate the design and placement of small wind energy systems on public and private property to minimize the potential safety and aesthetic impacts on neighboring property owners and the community. Section 14.16.307, Solar Installations, identifies requirements for solar installations on developed properties (e.g., rooftop solar) and solar energy production facilities for off-site power distribution.

San Rafael Climate Action Plan

The current San Rafael Climate Change Action Plan (2019 CCAP) was approved and adopted by the City on May 20, 2019. The 2019 CCAP focuses on mitigation measures aiming 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 policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. The 2019 CCAP builds off the 2009 CCAP and the San Rafael Greenhouse Gas Emission Inventory, providing a comparison between baseline 2005 and 2016 emissions to identify where reductions have occurred. Furthermore, the 2019 CCAP 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. In San Rafael, that means emissions would need to drop to 241,455 $MTCO_2e$ by 2030 and 80,485 $MTCO_2e$ by 2050, which include energy reduction and efficiency measures. Actions provided in the 2019 CCAP 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.

4.8.1.4 EXISTING CONDITIONS

Community Emissions

Land uses in the EIR Study Area generate GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips; and area sources such as landscaping and consumer cleaning products. Emissions associated with the EIR Study Area are shown in Table 4.8-4.

TABLE 4.8-4 EXISTING 2019 GREENHOUSE GAS EMISSIONS INVENTORY

	Existing (2019) $MTCO_2e$			
Emissions Sector	City	Remainder of EIR Study Area	Total	% of Total
Building Electricity [a]	67,142	7,589	74,731	12%
Building Natural Gas [a]	63,511	10,154	73,666	12%
On-Road Transportation [b]	375,518	46,644	422,162	71%
On-Road Vehicles and Equipment [c]	2,582	161	2,742	0.5%
Solid Waste/Landfills [d]	19,632	3,169	22,801	4%
Water Use [e]	1,170	277	1,447	0.2%
Wastewater Treatment [f]	792	188	980	0.2%
Total Community Emissions	**530,347**	**68,182**	**598,529**	**100%**
Service Population (SP)	103,280	16,671	119,951	NA
$MTCO_2e$/SP	5.1	4.1	5.0	NA

Notes:
[a] Building electricity and natural gas are based on data provided by the City for the GHG emissions inventory conducted for their Climate Change Action Plan from PG&E and MCE. The electricity rates were adjusted to reflect the increase in dwelling unit and employment within the City since the CAP inventory was conducted.
[b] On-road transportation VMT is provided by Fehr & Peers and modeled with EMFAC2017. VMT for the General Plan is based on the "project's effect" of VMT in the EIR Study Area. As a result, unlike the CCAP inventory, the inventory conducted for the General Plan includes the full trip length of intrajurisdictional trips.
[c] On-road vehicles and equipment are based on the OFFROAD2017 emissions inventory and include construction equipment and commercial equipment.
[d] Solid waste/landfills is based on the Landfill Model based on disposal information from CalRecycle.
[e] Water use includes the embodied energy associated with water conveyance, treatment, and distribution.
[f] Wastewater includes the embodied energy associated with wastewater treatment as well as fugitive emissions from treatment processes.
Source: PlaceWorks, 2020.

4.8.1.5 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) to determine if significant GHG impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. The EIR Study Area's GHG emissions inventory includes the following sectors:

GREENHOUSE GAS EMISSIONS

- **Transportation:** Transportation emissions forecasts were modeled using emission rates from CARB's EMFAC2017, version 1.0.2, Project Level (PL) web database. Modeling includes the SAFE Part 1 and Part 2 EMFAC2017 model adjustment factors released by CARB. Model runs were based on daily VMT data provided by Fehr & Peers (see Chapter 4.16, Transportation, of this Draft EIR) and calendar year 2019 (existing) and 2040 emission rates. The VMT provided includes the full trip length for land uses in the city. This differs from the City's CCAP emissions inventory, which includes a 50-percent reduction in trip lengths for trips that start or end in the City but travel outside the City (intra-jurisdictional trips). Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.
- **Energy**: Energy use for residential and nonresidential land uses in the EIR Study Area were modeled using electricity and natural gas data provided by the City from the 2016 GHG emissions inventory conducted for the CCAP. The data from the 2016 GHG emissions inventory is based on electricity and natural gas use provided by PG&E and electricity provided by MCE and carbon intensity for direct access, PG&E, and MCE. Residential energy and non-residential energy forecasts are adjusted for increases in housing units and employment, respectively. The carbon intensity factor of the purchased electricity for the buildout year is based on MCE's reported CO intensity factor because it is based on a 60-percent renewable energy portfolio energy content label. Intensity factors for CO_2, CH_4, and N_2O provided in CARB's Local Governments Protocol (LGOP), version 1.1, were used for natural gas.
- **Off-Road Equipment**: Emission rates from CARB's OFFROAD2017, version 1.0.1, web database were used to estimate criteria air pollutant emissions from light commercial and construction equipment in the EIR Study Area. OFFROAD2017 is a database of equipment use and associated emissions for each county compiled by CARB. Emissions were compiled using OFFROAD2017 for the County of Marin for year 2019. To determine the percentage of emissions attributable to the EIR Study Area, light commercial equipment is estimated based on employment for the City of San Rafael as a percentage of Marin County. Construction equipment use is estimated based on building permit data for the City of San Rafael and County of Marin from data compiled by the US Census. The light commercial equipment emissions forecast is adjusted for changes in employment in the EIR Study Area. It is assumed that construction emissions for the forecast year would be similar to historical levels. Annual emissions are derived by multiplying daily emissions by 365 days.
- **Water/Wastewater**. GHG emissions from this sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. The total annual existing and horizon year proposed project water demand and wastewater generation (gallons per year) in the EIR Study Area are based on the existing per-capita water use of 110 gallons per capita per day (gpcd) identified in the Marin Municipal Water District's 2015 Urban Water Management Plan (UWMP).[29] The per-capita water use includes water use from both residential and nonresidential land uses in the City. Electricity use from water use is estimated using energy rates identified by the California Energy Commission (CEC). [30] Then energy is

[29] Marin Municipal Water District. 2016, June 11. 2015 Urban Water Management Plan. http://marinwater.org/DocumentCenter/View/3828/MMWD-2015-UWMP-Final---Report-Only?bidId=

[30] California Energy Commission (CEC). 2006, December. Refining Estimates of Water-Related Energy Use in California. CEC-500-2006-118. Prepared by Navigant Consulting, Inc. Based on the electricity use for Northern California.

multiplied by the carbon intensity of energy for PG&E (see the previous Energy description). Wastewater treatment also results in fugitive GHG emissions from wastewater processing. Fugitive emissions from wastewater treatment in the EIR Study Area were calculated using the emission factor's in CARB's LGOP, Version 1.1, and conservatively assumes that 70 percent of water use is treated as wastewater, consistent with that identified in the UWMP.

- Solid Waste Disposal. GHG emissions from solid waste disposed of by residents and employees in the EIR Study Area generates GHG emissions. The degradable organic carbon (DOC) in waste decays slowly throughout a few decades, during which CH_4 and biogenic CO_2 are formed. If conditions are constant, the rate of CH_4 production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH_4 from waste deposited in a disposal site are highest in the first few years after deposition, then gradually decline as the degradable carbon in the waste is consumed by the bacteria responsible for the decay. Significant CH_4 production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. The peak annual emissions from waste-in-place are reported. Jurisdiction reports for the Marin County Hazardous and Solid Waste Management Joint Powers Authority were obtained from CalRecycle. Waste from San Rafael was estimated based on the Service Population of Marin County v. the City of San Rafael. Waste disposal was averaged over a three-year period (2016 to 2018) for several years to account for fluctuations in average annual solid waste disposal for existing conditions. GHG emissions from solid waste disposal in the baseline year were modeled using CARB's Landfill Emissions Tool Version 1.3, which includes waste characterization data from CalRecycle. Because the landfill gas captured is not under the jurisdiction of the City of San Rafael, the landfill gas emissions from the capture system are not included in the inventory. Only fugitive sources of GHG emissions from landfills are included. Modeling assumes a 75-percent reduction in fugitive GHG emissions from the Landfill Gas Capture System. The landfill gas capture efficiency is based on CARB's LGOP, Version 1.1. Emissions were adjusted to the AR5 GWP assigned for CH_4. Total GHG emissions from waste disposal in 2040 were forecasted based on the percent increase in service population for the EIR Study Area. The emissions forecast does not account for reductions from increasing waste diversion.

Industrial sources of emissions that require a permit from BAAQMD are not included in the community inventory. However, due to the 15/15 Rule,[31] natural gas and electricity use data for industrial land uses may also be aggregated with the nonresidential land uses in the data provided by PG&E and MCE. Life-cycle emissions are not included in this analysis because not enough information is available for the proposed project; and therefore, they would be speculative. Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the state's GHG emissions inventory and treats this short-lived climate pollutant separately.

[31] The 15/15 Rule was adopted by the California Public Utility Commission (CPUC) in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 Rule requires that any aggregated information provided by the utilities must be made up of at least 15 customers (100 for residential sectors) and a single customer's load must be less than 15 percent of an assigned category.

4.8.2 STANDARDS OF SIGNIFICANCE

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

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.
3. Result in significant cumulative impact and contribute to global climate change.

BAAQMD Thresholds

BAAQMD has adopted thresholds from the CEQA Guidelines to evaluate GHG emissions impacts from development projects.[32] Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions, because biogenic CO_2 is derived from living biomass (e.g., organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels. BAAQMD is currently updating their CEQA Guidelines.

Under the 2017 CEQA Guidelines, BAAQMD identified a tiered approach for assessing GHG emissions impacts of a project:

1. Consistency with a Qualified Greenhouse Gas Reduction Strategy. If a project is within the jurisdiction of an agency that has a "qualified" GHG reduction strategy, the project can assess consistency of its GHG emissions impacts with the reduction strategy.
2. BAAQMD Screening Level Sizes (AB 32). BAAQMD has adopted screening criteria for development projects, with a buildout year of 2020 and earlier, that would be applicable for a proposed project based on the square footage, units, acreage, students, and/or employees generated by a project. Typical projects that meet the screening criteria do not generate emissions greater than 1,100 $MTCO_2e$ per year and would not generate significant GHG emissions.
3. Brightline Screening Threshold (AB 32). BAAQMD adopted a brightline screening threshold for development projects of 1,100 $MTCO_2e$ per year that would be applicable for projects with an opening year of 2020 and earlier. If a project exceeds the BAAQMD Guidelines' GHG screening-level sizes or screening criteria of 1,100 $MTCO_2e$, the project would be required to conduct a full GHG analysis using based on GHG reduction goals of AB 32 and SB 32.

[32] Bay Area Air Quality Management Agency, 2017. California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed November 21, 2019.

4. Efficiency Threshold (AB 32). AB 32 requires statewide GHG emissions to be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every person in California down to about 10 tons per person by 2020.[33] Hence, BAAQMD's per capita significance threshold is calculated based on the State's land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53 $MMTCO_2e$ and the 2020 California service population to be 64.3 million. Therefore, the threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 $MTCO_2e$ per service population per year ($MTCO_2e$/SP/yr) for year 2020.[34]

Proposed Project Thresholds

Based on BAAQMD's adopted 1,100 $MTCO_2e$ per year brightline screening threshold, and the GHG reduction target for year 2030 established under SB 32 (i.e., 40 percent of 1990 levels by 2030), the interpolated brightline screening threshold of 660 $MTCO_2e$ per year is utilized for the proposed project. If project emissions are below this brightline screening threshold, GHG emissions impacts would be considered less than significant.

This analysis also evaluates the potential for the proposed project to conflict with the GHG reduction goals established under SB 32 and Executive Order S-03-05, which require a reduction in statewide GHG emissions from existing conditions to achieve a 40-percent reduction in GHG emissions by 2030 and an 80-percent reduction in GHG emissions by 2050, respectively.

Mass Emissions and Health Effects

On December 24, 2018, in the case, *Sierra Club et al. v. County of Fresno et al.* (commonly referred to as the Friant Ranch Case), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the Friant Ranch project, which involved a master-planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criteria air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the USEPA issued an endangerment finding for six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in order to regulate GHG emissions from passenger vehicles. The endangerment finding is based on

[33] California Air Resources Board, 2008. Climate Change Proposed Scoping Plan, a Framework for Change. https://ww3.arb.ca.gov/cc/scopingplan/document/psp.pdf, accessed November 21, 2019.

[34] Bay Area Air Quality Management Agency, 2017. California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed November 21, 2019.

evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves and ozone levels. The effects of climate change are identified in Table 4.8-2. While these identified effects, such as sea-level rise and increases in extreme weather, can indirectly impact human health, neither the CalEPA nor CARB has established ambient air quality standards for GHG emissions. California's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. Yet the state's GHG reduction goals and strategies are based on the state's path toward reducing statewide cumulative GHGs, as outlined in AB 32, SB 32, and Executive Order S-03-05.

The two significance thresholds that the City uses to analyze GHG impacts are based on achieving the statewide GHG reduction goals (see Impact GHG-1 in Section 4.8.3) and relying on consistency with policies or plans adopted to reduce GHG emissions (see impact discussion GHG-2). Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the City's significance thresholds that are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emission to the potential health impacts of climate change.

4.8.3 IMPACT DISCUSSION

GHG-1	**Implementation of the proposed project could generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment.**

General Plan 2040

Future potential development under the proposed General Plan 2040 would contribute to global climate change through direct and indirect emissions of GHGs in the EIR Study Area. However, a general plan is a long-range policy document that does not directly result in development without additional approvals. Before any development can occur in San Rafael, it must be analyzed for consistency with the General Plan, zoning requirements, and other applicable local and state requirements; comply with the requirements of CEQA if required; and obtain all necessary clearances and permits from regulatory agencies.

Buildout of the proposed General Plan 2040 is not linked to a specific development time frame but 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 8,910 people and 4,115 employees in the EIR Study Area. Development that would be accommodated by the proposed General Plan 2040 would generate a net increase of 123,564 daily VMT at project buildout (see Chapter 4.16, Transportation, of the Draft EIR). Table 4.8-6 provides a comparison of the change in GHG emissions in the EIR Study Area between the CEQA baseline (2019) and the General Plan horizon year (2040) conditions.

Horizon Year 2040 Emissions Inventory Compared to Existing Conditions

As shown in Table 4.8-5, buildout of the land uses accommodated under the proposed General Plan 2040 would result in a net decrease of 120,126 $MTCO_2e$ of GHG emissions (20 percent decrease in GHG emissions) from existing conditions and would not exceed the 660 $MTCO_2e$ BAAQMD bright-line screening threshold. In addition, while buildout under the proposed General Plan 2040 is projected to increase service population by 13,025 persons[35] (an 11-percent increase), emissions per person would decrease compared to existing baseline. Emissions per service population would decrease to 3.6 $MTCO_2e$/SP in horizon year 2040 from 5.0 $MTCO_2e$/SP for the existing baseline year.

Consistency with SB 32 and Executive Order S-03-05 GHG Reduction Targets

While the proposed General Plan 2040 would not generate an increase in GHG emissions from the CEQA baseline in the 2040 horizon year forecast, this EIR also analyzes the potential for the proposed General Plan 2040 to conflict with the GHG reduction goals established under SB 32 and Executive Order S-03-05, which require a reduction in statewide GHG emissions from existing conditions to achieve a 40-percent reduction in GHG emissions below 1990 levels by 2030 and an 80-percent reduction in GHG emissions by 2050, respectively. This EIR assumes that the CEQA baseline (2019 emissions) reflects the AB 32 goal in 2020. As a result, at the General Plan horizon year of 2040, the City would need to reduce GHG emissions by 60 percent to ensure the City is on a trajectory to achieve the long-term goal under Executive Order S-03-05, which is equivalent to 359,117 $MTCO_2e$ in the EIR Study Area by year 2040.

As shown in Table 4.8-5 and as discussed previously, it is anticipated that implementation of the proposed General Plan 2040 would result in an overall net decrease in emissions in horizon year 2040 compared to existing baseline. However, GHG emissions reduction are only 20 percent less than the CEQA baseline and not the 60 percent necessary to ensure the City is on a trajectory to achieve the long-term year 2050 reduction goal of Executive Order S-03-05. The City has prepared a CCAP to align the City's local GHG reductions with the state goals of SB 32 and Executive Order S-03-05. As identified in the CCAP, local measures would result in 98,085 $MTCO_2e$ of additional reductions by 2030, a 42 percent reduction from 1990 levels, and would put the City on a trajectory to achieve the 2030 GHG targets.[36] Reduction strategies to meet the long-term 2050 GHG reduction goal, in addition to establishment of a 2050 reduction target, would be included in the planned future updates to the CCAP. Additionally, state strategies to achieve post-2030 targets would be necessary. Therefore, until such time, GHG emissions impacts for the proposed General Plan 2040 are considered potentially significant in regard to meeting the long-term year 2050 reduction goal.

[35] Service population is 8,910 people plus 4,115 employees.
[36] San Rafael. 2019, April 23. Climate Change Action Plan.

GREENHOUSE GAS EMISSIONS

TABLE 4.8-5 HORIZON YEAR 2040 GHG EMISSIONS FORECAST

	GHG Emissions ($MTCO_2e$/Year)											
	Existing (2019)				2040				Net Change			
Emissions Sector	City Limits	Planning Area	Total	%	City Limits	Planning Area	Total	%	City Limits	Planning Area	Total	%
Building Electricity	67,142	7,589	74,731	12%	49,167	5,263	54,430	11%	-17,975	-2,326	-20,301	-27%
Building Natural Gas	63,511	10,154	73,666	12%	72,479	10,867	83,346	17%	8,967	713	9,680	13%
On-Road Transportation	375,518	46,644	422,162	71%	277,721	31,938	309,659	65%	-97,797	-14,706	-112,503	-27%
Off-Road Vehicles and Equipment	2,582	161	2,742	0.5%	2,807	172	2,979	1%	225	12	237	9%
Solid Waste/Landfills	19,632	3,169	22,801	4%	21,924	3,352	25,277	5%	2,292	183	2,476	11%
Water Use	1,170	277	1,447	0.2%	1,323	295	1,617	0.3%	153	17	170	12%
Wastewater Treatment	792	188	980	0.2%	896	200	1,095	0.2%	104	12	115	12%
Total Community Emissions	**530,347**	**68,182**	**598,529**	**100%**	**426,317**	**52,086**	**478,403**	**100%**	**-104,030**	**-16,095**	**-120,126**	**-20%**
Service Population (SP)	103,280	16,671	119,951	NA	115,340	17,636	132,976	NA	12,060	965	13,025	11%
$MTCO_2e$/SP	5.1	4.1	5.0	NA	3.7	3.0	3.6	NA	-1.4	-1.1	-1.4	-28%

Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Fifth Assessment Report (AR5).

General Plan 2040 Policies

While growth within the EIR Study Area would cumulatively contribute to GHG emissions impacts, the General Plan 2020 included goals, policies, and programs to reduce GHG emissions. The proposed General Plan 2040 builds off the language regarding the reduction of GHG emission in the General Plan 2020 and includes over 200 goals, policies, and programs to contribute to reducing GHG emissions. The proposed Land Use (LU) Element; Conservation and Climate Change (C) Element; Mobility (M) Element; Community Services and Infrastructure (CSI) Element; Housing (H) Element; Economic Vitality (EV) Element; Equity, Diversity, and Inclusion (EDI) Element; and Parks, Recreation, and Open Space (PROS) Element contain goals, policies, and programs that require local planning and development decisions to reduce GHG emissions. The following goals, policies, and programs would serve to minimize GHG emissions in the EIR Study Area.

Goal LU-1: Well-Managed Growth and Change. Grow and change in a way that serves community needs, improves fiscal stability, and enhances the quality of life.

- Policy LU-1.2: Development Timing. Allow new development only when adequate infrastructure is available, consistent with the following findings:
  - The project is consistent with adopted Vehicle Miles Traveled (VMT) standards, as well as any relevant requirements for Level of Service (LOS) specified in the Mobility Element.
  - Planned circulation improvements necessary to meet City standards for the project have funding commitments and completed environmental review.
  - Sewer, water, and other infrastructure improvements needed to serve the proposed development have been evaluated and confirmed to be in place or to be available to serve the development by the time it is constructed.
  - The project has incorporated design and construction measures to adequately mitigate exposure to hazards, including flooding, sea level rise, and wildfire.
- Policy LU-1.3: Land Use and Climate Change. Focus future housing and commercial development in areas where alternatives to driving are most viable and shorter trip lengths are possible, especially around transit stations, near services, and on sites with frequent bus service. This can reduce the greenhouse gas emissions associated with motor vehicle trips and support the City's climate action goals.
  - Program LU-1.3A: Benefits of Transit-Oriented Development. Seek ways to objectively quantify, monitor, and promote the benefits of focusing new development around transit nodes and corridors and shifting trips from cars to active (non-car) transportation modes. Programmatic changes and recommendations should be supportable by objective data and quality of life measures. This should include data on modes of travel, trip origins and destinations, trip lengths, vehicle ownership, greenhouse gas emissions, and other metrics in areas that are well served by transit.
- Policy LU-2.3: Neighborhood-Serving Commercial Uses. Encourage the retention and improvement of neighborhood-serving retail stores and services. In the event such spaces become vacant, consider other activities that reinforce their role as neighborhood centers. Neighborhood-serving commercial

areas should reinforce the city's goal of reducing greenhouse gas emissions and traffic congestion by providing walkable, bikeable services and shopping close to residents.

- Program LU-2.3B: Revitalization Incentives. Develop zoning and economic development incentives that keep local neighborhood centers viable, such as allowing additional floor area and housing units when neighborhood-serving uses are included or retained.
- Program LU-2.4A: Industrial Zoning. Periodically evaluate zoning standards for Light Industrial-Office and General Industrial areas in response to business and economic trends, market demand, changes in technology and the transportation sector, greenhouse gas reduction goals, and climate-related hazards such as sea level rise.

Goal C-5: Reduced Greenhouse Gas Emissions. Achieve a 40 percent reduction in 1990 greenhouse gas emission levels by 2030 and a 60 percent reduction by 2040. The City of San Rafael will implement the measures outlined in this General Plan and in its Climate Change Action Plan to reduce greenhouse gas (GHG) emissions, which are the leading cause of global climate change.

- Policy C-5.1: Climate Change Action Plan. Maintain and periodically update a Climate Change Action Plan that includes programs to reduce greenhouse gas emissions and metrics for monitoring success.
  - Program C-5.1A: Progress Reports. Prepare annual Climate Change Action Plan progress reports, including a list of priority actions. Local climate goals should align with regional goals, including those set through Drawdown Marin.
  - Program C-5.1B: Quarterly Forum. Continue to hold the Climate Change Action Plan Quarterly Forum, which provides oversight on the implementation progress of sustainability and GHG reduction programs.
  - Program C-5.1C: Funding. Identify funding sources for recommended actions, and pursue local, regional, state, and federal grants. Investigate creation of a local carbon fund or other permanent source of revenue.
- Policy C-5.2: Consider Climate Change Impacts. Ensure that decisions regarding future development, capital projects, and resource management are consistent with San Rafael's Climate Change Action Plan and other climate goals, including greenhouse gas reduction and adaptation.
- Policy C-5.3: Advocacy. Support and advocate for state and federal legislation and initiatives to reduce GHG emissions.
  - Program C-5.3A: Local Government Agency Involvement. Continue to provide a leadership role with other local governmental agencies to share best practices and successes.
  - Program C-5.3B: State and Federal Action. Recommend and support State and federal actions to update renewable energy portfolio standards, amend state building codes, and modify motor vehicle standards to reduce GHG emissions and achieve climate goals.
- Policy C-5.4: Municipal Programs. Implement and publicize municipal programs to demonstrate the City's commitment to sustainability efforts and reducing greenhouse gases.
  - Program C-5.4A: Low Carbon Municipal Vehicles. As finances allow, continue to shift the City's vehicle fleet to zero emission vehicles and use low carbon fuels as an interim measure until gasoline-powered vehicles are replaced.

- Program C-5.4B: Advancing GHG and Sustainability Efforts. Monitor best practices in sustainability and the transition to GHG-free energy sources and evaluate the feasibility of applying such measures at the local level.

- Policy C-5.5: Carbon Sequestration. Enhance the ability of the City's natural and built environment to sequester (absorb and store) carbon emissions.
- Policy C-5.7: Climate Change Education. Continue community education and engagement in climate and sustainability efforts.
  - Program C-5.7A: Public Outreach Campaign. As recommended by the Climate Change Action Plan, implement a communitywide public outreach and behavior change campaign to engage residents, businesses, and consumers around the impacts of climate change and the ways individuals and organizations can reduce their GHG emissions and create a more sustainable, resilient, and healthier community.
  - Program C-5.7B: Resilient Neighborhoods. Continue participating in the Resilient Neighborhoods program and expand the program to include local businesses.
  - Program C-5.7D: Promote Sustainability Efforts. Promote sustainability and climate change awareness through education, publications, the City's website, community organizations, and special events such as Earth Day and an annual Green Festival.

Goal M-1: Regional Leadership in Mobility. Take a leadership role in developing regional transportation solutions.

- Policy M-2.3: Cost-Benefit Considerations. Consider the relative costs and benefits of transportation improvement projects, including the amount and source of funding, the potential number of people who will benefit, the expected impact on vehicle miles traveled and climate goals, the cost and time impacts on all travelers, the social and equity impacts, the effects on the environment and public safety, and similar factors.
  - Program M-2.3A: Cost-Benefit Analysis. Conduct cost-benefit analyses as part of the design process for proposed transportation projects, including the criteria listed above and other factors that may be relevant (see also Policy CSI-5.1 on cost-benefit analysis).
  - Program M-2.4B: Reducing Vehicle Idling. Support transportation network improvements to reduce vehicle idling, including synchronized signal timing.

Goal M-3: Cleaner Transportation. Coordinate transportation, land use, community design, and economic development decisions in a way that reduces greenhouse gas emissions, air and water pollution, noise, and other environmental impacts related to transportation.

- Policy M-3.1: VMT Reduction. Achieve State-mandated reductions in Vehicle Miles Traveled by requiring development and transportation projects to meet specific VMT metrics. In the event a proposed project does not meet these metrics, require measures to reduce the additional VMT associated with the project, consistent with thresholds approved by the City Council.
  - Program M-3.1A: VMT Analysis Guidelines. Develop local guidelines for calculating the projected VMT associated with future development projects and transportation improvements. The guidelines also should cover administration, screening criteria, and appropriate Transportation

Demand Management measures and monitoring procedures. All VMT metrics should be reassessed at least once every four years, and revised as needed to reflect changing conditions.

- Policy M-3.2: Using VMT in Environmental Review. Require an analysis of projected Vehicle Miles Traveled (VMT) as part of the environmental review process for projects with the potential to significantly increase VMT. As appropriate, this shall include transportation projects and land use/ policy plans as well as proposed development projects.
  - Program M-3.2C: Mitigation Measures for VMT Impacts. Develop and implement mitigation measures that can be applied to projects with potentially significant VMT impacts in order to reduce those impacts to less than significant levels (see Policy M-3.3 and Program M-3.3A).
- Policy M-3.3: Transportation Demand Management. Encourage, and where appropriate require, transportation demand measures that reduce VMT and peak period travel demand. These measures include, but are not limited to, transit passes and flextime, work schedules, pedestrian and bicycle improvements, ridesharing, and changes to project design to reduce trip lengths and encourage cleaner modes of travel.
  - Program M-3.3A: Develop TDM Program Guidelines. Develop TDM Program Guidelines – or work in partnership with other local governments to develop Guidelines-- than can be used to mitigate potential VMT increases in new development and encourage reductions in existing development.
- Policy M-3.6: Low-Carbon Transportation. Encourage electric and other low-carbon emission vehicles, as well as the infrastructure needed to support these vehicles.
  - Program M-3.6A: ZEV Plan. Consistent with the San Rafael CCAP, develop a Zero Emission Vehicle (ZEV) Plan with a goal of 25 percent of the passenger vehicles in San Rafael being ZEVs by 2030. The Plan should provide for additional charging stations, preferential parking for ZEVs, other programs that incentivize ZEV use by San Rafael residents.
  - Program M-3.6B: Zero Emission Municipal Vehicles. As finances allow, shift the municipal vehicle fleet to ZEVs. Use low-carbon fuels as an interim measure until gasoline-powered City vehicles are replaced.
- Policy M-3.8: Land Use and VMT. Encourage higher-density employment and residential uses near major transit hubs such as Downtown San Rafael, recognizing the potential for VMT reduction in areas where there are attractive alternatives to driving, concentrations of complementary activities, and opportunities for shorter trips between different uses.

Goal CSI-4: Reliable, Efficiently Managed Infrastructure. Support reliable, cost-effective, well-maintained, safe and resilient infrastructure and utility services.

- Policy CSI-4.4: Sustainable Design. Plan, design, and operate infrastructure to minimize non-renewable energy and resource consumption, improve environmental quality, promote social equity, and reduce greenhouse gas emissions. An evaluation of costs and benefits must be a factor in all improvements. This includes the potential costs of inaction and potential for "avoided costs," particularly with respect to climate change.
- Policy CSI-4.17: Reducing Landfilled Waste Disposal. Reduce landfilled waste disposal and related greenhouse gas emissions by reducing material consumption; requiring curbside collection and

composting of organic materials; increasing recycling, re- use, and resource recovery; and encouraging the use of recyclable goods and materials.

- Program CSI-4.17A: Waste Reduction. Implement waste reduction programs consistent with the San Rafael Climate Change Action Plan and Zero Waste Goal. These include partnerships with Zero Waste Marin, Marin Sanitary Service, and other organizations; requirements for construction and demolition debris recycling; increased monitoring of waste diversion targets; waste audits; and additional infrastructure for removal of recoverable materials from the waste stream.
- Program CSI-4.17B: Recycling. Continue recycling programs and expand these programs to increase waste diversion rates for homes, apartments and workplaces.
- Program CSI-4.17C: Construction and Demolition Waste. Continue to implement programs requiring recycling of construction and demolition debris. Encourage the reuse of recycled building materials in future projects.
- Program CSI-4.17D: Waste Reduction Programs. Continue efforts to reduce electronic waste, refrigerants, and single use plastics; and ensure proper disposal of household hazardous waste. This should include enforcement of City bans on plastic bags and polystyrene foam and potential new programs to reduce microplastics from waterways.
- Program CSI-4.17E: Community Composting. Consider a mandatory community-scale program for curbside collection and composting of food and green waste, as well as vegetation cleared through fire prevention efforts.
- Program CSI-4.17F: Food to Energy. Support the Central Marin Sanitation/ Marin Sanitary Food to Energy Program.
- Program CSI-4.17G: Recyclable Waste Receptacles. Support efforts by Marin Sanitary to install waste receptacles for recyclables in areas of heavy pedestrian traffic.

Goal EDI-2: Healthy Communities and Environmental Justice. Support public health and wellness through community design in all parts of the city.

- Policy EDI-2.6: Neighborhood Greening. Encourage the greening of San Rafael's multi-family districts, including tree planting, landscaping, and other improvements that enhance aesthetics, reduce pollutants, and improve climate resilience.
  - Program EDI-2.6A: Greening Priorities. Prioritize City-sponsored urban greening and tree planting projects in residential areas that currently have lower rates of tree cover, higher residential densities, and limited access to open space (for example, the Canal area and Montecito).
- Policy EDI-2.9: Urban Agriculture. Promote and support small-scale, neighborhood-based, food production, urban agriculture, and reliable food supply lines from regional growers.
- Policy EDI-2.8: Food Access. Expand access to healthy food and nutritional choices in San Rafael through conveniently located grocery stores, small markets, farmers markets, and community gardens, particularly in lower income areas where existing fresh food options are limited.

Proposed goals that are supported by policies and programs that have co-benefits (indirectly) to reduce GHG emissions include proposed Goal C-1, which aims to reduce air pollution. Specifically, Policy C-2.3 recognizes the air quality benefits of reducing dependency on gasoline-powered vehicles and implements

land use and transportation policies, supportable by objective data, to reduce the number and length of car trips, improve alternatives to driving, and support the shift to electric and cleaner-fuel vehicles.

Goal CDP-3 supports the creation of attractive streets and public spaces, which incentivizes walking and cycling and recognizes the role of street trees and landscaping in absorbing and sequestering carbon (see Policy CDP-3.5). Goal EV-1 supports a healthy and resilient economy. Specifically, Policy EV-1.8 supports more sustainable business practices and growth in "green" jobs and green business practices. Goal PROS-1 supports high-quality parks for residents and visitors to San Rafael. Specifically, Policy PROS-3.10 recognizes the importance of open space in sequestering carbon.

Because transportation is the leading source of GHG emissions in San Rafael, many of the climate-related measures in the proposed General Plan 2040 appear in the Mobility Element. Goal M-5 supports local streets that are safe, attractive, and provide easy access to homes and businesses. Policies aim to reduce VMT 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 M-4 supports a more robust public transit system, to make it easier to travel without a car. Goal M-6 supports pedestrian and bicycle improvements, making it safer and easier to walk or cycle around the city. Goal M-7 supports parking to accommodate a more sustainable transportation system, including parking for transit users and charging stations for electric vehicles. Goal CSI-3 supports public safety services to maintain safe streets for all users. Collectively, these goals, policies, and programs will have the greatest measurable impacts on moving the City toward its GHG reduction targets.

Implementation of these goals, policies and programs of the proposed General Plan 2040 would result in additional GHG emissions reductions associated with the EIR Study Area to the extent feasible. As described and shown in Table 4.8-5, GHG emissions reduction are only 20 percent less than the CEQA baseline and not the 60 percent necessary to ensure the City is on a trajectory to achieve the long-term year 2050 reduction goal of Executive Order S-03-05.

Impact GHG-1: Implementation of the proposed project may not meet the long-term GHG reduction goal under Executive Order S-03-05.

Significance without Mitigation: Significant and unavoidable. Implementation of the General Plan 2040 goals, policies, and programs would ensure that the City's GHG emissions are reduced to the degree feasible. Policy C-5.1, Climate Change Action Plan, requires the City maintain and periodically update the CCAP. Policy C-5.1 is supported by Programs C-5.1A, C-5.1B, and C-5.1C, which require annual progress reports, quarterly forums, and identification of funding sources. Implementation of this Policy and its associated Programs would ensure the City is monitoring the CCAP's progress toward achieving the City's GHG reduction target and requires amendments if the CCAP is not achieving the specified level. The update would ensure the CCAP is on the trajectory consistent with the GHG emissions-reduction goal established under Executive Order S-03-05 for year 2050 and the latest applicable statewide legislative GHG emission reduction that may be in effect at the time of the CCAP update (e.g., Senate Bill 32 for year 2030). Routine updates of the CCAP typically include the following:

- GHG inventories of existing and forecast year GHG levels.
- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction goal of Executive Order S-03-05.

- Plan implementation guidance that includes, at minimum, the following components consistent with the proposed CCAP:
  - Administration and Staffing
  - Finance and Budgeting
  - Timelines for Measure Implementation
  - Community Outreach and Education
  - Monitoring, Reporting, and Adaptive Management
  - Tracking Tools

Policy C-5.1 would specifically ensure the City is tracking and monitoring the City's GHG emissions in order 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. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology.[37] Advancement in technology in the future could provide additional reductions to allow the state and City to meet the 2050 goal; however, no additional statewide measures are currently available. Therefore, Impact GHG-1 would be *significant and unavoidable*.

Downtown Precise Plan

The Downtown Precise Plan Area is an existing urban area in the City of San Rafael where roughly half of the anticipated development by 2040 is expected to occur. Potential future development would occur 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. As described in Section 4.8.1.3, Regulatory Framework, approximately half of the Downtown Precise Plan Area is located in a *Plan Bay Area* PDA and TPA, which are designated in areas that are in close proximity to major transit stops or terminals. One primary goal of the *Plan Bay Area* PDA and TPA designations is to encourage transit-oriented development which would in turn reduce VMT and subsequent GHG emissions. Therefore, potential future development which occurs as a result of the Downtown Precise Plan would be inherently designed to reduce GHG emissions. However, as discussed above, GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, the impacts discussed above for the proposed General Plan 2040 include GHG emissions from potential future development in the Downtown Precise Plan Area and impacts would be the same.

Significance with Mitigation: Significant and Unavoidable.

[37] California Climate Change Center (CCCC). 2012, July. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

GHG-2 Implementation of the proposed project could conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

General Plan 2040

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan, ABAG's/MTC's Plan Bay Area, and the City's CCAP. A consistency analysis with these plans is presented herein.

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). 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 4.8-5 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

Plan Bay Area is the Bay Area's regional transportation plan to achieve the passenger vehicle emissions reductions identified under SB 375. *Plan Bay Area* 2040 is the current SCS for the Bay Area, which was

adopted July 26, 2017.[38] ABAG and MTC are currently in the process of updating *Plan Bay Area*. Adoption of *Plan Bay Area* 2050 by ABAG and MTC is scheduled for fall 2021.[39]

In addition to significant transit and roadway performance investments to encourage focused growth, *Plan Bay Area* 2040 directs funding to neighborhood active transportation and complete streets projects, climate initiatives, lifeline transportation and access initiatives, safety programs, and PDA planning. In San Rafael, a PDA and TPA has been designated around the Downtown San Rafael SMART Station. ABAG indicates that this area is expected to absorb about 40 percent of the City's household growth in the next 20 years, although General Plan 2040 is anticipating an even higher capture rate. [40] More recently, PDAs have been designated in North San Rafael and Southeast San Rafael.

As identified previously, the proposed General Plan 2040 places higher-density uses near transit stations and in areas that are less auto dependent. This is supported by Policy LU-1.3, which strives to reduce GHG emissions through the way the City designs and locates new housing, offices, public buildings, and other uses. The proposed General Plan 2040 also includes implementation of the Downtown Precise Plan, which is consistent with the Downtown San Rafael SMART Station PDA identified in *Plan Bay Area*. Thus, the project would be consistent with the overall goals of *Plan Bay Area* 2040 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* 2040 and impacts would be *less than significant*.

San Rafael Climate Action Plan

As identified in the CCAP, San Rafael has met the state GHG reduction target for 2020. The CCAP provides additional measures and strategies to achieve a GHG reduction target of 40 percent below 1990 levels by 2030, consistent with SB 32. The CCAP lays out measures that would exceed the 2030 target and put the City on a trajectory to meet the 2050 goal under Executive Order S-03-05.[41] The proposed project would further the goals of the CCAP by introducing policies and programs that align with the CCAP (see Table 4.8-6). Additionally, the General Plan Land Use Map places higher-density uses near transit stations and in areas that are less auto-dependent. Consequently, the proposed project is consistent with the City's CCAP and impacts are *less than significant*.

[38] ABAG/MTC. 2017, July 26. Plan Bay Area 2040. http://2040.planbayarea.org/sites/default/files/2020-02/Final_Plan_Bay_Area_2040.pdf

[39] ABAG/MTC. 2020, Accessed June 8. Key Phases of Plan Bay Area 2050. https://www.planbayarea.org/about/key-phases-plan-bay-area-2050.

[40] Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Plan.

[41] As noted previously, the methodology for calculating VMT for General Plan 2040 differs from the methodology used for the CCAP. As a result, the emissions inventory and forecast conducted for General Plan 2040 cannot be directly compared with the inventory and forecast conducted for the CCAP.

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
Low Carbon Transportation	
LCT-C1. Zero Emissions Vehicles. Develop a Zero Emission Vehicle Plan that will result in 25% of passenger vehicles in San Rafael to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030. Incorporate the following actions in the plan as feasible: a. Provide free parking for ZEVs at City parking lots and metered parking spaces. b. Provide wayfinding signage to public EV chargers. c. Work with PG&E and other entities to identify multi-family and workplace charging sites appropriate for available incentive programs, such as EV Charge Network. d. Participate in a countywide effort by MCE, PG&E and others to provide rebates for new or used electric vehicles and/or charging stations. e. Pursue opportunities to expand the City's EV charging network through innovative programs, such as installing chargers at existing streetlight locations. f. Require new and remodeled commercial and multi-family projects to install a minimum number of electric vehicle chargers for use by employees, customers, and residents. g. Require new and remodeled single-family and multi-family projects to install electrical service and conduits for potential electric vehicle use. h. Consider requiring new and remodeled gas stations to provide EV fast chargers and hydrogen fueling stations. i. Participate in regional efforts and grant programs to encourage widespread availability of EV charging stations. j. Target policies to support ZEV adoption, including used vehicles, in low income and disadvantaged communities. k. Participate in programs to promote EV adoption, including "Drive an EV" events and other media and outreach campaigns. l. Encourage or require, as practicable, ride hailing and delivery service companies to utilize zero emission vehicles. m. Promote adoption of electric bicycles, scooters and motorcycles.	**Consistent.** Transportation in California will result in used of mixed fuels (gasoline, diesel, natural gas, electric) through 2050. The State has adopted programs to accelerate use of alternative fuels, such as the Advanced Clean Car Program. In addition, the General Plan includes policies and programs that assist the State in this regard including: ▪ Program C-4.1B. PACE Financing ▪ Policy M-7.8. Parking for Alternative Modes of Transportation ▪ Policy M-3.6: Low-Carbon Transportation ▪ Program M-3-6A: ZEV Plan ▪ Program P-3.6B: Zero Emission Municipal Vehicles ▪ Policy M-4.7: Intermodal Transit Hubs ▪ Program M-7.8A: Charging Station ▪ Program M-7.8B. Parking Standards ▪ Program M-6.3D: Electric Bicycles
LCT-C2: Bicycling. Encourage bicycling as an alternative to vehicular travel through outreach channels and partner agencies. Establish and maintain a system of bicycle facilities that are consistent with the City's Bicycle and Master Pedestrian Plan and Complete Streets policies. a. Provide bicycle racks and lockers for public use. b. Participate in a bike share program.	**Consistent.** The Mobility Element provides for accessibility and mobility options for all users of the transportation network, including pedestrians and bicyclists. The General Plan includes policies and programs for expanding the pedestrian and bicycle network, consistent with the City's Bicycle and Pedestrian Master Plan, under Goal M-6: Safe Waling and Cycling: ▪ Policy M-6.1: Encouraging Walking and Cycling ▪ Program M-6.1A: Bicycle and Pedestrian Master Plan Implementation ▪ Program M-6.1B: Station Area Plans ▪ Program M-6.1C: Canal Community Based Transportation Plan (CBTP) ▪ Program M-6.1D: Funding ▪ Program M-6.2A Pedestrian and Bicycle Safety

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program M-6.2B: Vision Zero ▪ Program M-6.2C: Enforcement ▪ Program M-6.2D: Safe Routes Programs ▪ Policy M-6.3L Connectivity ▪ Program M-6.3A: Implementation of Pathway Improvements ▪ Program M-6.3B: Improvements in Unincorporated Areas ▪ Program M-6.3C: Bicycle Parking ▪ Program M-6.3D: Electric Bicycles ▪ Policy M-6.4: Urban Trails Network ▪ Program M-6.4A: Urban Trails Master Plan ▪ Policy M-6.5: Pilot Projects ▪ Policy M-6.6: Coordination ▪ Program M-6.6A: Bikeshare Program ▪ Program M-6.6B: Monitoring ▪ Policy M-6.7: Universal Design ▪ Program M-6.7A: ADA Compliance ▪ Program M-6.7A: Best Practices ▪ Policy M-6.8: Pedestrian and Bicycle Programming ▪ Program M-6.8A: Public Information ▪ Program M-6.8B: Bike to Work Day ▪ Program M-6.8C: Maintenance of Pedestrian Facilities In addition, the following policies and programs also support bicycle and pedestrian safety and improvements in the City. ▪ Policy M-1.1: Regional Transportation Planning ▪ Policy M-1.2: Regional Funding ▪ Policy M-2.2: Safety ▪ Policy M-3.3: Transportation Demand Management ▪ Program M-3.5C: Micro-Mobility ▪ Policy M-4.3L Smart Improvements ▪ Policy M-4.7: Intermodal Transit Hubs ▪ Program M-4.7A: Transit Center Relocation ▪ Program M-5.1B: Emergency Access Considerations ▪ Program M-5.4A: Interchange Improvements ▪ Policy M-5.6: Truck Impacts ▪ Policy M-7.B: Parking Standards ▪ Policy M-7.9: Parking for Transit Users ▪ Policy CSI-3.5: Traffic Safety ▪ Policy EV-3.7: Business Access ▪ Program EDI-2.1A: Pedestrian and Bicycle Improvements ▪ Program EDI-4.7B: Bicycle and Pedestrian Improvements ▪ Program PROS-3.8A: Trails Master Plan
LCT-C3: Walking. Encourage walking as an alternative to vehicular travel through outreach channels and partner agencies. Establish and maintain a system of pedestrian facilities that are consistent with the City's Bicycle and Pedestrian Master Plan and Complete Streets policies	**Consistent.** See above for LCT-C2. The General Plan includes policies and programs for expanding the pedestrian and bicycle network, consistent with the City's Bicycle and Pedestrian Master Plan, under Goal M-6: Safe Waling and Cycling:
LCT-C4: Safe Routes to School. Continue to support the Safe Routes to School Program and strive to increase bicycling, walking, carpooling, and taking public transit to school.	**Consistent.** See above for LCT-C2. The General Plan includes policies and programs for Safe Routes to Schools: ▪ Program M-6.2D: Safe Routes Programs

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
a. Promote school and student participation. b. Identify issues associated with unsafe bicycle and pedestrian facilities between neighborhoods and schools, apply for Safe Routes to School grants, and execute plans to improve pedestrian and bicycle facilities.	▪ Policy M-5.5: School-Related Traffic ▪ Program M-5.5A: School Transportation
LCT-C5: Public Transit. Support and promote public transit by taking the following actions: a. Work with Marin Transit and Golden Gate Transit to maximize ridership through expansion and/or improvement of transit routes and schedules. b. Work with SMART, TAM, employers and others to provide first and last mile programs to maximize utilization of the train, including shuttle buses. c. Support the development of an attractive and efficient multi-modal transit center and provide safe routes to the transit center that encourage bicycle and pedestrian connections. d. Support a "Yellow School Bus" program and student use of regular transit to reduce school traffic. e. Encourage transit providers, including school buses, to use renewable diesel as a transition fuel and to purchase electric buses whenever replacing existing buses.	**Consistent.** The Mobility Element provides for accessibility and mobility options for all users of the transportation network, including transit users. The General Plan includes policies and programs for encouraging use of transit and coordination with the transit agencies under Goal M-4: ▪ Policy M-4.1: Sustaining Public Transportation ▪ Program M-4.1A: Transit Advocacy ▪ Program M-4.1B: Evaluating Transit Needs ▪ Program M-4.1C: Partnerships ▪ Program M-4.1D: Transit for Tourism ▪ Program M-4.1E: Transit Information ▪ Program M-4.1: Public Health ▪ Policy M-4.2: Regional Transit Options ▪ Program M-4.2A: Regional Bus Service ▪ Program M-4.2B: Rail Service ▪ Program M-4.2C: Ferry and Water Taxi Service ▪ Policy M-4.3: Smart Improvements ▪ Program M-4.3A: Rail Safety ▪ Program M-4.3B: Passenger Pickup and Drop-off ▪ Program M-4.3C: Arrival Experience ▪ Program M-4.3D: Service Reliability ▪ Program M-4.3E: Downtown Crossings ▪ Policy M-4.4: Local Transit Options ▪ Program M-4.4A: Local Bus Service ▪ Program M-4.4B: Improved Bus Stops ▪ Program M-4.4C: Local Shuttle Programs ▪ Policy M-4.5: Transit and the Environment ▪ Policy M-4.6: Paratransit Options ▪ Program M-4.6A: Other Local Transit ▪ Program M-4.6-B: Paratransit Service ▪ Policy M-4.7: Intermodal Transit Hubs ▪ Program M-4.7A: Transit Center Relocation ▪ Program M-4.7B: First Mile/Last Mile Trips ▪ Program M-4.7C: Implementation of Other Plans In addition, the following policies and programs also support transit use and service in the City. ▪ Policy M-1.1: Regional Transportation Planning ▪ Policy M-1.1A: Participation in Countywide and Regional Transportation Planning. ▪ Policy M-1.1B. Public Information about Transportation ▪ Policy M-1.2: Regional Funding ▪ Policy M-3.3: Transportation Demand Management ▪ Program M-3-3B: Support for TDM ▪ Program M3-3C: City TDM Program ▪ Policy M-3.5: Alternative Transportation Modes ▪ Program M-3.5A: Carpooling and Vanpooling ▪ Program M-3.5B: Shared Mobility

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program M-3.5C: Micro-Mobility ▪ Program M-3.5D: Transportation Network Companies (TNCs) ▪ Policy M-3.7: Design Features that Support Transit ▪ Policy M-3.8: Land Use and VMT ▪ Program M-5.4A: Interchange Improvements ▪ M-6.6: Coordination ▪ Policy M-7.9: Parking for Transit Users ▪ Program M-7.8A: Commuter Parking
LCT-C6: Employee Trip Reduction. Reduce vehicle miles traveled commuting to work through the following actions: a. Work with the Transportation Authority of Marin, the Metropolitan Transportation Commission, and the Bay Area Air Quality Management District (BAAQMD) to promote transportation demand programs to local employers, including rideshare matching programs, vanpool incentive programs, emergency ride home programs, telecommuting, transit use discounts and subsidies, showers and changing facilities, bicycle racks and lockers, and other incentives to use transportation other than single occupant vehicles. b. Update the City's Trip Reduction Ordinance to reflect the most recent BAAQMD regulations and to increase the number of employers subject to the ordinance. c. Embark on a behavior change and educational campaign to encourage employees to reduce vehicle trips	**Consistent.** The BAAQMD's Commuter Benefit Program requires employers with 50 or more employees in the Bay Area to implement transportation demand management (TDM) program. The Mobility Element includes policies and programs TDM programs, including: ▪ Policy M-3.3: Transportation Demand Management ▪ Program M-3.3A: Develop TDM Program Guidelines ▪ Program M-3.3B: Support for TDM ▪ Program M-3.3C: City TDM Program ▪ Program M-3.3D: Shifting Peak Hour Trips ▪ Program C-2.3: Air Pollution Reduction Measures
LCT-C7: Parking Requirements. Promote a walkable city by reducing parking requirements wherever feasible. Allow new development in the Downtown area to reduce minimum parking requirements by 20 percent from current levels. Elsewhere, reduce parking requirements based on robust transportation demand programs and proximity and frequency of transit services. Encourage unbundling of parking costs.	**Consistent.** The General Plan allows for flexibility in meeting parking as a result of changing technologies and trends. The Mobility Element goal M-7 identifies the City's parking policies. Policies and programs on parking are include: ▪ Policy M-7.1: Optimizing Existing Supply ▪ Program M-7.1A: Shared Parking ▪ Policy M-7.2: Parking Districts ▪ Policy M-7.3 Parking Technology ▪ Program M-7.3A: Downtown Parking and Wayfinding Study Recommendations ▪ Policy M-7.4: Downtown Parking ▪ Program M-7.4A: Monitoring Demand ▪ Program M-7.4B: Assessment District Expansion ▪ Program M-7.4C: Private Garages ▪ Program M-7.4D: Wayfinding Signage ▪ Program M-7.4E: Design Standards for Parking Garages ▪ Policy M-7.5: Dynamic Pricing ▪ Program M-7.5A: Adjustments to Parking Rates ▪ Policy M-7.6: Off-Street Parking Standards ▪ Program M-7.6A: Adjustments to Parking Standards ▪ Program M-7.6B: Parking Reductions ▪ Policy M-7.7: Parking Management ▪ Program M-7.7A: Residential Permit Parking ▪ Program M-7.7B: Parking Studies ▪ Policy M-7.8: Parking for Alternative Modes of Transportation ▪ Program M-7.8A: Charging Stations

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program M-7.8B: Parking Standards ▪ Policy M-7.9: Parking for Transit Users ▪ Program M-7.9A: Commuter Parking ▪ Policy M-7.10: Curbside Management ▪ Program LU-3.7B: Parking Regulations
LCT-C8: Traffic System Management and Vehicle Idling. a. Implement signal synchronization to minimize wait times at traffic lights and to reduce congestion through increased traffic flow. b. Utilize intelligent traffic management systems to improve traffic flow and guide vehicles to available parking. c. Encourage drivers and autonomous vehicles to limit vehicle idling through implementing behavior change and engagement campaigns. d. Investigate adopting an ordinance to regulate idling beyond State requirements.	**Consistent.** The General Plan include policies and programs to improve the efficiency of the transportation network, to reduce vehicle idling time under Goal M-2, including: ▪ Policy M-1.4 Transportation Innovation ▪ Program M-1.4A: Transportation Technology ▪ Program M-1.4B: Delivery Services ▪ Program M-1.4C: Autonomous Vehicles ▪ Policy T-1.5: Travel Data and Modeling ▪ Policy M-2.1: Road Hierarchy ▪ Program M-2.1A: Complete Streets ▪ Policy M-2.4: Transportation Efficiency ▪ Program M-2.4A: Intelligent Transportation Systems ▪ Program M-2.4B: Reducing Vehicle Idling ▪ Program M-7.4D: Wayfinding Signage
LCT-C9: Smart Growth Development. Prioritize infill, higher density, transit-oriented, and mixed-use development.	**Consistent.** The General Plan Land Use Map places higher density uses near transit stations and in areas that are less auto- dependent. Additionally, Mobility Element. Goal M-3 includes a series of policies to reduce vehicle miles traveled (VMT) by encouraging carpooling, working from home, flextime, micro-mobility (e-bikes, e-scooters), and similar strategies: ▪ LU-1.3: Land Use and Climate Change ▪ LU-1.3 A: Benefits of Transit Oriented Development ▪ LU-2.2A: Mixed Use Development ▪ Policy M-3.1: VMT Reduction Standard ▪ Policy M-3.4: Reducing Commute Lengths ▪ Program M-3.4A: Telecommuting ▪ Program M-3.4B: Housing Services ▪ Policy M-3.: Design Features that Support Transit ▪ Policy M-3.8: Land Use and VMT
LCT-C10: Electric Landscape Equipment. Encourage the use of electric landscape equipment instead of gasoline-powered equipment through engagement campaigns.	**Consistent.** The Conservation and Climate Change Element includes policies and programs that support the transition to cleaner fuels including: ▪ Policy C-2.3: Improving Air Quality Through Land Use and Transportation choices ▪ Policy C-2.6: Education and Outreach ▪ Program C-2.6B: Equipment and Generators.
LCT-M2: Low Carbon Fuels. Use low-carbon fuel such as renewable diesel as a transition fuel in the City's fleet and encourage the City's service providers to do the same, until vehicles are replaced with zero-emissions vehicles.	**Consistent.** The Conservation and Climate Change Element includes policies and programs that support the transition of the City's fleet to low carbon fuels including: ▪ Program C-2.3A: Air Pollution Reduction Measures ▪ Policy C-5.4: Municipal Programs ▪ Program C-5.4A: Low Carbon Municipal Vehicles ▪ Program C-5.4B: Advancing GHG and Sustainability Efforts ▪ Policy M-3.6: Low Carbon Transportation

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program M-3.6A: ZEV Plan ▪ Program M-3.6B: Zero Emission Municipal Vehicles ▪ Policy M-4.5 Transit and the Environment ▪ Program EV-1.9C: CCAP Implementation
LCT-M3: City Employee Commute. Continue to provide City employees with incentives and/or reduce barriers to use alternatives to single occupant auto commuting, such as transit use discounts and subsidies, bicycle facilities, showers and changing facilities, ridesharing services, vanpools, emergency ride home service, flexible schedules, and telecommuting when practicable.	**Consistent.** The Mobility Element. Goal M-3 includes a series of policies to reduce vehicle miles traveled (VMT) by encouraging carpooling, working from home, flextime, micro-mobility (e-bikes, e-scooters), and similar strategies: ▪ Policy M-3.1: VMT Reduction Standard ▪ Policy M-3.4: Reducing Commute Lengths ▪ Program M-3.4A: Telecommuting ▪ Program M-3.4B: Housing Services ▪ Policy M-3.: Design Features that Support Transit ▪ Policy M-3.8: Land Use and VMT ▪ Policy M-6.8: Pedestrian and Bicycle Programming ▪ Program M-6.8B: Bike to Work Day
LCT-M4: Municipal Electric Landscape Equipment. Replace gas-powered leaf blowers and other landscape equipment with electric models.	**Consistent.** The Conservation and Climate Change Element includes policies and programs that support the transition to cleaner fuels including: ▪ Policy C-2.3: Improving Air Quality Through Land Use and Transportation choices ▪ Policy C-2.6: Education and Outreach ▪ Program C-2.6B: Equipment and Generators
Energy Efficiency	
EE-C1: Energy Efficiency Programs. Promote and expand participation in residential and commercial energy efficiency programs. a. Work with organizations and agencies such as the Marin Energy Watch Partnership, the Bay Area Regional Network, Resilient Neighborhoods, and the Marin Climate & Energy Partnership to promote and implement energy efficiency programs and actions. b. Continue and expand participation in energy efficiency programs such as Energy Upgrade California, California Energy Youth Services, and Smart Lights. c. Promote utility, state, and federal rebate and incentive programs. d. Participate and promote financing and loan programs for residential and non-residential projects such as Property Assessed Clean Energy (PACE) programs, PG&E on-bill repayment, and California Hub for Energy Efficiency Financing (CHEEF) programs.	**Consistent.** The Community Design and Preservation Element and the Conservation and Climate Change Element, Goal 4: Sustainable Energy Management, include policies and programs that encourage energy efficiency: ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1A: Marin Clean Energy Targets ▪ Program C-4.1B: PACE Financing ▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.2: Energy Conservation ▪ Program C-4.2A: Energy Efficiency Outreach ▪ Program C-4.2B: Green Building Standards ▪ Program C-4.2C: Energy Efficiency Incentives ▪ Program C-4.2D: Time-of-Sale Energy Audits ▪ Program C-4.2E: Cool Roofs and Pavements ▪ Policy C4.3 Managing Energy Demand ▪ Program C-4.3A: innovative Technologies ▪ Policy H-19: Energy Conservation and Sustainability ▪ Program H-19A: Sustainability Policies and Programs
EE-C2: Energy Audits. Investigate requiring energy audits for residential and commercial buildings prior to completion of sale, including identification of cost savings from energy efficiency measures and potential rebates and financing options.	**Consistent.** The Conservation and Climate Change Element includes policies and programs for time-of-sale energy audits: ▪ Program C-4.2D: Time-of-Sale Energy Audits

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
EE-C3: Cool Pavement and Roofs. Use high albedo material for roadways, parking lots, sidewalks and roofs to reduce the urban heat island effect and save energy. a. Evaluate the use of high albedo pavements when resurfacing City streets or re-roofing City facilities. b. Encourage new development to use high albedo material for driveways, parking lots, walkways, patios, and roofing through engagement and behavior change campaigns.	**Consistent.** The Community Design and Preservation Element and the Conservation and Climate Change Element include policies and programs for 'cool' building materials: ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Program C-4.2B: Green Building Standards ▪ Program C-4.2E: Cool Roofs and Pavements ▪ Policy C-4.4: Sustainable Building Materials ▪ Program C-4.4A: Use of Alternative Building Materials
EE-C4: Green Building Reach Code. Investigate adopting a green building ordinance for new and remodeled commercial and residential projects that requires green building methods and energy efficiency savings above the State building and energy codes. Consider utilizing the County's green building ordinance as a model and including the use of photovoltaic systems and all-electric building systems as options to achieve compliance.	**Consistent.** The Community Design and Preservation Element and the Conservation and Climate Change Element include policies and programs for energy efficiency and sustainability: ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1B: PACE Financing ▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.2: Energy Conservation ▪ Program C-4.2A: Energy Efficiency Outreach ▪ Program C-4.2B: Green Building Standards ▪ Program C-4.2C: Energy Efficiency Incentives ▪ Program C-4.2D: Time-of-Sale Energy Audits ▪ Program C-4.2E: Cool Roofs and Pavements ▪ Policy C4.3 Managing Energy Demand ▪ Program C-4.3A: innovative Technologies ▪ Policy C-4.4: Sustainable Building Materials ▪ Program C-4.4A: Use of Alternative Building Materials ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning
EE-C5: Streamline Permit Process and Provide Technical Assistance. Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements. Work county-wide to make it easier for contractors and building counter staff to simplify applications and identify incentives.	**Consistent.** The Conservation and Climate Change Element includes policies and programs for to remove barrier to successful implementation of green building requirements: ▪ Program C-4.1B: PACE Financing ▪ Program C-4.1C: Regulatory Barriers
EE-M1: Streetlights. Complete replacement of inefficient street, parking lot and other outdoor lighting with LED fixtures.	**Consistent.** The Community Services and Infrastructure Element Program CSI-4.7D: Street Lighting Program. Additionally, Program C-4:1E: Municipal Buildings directs the City to incorporate renewable energy for municipal facilities.
EE-M2: Energy Efficiency Audit and Retrofits. Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.	**Consistent.** The Conservation and Climate Change Element includes policies and programs for energy efficiency upgrades/retrofits: ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1A: Marin Clean Energy Targets ▪ Program C-4.1B: PACE Financing

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.2: Energy Conservation ▪ Program C-4.2A: Energy Efficiency Outreach ▪ Program C-4.2B: Green Building Standards ▪ Program C-4.2C: Energy Efficiency Incentives ▪ Program C-4.2D: Time-of-Sale Energy Audits
EE-M3: Energy Conservation. Reduce energy consumption through behavioral and operational changes. a. Establish energy efficiency protocols for building custodial and cleaning services and other employees, including efficient use of facilities, such as turning off lights and computers, thermostat use, etc. b. Incorporate energy management software, electricity monitors, or other methods to monitor energy use in municipal buildings. c. Investigate 9/80 work schedule for City facilities where feasible and where facilities can be shut down entirely.	**Consistent.** See response for EE-C-1, regarding energy conservation. The General Plan includes the following additional policies for municipal buildings and services: ▪ Program C-4:1E: Municipal Buildings ▪ Program EV-2A: Responding to Workplace Trends ▪ Policy M-3.3: Transportation Demand Management ▪ Program M-3-3C: City TDM Program ▪ Program M-3.4A: Telecommuting ▪ CSI-4.5: Infrastructure Technology ▪ Program C-4.1E: Municipal Buildings ▪ Policy C4.3 Managing Energy Demand ▪ Program C-4.3A: innovative Technologies
Renewable Energy	
RE-C1: Renewable Energy Generation. Accelerate installation of residential and commercial solar and other renewable energy systems. a. Provide permit streamlining and reduce or eliminate fees, as feasible. b. Amend building codes, development codes, design guidelines, and zoning ordinances, as necessary, to facilitate small, medium, and large-scale installations. c. Encourage installation of solar panels on carports and over parking areas on commercial projects and large-scale residential developments through ordinance, engagement campaigns, or agency incentives. d. Participate and promote financing and loan programs for residential and non-residential projects such as Property Assessed Clean Energy (PACE) programs and California Hub for Energy Efficiency Financing (CHEEF) programs. e. Encourage installation of battery storage in conjunction with renewable energy generation projects through engagement campaigns and partner agency incentives.	**Consistent.** The Conservation and Climate Change Element includes policies and programs for encouraging use of renewable energy. ▪ Policy CDP-5.11: Sustainability ▪ Program CDP-5.11A: Energy Retrofits ▪ Policy C-4.1: Renewable Energy ▪ Program C-4.1B: PACE Financing ▪ Program C-4.1C: Regulatory Barriers ▪ Program C-4.1D: Reducing Natural Gas ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning ▪ Policy C-5.3: Advocacy ▪ Program C-5.3B: State and Federal Actions ▪ Program C-5.3C: Regional Collaboration
RE-C2: GHG-Free Electricity. Encourage residents and businesses to switch to 100 percent renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 100 percent GHG-free by 2025	**Consistent.** The Conservation and Climate Change Element includes policies and programs to align the City's goals with that of Marin Clean Energy (MCE). ▪ Policy C-4.1: Renewable Energy ▪ Policy C-4.1A: Marin Clean Energy Targets ▪ Program C-4.1E: Municipal Buildings ▪ Policy C-4.5: Resource Efficiency in Site Development ▪ Program C-4.5A: Solar Site Planning ▪ Policy C-5.3: Advocacy ▪ Program C-5.3B: State and Federal Actions ▪ Program C-5.3C: Regional Collaboration

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
RE-C3: Building and Appliance Electrification. Promote electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, and clothes dryers	**Consistent.** The Conservation and Climate Change Element includes Program C-4.1D: Reducing Natural Gas Use to transition to carbon free energy sources.
RE-C4: Innovative Technologies. Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve the electric grid's resiliency and help to balance demand and renewable energy production.	**Consistent.** The Safety and Resilience Element Program C-4.1D: Reducing Natural Gas Use to transition to carbon free energy sources.S-4.9B: Energy Storage Plan and Community Services and Infrastructure Element Program CSI-4.13B: Microgrids, direct the City to develop a plan, including microgrid and expanded battery capacity, to improve reliability of the power system following a major disaster. Additionally, the Conservation and Climate Change Element includes the following policy and program for new technologies: ▪ Policy C-4.3: Managing Energy Demand ▪ Program C-4.3A: Innovative Technologies
RE-M1: Solar Energy Systems for Municipal Buildings. Install solar energy systems at municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs.	**Consistent.** The Conservation and Climate Change Element includes Program C-4.1E: Municipal Buildings : directs the City to incorporate renewable energy into the construction or retrofit of municipal buildings, where feasible.
RE-M2: Municipal Deep Green Electricity. Continue to purchase MCE Deep Green electricity for all City facilities	**Consistent.** The Conservation and Climate Change Element includes Program C-4.1E: Municipal Buildings which identifies continued use of MCE Deep Green (100 percent renewable power).
Waste Reduction	
WR-C1: Commercial Organic Waste. Work with Zero Waste Marin, Marin Sanitary Service, and non-profits such as Extra Food to divert commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs. a. Conduct outreach and education to businesses subject to State organic waste recycling mandates (AB 1826) and encourage or enforce compliance with the law. b. Refer new and major remodel commercial and multi-family residential project proposals to the City's waste hauler for review and comment and require projects to provide adequate waste and recycling facilities and access as feasible. c. Encourage and facilitate commercial and multi-family property owners to require responsible use of on-site recycling facilities in lease and rental agreements and to train and regularly evaluate janitorial, landscape, and other property management services.	**Consistent.** The Community Services and Infrastructure Element includes the following policies and programs to reduce landfilled waste: ▪ Policy CSI-4.17: Reducing Landfilled Waste Disposal ▪ Program CSI-4.17A: Waste Reduction ▪ Program CSI-4.17B: Recycling ▪ Program CSI-4.17C: Construction and Demolition Waste ▪ Program CSI-17D: Waste Reduction Programs ▪ Program CSI-4.17E: Community Composting ▪ Program CSI-4.17F: Food to Energy ▪ Program CSI-4.17G: Recyclable Waste Receptacles ▪ Policy CSD-4.18: Waste Reduction Advocacy and Education ▪ Program CSI-4.18A: Recycling Education
WR-C2: Residential Organic Waste. Work 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.	**Consistent.** See response to WR-C2. Program CSI-4.17A directs the city to implement waste reduction programs consistent with the Zero Waste Marin's reduction goals.
WR-C3: Construction & Demolition Debris and Self-Haul Waste. Require all loads of construction & demolition debris and self-haul waste to be processed for recovery of materials as feasible. Investigate creation of an ordinance requiring deconstruction of buildings proposed for demolition or remodeling when materials	**Consistent.** See response to WR-C2. Program CSI-4.17C identifies continued implementation of the City's Construction and Demolition Debris diversion goals. Consistent with the California Green Building Standards Code (CALGreen) waste diversion requirements.

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
of significant historical, cultural, aesthetic, functional or reuse value can be salvaged.	
WR-C4: Mandatory Waste Diversion. Adopt an ordinance requiring mandatory subscription to and participation in waste diversion activities, including recycling and organics collection provided by Marin Sanitary Service. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.	**Consistent.** See response to WR-C2. Residents in the City have access to the City's existing recycling programs. Assembly Bill 341 requires commercial recycling. Program CSI-4.17B identifies continued implementation of the City's recycling programs for homes, apartments, and workplaces.
WR-C5: Waste Processing Infrastructure. Review and revise the City's franchise agreement with Marin Sanitary Service to ensure waste reduction and diversion targets are met. Conduct a feasibility study and consider investing in new solid waste processing infrastructure to remove recoverable materials (recycling and organics) from the waste stream and reduce contamination. Require regular residential and commercial waste audits and waste characterization studies to identify opportunities for increased diversion and to track progress in meeting targets.	**Consistent.** See response to WR-C2, which identifies policies and programs to support the City's waste diversion goals. Program CSI-4.17F identifies support for a waste-to-energy facility.
WR-C6: Extended Producer Responsibility. Encourage the State to regulate the production and packaging of consumer goods and take-back programs. Encourage on-demand delivery services like Amazon and Blue Apron to reduce packaging waste and investigate requirements and incentives for same through ordinance or engagement campaigns.	**Consistent.** See response to WR-C2, which identifies policies and programs to support the City's waste diversion goals.
WR-C7: Inorganic Waste. Promote reuse, repair, and recycling of inorganic materials, and encourage reduced use of packaging and single use items through engagement campaigns. Investigate supporting a local building material reuse center.	**Consistent.** See response to WR-C2. Program CSI-4.17E directs the City to consider mandatory community scale food and greenwaste composting.
WR-M1: Waste from Public Facilities. Increase opportunities for recycling, reuse, and composting at City facilities.	**Consistent.** See response to WR-C2. Residents in the City have access to the City's existing recycling programs. Assembly Bill 341 requires commercial recycling. Program CSI-4.17B identifies continued implementation of the City's recycling programs for homes, apartments, and workplaces.
WR-M2: Waste from City Operations. Embark on an educational and social marketing-based campaign to increase recycling, composting, reuse, and waste reduction within municipal operations. Conduct periodic waste audits of City facilities to understand where opportunities for increased diversion lie and to track progress.	**Consistent.** See response to WR-C2. The following goal and policy support education to support the City's waste diversion goals: ▪ Policy CSD-4.18: Waste Reduction Advocacy and Education ▪ Program CSI-4.18A: Recycling Education
Water Conservation	
WC-C1: Community Water Use. Reduce indoor and outdoor water use in residential and commercial buildings and landscaping. a. Work with Marin Municipal Water District (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 comply with State and MMWD regulations.	**Consistent.** The Conservation and Climate Change Element includes the following policies and programs to increase plumbing water efficiency and reduce landscape water use: ▪ Policy C-3.8: Water Conservation ▪ Program C-3.8A: Water Conservation Programs ▪ Program C-3.8B: Public Education ▪ Program C-3.8C: Reclaimed Water Use ▪ Program C-3.8D: Greywater and Rainwater ▪ Program C-3.8E: Reducing Municipal Water Use ▪ Policy C-3.9: Water Efficient Landscaping ▪ Program C-3.9A: Demonstration Gardens ▪ Policy CSI-4.12: Recycled Water ▪ Program CSI-4.12A: CMSA Capacity Expansion

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
d. Encourage the installation of greywater and rainwater collection systems and the use of recycled water where available through ordinance or engagement campaigns.	▪ Program CSI-4.12B: Las Gallinas Expansion Project ▪ Program CSI-4.12C: Sewer Line Replacement
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. Investigate synthetic turf that uses organic infill for ball fields and parks to reduce water, herbicide use, and maintenance costs, while increasing field use throughout the year. c. Replace inefficient plumbing fixtures with high-efficiency fixtures. d. Use recycled water as available and practicable.	**Consistent.** See response to WC-C1. Program C-3.9E: Reducing Municipal Water Use directs the City to reduce water use for municipal operations through water efficient landscaping, maintenance, and using recycled water, where applicable.
Sequestration and Adaption	
SA-C1: Urban Forest. Increase carbon sequestration and improve air quality and natural cooling through increasing tree cover in San Rafael. a. Plant additional trees on City-owned land, including public parks, open space, medians, and rights of way, where feasible. b. Review parking lot landscape standards to maximize tree cover, size, growth, and sequestration potential. c. Regulate and minimize removal of large trees and require planting of replacement trees. d. Require that the site planning, construction and maintenance of new development preserve existing healthy trees and native vegetation on site to the maximum extent feasible. Replace trees and vegetation not able to be saved. e. Encourage community members to plant trees on private land. Consider creating a tree giveaway event or providing lower-cost trees to the public through a bulk purchasing program. f. Encourage the creation of community gardens on public and private lands by community groups. g. Provide information to the public, including landscape companies, gardeners and nurseries, on carbon sequestration rates, drought tolerance, and fire resistance of different tree species. h. Manage trees and invasive species in the open space for forest health and reduction of fuel load. i. Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.	**Consistent.** The General Plan includes the following policies and programs on carbon sequestration: ▪ Policy CDP-3.5: Street Trees ▪ Program CDP-3.5A: Street Tree Planting and Maintenance ▪ Program CDP-3.5B: Street Tree Inventory ▪ Program CDP-3.5C: Street Trees for New Development ▪ Program CDP-3.5D: Street tree Maintenance ▪ Policy C-1.9: Enhancement of Creeks and Drainageways ▪ Policy C-3.3: Low Impact Development ▪ Program C-3.3B: Non-Traditional Gardens ▪ Policy C-3.4: Green Streets ▪ Program C-3.4A: Green Streets Planning ▪ Program C-3.4B: Funding ▪ Policy C-5.5: Carbon Sequestration ▪ Policy CD-3.5 ▪ Policy PROS-1.18: Sustainable Park Operations ▪ Program PROS-1.18A: Sustainable Design ▪ Policy PROS-3.3: Open Space Management Plan ▪ Program PROS-3.3A: Open Space Management Plan ▪ Policy PROS-3.10: Public Education ▪ Program S-4.1G: Open Space and Forestry Management
SA-C2: Carbon Sequestration. Increase carbon sequestration in the built environment, developed landscapes, and natural areas. a. Encourage use of building materials that store carbon, such as wood and carbon-intensive concrete through agency partnerships and engagement campaigns. b. Encourage and support composting to develop healthy, carbon-rich soils.	**Consistent.** See response to SA-C1. The General Plan includes policies and programs to increase carbon sequestration.

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
c. Manage parks and open spaces to steadily increase carbon in vegetation and soil. d. Increase the extent and carbon sequestration potential of bay wetlands, through improvements such as horizontal levees	
SA-C3: Carbon Offsets. Reduce the impact of greenhouse gas emissions through the purchase of carbon offsets. a. Encourage community members to purchase carbon offsets to reduce their carbon footprint through engagement campaigns. b. Consider partnering with a local non-profit organization to promote a carbon offset program. c. Focus on offsetting emissions that are difficult to mitigate otherwise, such as airplane travel.	**Consistent.** The General Plan Goal C-5 ensures that the City's General Plan is aligned with the State's GHG reduction targets. Program C-5.1C: Funding, directs the City to investigate creation of a local carbon fund.
SA-C4: Sea Level Rise. Prepare for and adapt to a rising sea level. a. Consider the potential for sea level rise when processing development applications that might be affected by such a rise. Use current Flood Insurance Rate Maps and National Oceanic and Atmospheric Administration (NOAA) recommendations associated with base flood elevation adjustments for sea level rise in the review of development proposals. Adopt requirements to assess sea level rise risks on new development, infrastructure, and transit corridors. b. Prepare a guidance document for incorporating sea level rise into the City's capital planning process. c. Work with local, County, state, regional, and federal agencies with Bay and shoreline oversight and with owners of critical infrastructure and facilities in the preparation of a plan for responding to rising sea levels. Make sure all local stakeholders are kept informed of such planning efforts. d. Investigate developing flood control projects and modifying the City's land use regulations for areas subject to increased flooding from sea level rise. e. Update GIS (Geographic Information System) maps to include new data as it becomes available; utilize GIS as a tool for tracking sea level rise and flooding and make available to the public. f. Study the creation of a Bayfront overlay zone or similar that would establish standards for developing in areas subject to flooding from SLR.	**Consistent.** Policy C-5.2: Consider Climate Change Impacts, ensures that future projects consider the City's GHG reduction targets and adaptation goals. Additionally, the goals and policies of the Land Use Element and the Safety and Resilience Element ensure that sea level rise and other climate hazards are considered. Goal S-3: Resilience to Flooding and Sea Level Rise, ensures the City considers City's vulnerabilities to this climate change impact. ▪ Policy LU-1.2: Development Timing ▪ Program LU-1.2A: Development Review ▪ Policy LU-1.4: Reasonable Interim Use of Property ▪ Program LU-1.4A: Reasonable Interim Uses ▪ Policy LU-1.8: Density of Residential Development ▪ Policy LU-1.10: Intensity of Non-Residential Development ▪ Policy LU-1.12: Transfer of Development Rights ▪ Program LU-1.12A: Transfer of Development Rights (TDR) Program ▪ Policy LU-1.17: Building Heights ▪ Program LU-2.1A: Zoning Amendments ▪ Program LU-2.4A: Industrial Zoning ▪ Policy C-1.2: Wetlands and Sea Level Rise ▪ Program C-1.3D: System Improvements ▪ Program PROS-1.3C: Adaptation Projects ▪ Program PROS-1.18A: Sustainable Design ▪ Program S-1.3B: Use of Hazard Maps in Development Review ▪ Policy S-3.1: Sea Level Rise Projection Map ▪ Program S-3.1A: Incorporate into City GIS ▪ Program S-3.1B: Periodic Update of Sea Level Rise Projection Map ▪ Program S-3.1C: Sea Level Rise Overlay Zone ▪ Policy S-3.2: Data Consistency ▪ Program S-3.2A: Coordination with County of Marin ▪ Policy S-3.3: Awareness and Disclosure ▪ Program S-3.3A: Residential Building Resale (RBR) Reports ▪ Policy S-3.4: Mitigating Flooding and Sea Level Rise Impacts ▪ Program S-3.4A: Development Projects

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
	▪ Program S-3.4B: Capital Projects ▪ Program S-3.4C: Coordination with Utilities and Services ▪ Policy S-3.5: Minimum Elevations ▪ Program S-3.5A: Code Amendments for Floor Elevation ▪ Program S-3.5B: Ground Elevation Surveys ▪ Program S-3.5C: National Flood Insurance Program (NFIP) ▪ Policy S-3.6: Resilience to Tidal Flooding ▪ Program S-3.6A: Sea Level Rise Adaptation Plan ▪ Program S-3.6B: Partnerships ▪ Program S-3.6C: Countywide Agency/Joint Powers Authority ▪ Policy S-3.7: Shoreline Levees ▪ Program S-3.7A: Levee Improvement Plans ▪ Program S-3.7B: Financing Levee Improvements ▪ Policy S-3.8 Storm Drainage Improvements ▪ Program S-3.8A: Storm Drainage Improvements ▪ Program S-3.8B: Green Infrastructure Guidelines ▪ Policy S-3.9: Flood Control Improvements Funding ▪ Program S-3.9A: Incremental Flood Control Improvements ▪ Program S-3.9B: Flood Hazard Mitigation Projects ▪ Program S-3.9C: Restoration and Dredging Projects ▪ Policy M-2.11: Sea Level Rise ▪ Policy CSI-4.6: Climate Change Impacts ▪ Program CSI-4.6A: Guidance Document ▪ Program CSI-4.6B: Coordination with Service Providers ▪ Policy CSI-4.9: Wastewater Facilities ▪ Policy CSI-4.11: Canal Dredging ▪ Program CSI-4.11A: Funding ▪ Program CSI-4.14B: Prioritizing of Undergrounding Projects ▪ Policy EDI-2.10 Resiliency Planning
SA-C5: Climate Change Adaptation. Prepare for and respond to the expected impacts of climate change. a. Continue to incorporate the likelihood of sea level rise and increased risk of wildfire and extreme heat and storm events in the City's Local Hazard Mitigation Plan. b. Incorporate the likelihood of climate change impacts into City emergency planning and training. c. Coordinate with water districts, wildlife agencies, flood control and fire districts, Marin County, and other relevant organizations to develop a comprehensive plan addressing climate change impacts and adaptation strategies. Address human health and the health and adaptability of natural systems, including the following: ▪ Water resources, including expanded rainwater harvesting, water storage and conservation techniques, water reuse, water-use and irrigation efficiency, and reduction of impervious surfaces.	**Consistent.** See response to SA-C4. Policy C-5.2: Consider Climate Change Impacts, ensures that future projects consider the City's GHG reduction targets and adaptation goals. Additionally, the goals and policies of the Land Use Element and the Safety and Resilience Element ensure that sea level rise and other climate hazards are considered. In addition to the policies and programs listed under SA-C4 for sea level rise, the Safety and Resilience Element includes the following policies on increased frequency and severity of fire impacts: ▪ Policy S-4.1: Wildfire Hazards ▪ Program S-4.1A: Wildfire Prevention and Action Plan ▪ Program S-4.1B: Wildfire Hazard Maps ▪ Program S-4.1C: Fire Protection Ordinance ▪ Program S-4.1D: Wildfire Fuel Breaks ▪ Program S-4.1E: Goat Grazing ▪ Program S-4.1F: Encampment Related Hazards ▪ Program S-4.1G: Open Space and Forestry Management ▪ Policy S-4.2: Fire Resilience in Developed Areas ▪ Program S-4.2A: Reduction of Structure Hazards

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
▪ Biological resources, including land acquisition, creation of marshlands/wetlands as a buffer against sea level rise and flooding, and protection of existing natural barriers. ▪ Public health, including heat-related health plans, vector control, air quality, safe water, and improved sanitation. ▪ Environmental hazard defenses, including seawalls, storm surge barriers, pumping stations, and fire prevention and suppression. d. Ensure fair and robust inclusion of lower-income households and our diverse communities in the planning and response to climate change impacts, including sea level rise, wildfire, public health, and emergency preparedness.	▪ Program S-4.2B: Tree Maintenance ▪ Program S-4.2C: Public Education on Fire Resilience and Response ▪ Policy S-4.3: New Development in Fire Hazard Areas ▪ Program S-4.3A: Fire Hazard Mitigation in New Development ▪ Program S-4.3B: Development Review for Emergency Response ▪ Program S-4.3C: Wildfire Prevention Funding ▪ Policy EDI-2.10 Resiliency Planning
Community Engagement	
CE-C1: Community Education. Work with community-based outreach organizations, such as Resilient Neighborhoods, to educate and motivate community members on ways to reduce greenhouse gas emissions in their homes, businesses, transportation modes, and other activities.	**Consistent.** The Conservation and Climate Change Element Policy C-5.7, Climate Change Education, outlines the City's Climate Change Education measures. ▪ Policy C-5.7: Climate Change Education ▪ Program C-5.7A: Public Outreach Campaign ▪ Program C-5.7B: Resilient Neighborhoods ▪ Program C-5.7C: Financial Incentives ▪ Program C-5.7D: Promote Sustainability Efforts
CE-C2: Community Engagement. Implement a communitywide public outreach and behavior change campaign to engage residents, businesses, and consumers around the impacts of climate change and the ways individuals and organizations can reduce their GHG emissions and create a more sustainable, resilient, and healthier community. Create an overarching theme to articulate a long-term goal, motivate community members, and brand a comprehensive suite of GHG-reduction programs. Prioritize promotion of programs that have the greatest greenhouse gas reduction potential while utilizing the latest social science on behavior change. Emphasize and encourage citizens' involvement in reaching the community's climate goals, including innovative means of tracking milestones and comparing San Rafael's performance with other communities and with state, national and global benchmarks. a. Conduct outreach to a wide variety of neighborhood, business, educational, faith, service, and social organizations. b. Conduct outreach and education to the Latino community by using media, organizations, and gathering places favored by Latinos and translating materials into Spanish. c. Inform the public about the benefits of installing energy and water efficient appliances and fixtures, electrifying homes and commercial buildings, installing solar energy systems, and purchasing 100% renewable electricity. d. Inform the public about the benefits of using carbon-free and low-carbon transportation modes, such as driving electric vehicles, walking, bicycling, taking public transportation, and ridesharing. e. Utilize and tailor existing marketing materials when available.	**Consistent.** See response to CE-C-1. The Conservation and Climate Change Element Policy C-5.7, Climate Change Education, outlines the City's Climate Change Education measures. In addition, the following measure inform the public about benefits of efficiency programs and awareness of climate change impacts: ▪ Program C-4.1A: Marin Clean Energy Targets ▪ Program C-4.1B: PACE Financing ▪ Program C-4.2A: Energy Efficiency Outreach ▪ Policy S-3.3: Awareness and Disclosure ▪ Program S-6.1C: Emergency Preparedness Plan ▪ Policy S-6.2: Neighborhood Disaster Preparedness Programs ▪ Program S-6.2A: Educational and Training Programs ▪ Program S-6.2B: Neighborhood Disaster Plans ▪ Program S-6.2C: Website Improvements ▪ Program S-6.2D: Outreach to Vulnerable Populations ▪ Program S-6.2E: Disaster Management Drills ▪

TABLE 4.8-6 SAN RAFAEL CLIMATE CHANGE ACTION PLAN 2030 / GENERAL PLAN 2040 CONSISTENCY ANALYSIS

Measure (San Rafael CCAP 2030)	General Plan 2040 Policy/Program Direction
f. Inform the public about the environmental benefits of eating less meat and dairy products, growing food at home, and purchasing locally-produced food. g. Partner with MCE, PG&E, MMWD, Marin Sanitary Service, Transportation Authority of Marin, Marin Transit, Golden Gate Transit, SMART, and other entities to promote available financing, audits, rebates, incentives, and services to the San Rafael community. h. Utilize the City's website, newsletters, social media, bill inserts, public service announcements and advertisements, recognition programs, and other forms of public outreach. i. Create stories and "shareable content" that can be used by bloggers, businesses, non-profits, social media, and traditional media. j. Use creative methods to engage the public, such as games, giveaways, prizes, contests, simple surveys, digital tools, and "pop-up" events. k. Develop pilot programs using community-based social marketing and other social science-based techniques to effect behavior change. l. Participate in countywide outreach and education efforts, such as Drawdown Marin.	
CE-C3: Advocacy. Advocate at the state and federal levels for policies and actions that support the rapid transition to GHG-free energy sources, electrification of buildings and the transportation fleet, and other impactful measures to sharply reduce greenhouse gas emissions.	**Consistent.** The Conservation and Climate Change Element includes goals and policies that support the transition to carbon free energy under Goal 4: Sustainable Energy Management.
CE-C4: Innovation and Economic Development. Convene an economic development and innovation working group to explore public-private partnerships and develop ways to decarbonize our local economy while spurring sustainable enterprise	**Consistent.** The Conservation and Climate Change Element includes goals and policies that support the transition to carbon free energy under Goal 4: Sustainable Energy Management. The Mobility Element also includes goals and policies to decarbonize the transportation sector. The Economic Vitality Element includes Policy EV-1.11: Innovation, to support best practices for innovation, diversification, and pathways to a low-carbon economy. ▪ Policy EV-1.9: Sustainable Business Practices ▪ Program EV-1.9A: Green Economy ▪ Program EV-1.9B: Green Business Practices ▪ Program EV-1.9C: CCAP Implementation ▪ Policy EV-1.11: Innovation ▪ Program EV-1.1A: Innovative Working Group
CE-C5: Green Businesses. Encourage local businesses to participate in the Marin County Green Business Program through partnerships with the County, Chamber, and other business groups.	**Consistent.** See response to CE-C4. The Economic Vitality Element includes Policy EV-1.9: Sustainable Business Practices, to encourage green business practices in the City.

Source: San Rafael. 2019, April 23. Climate Change Action Plan.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As discussed in Impact Discussion GHG-1, approximately half of the Downtown Precise Plan Area is located in a *Plan Bay Area* PDA and TPA and potential future development in this portion of the Downtown Precise Plan Area and potential future development would be inherently designed to reduce GHG emissions and would be in compliance with *Plan Bay Area*. Therefore, implementation of the Downtown Precise Plan would further the overall goals of the General Plan 2040 with respect to reducing GHG emissions and the impacts from the Downtown Precise Plan would be *less-than-significant,* the same as General Plan 2040 discussed previously.

Significance without Mitigation: Less than significant.

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. Implementation of General Plan Policy C-5.1 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*.

Significance without Mitigation: Significant and unavoidable. As described in Impact Discussion GHG-1, the City currently tracks and monitors the City's GHG emissions in order 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. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology.[42] Advancement in technology in the future could provide additional reductions to allow the state and City to meet the 2050 goal; however, no additional statewide measures are currently available. Therefore, impacts would be *significant and unavoidable*.

[42] California Climate Change Center (CCCC). 2012, July. Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

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4.9 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to hazardous materials, airport safety hazards, and the impairment of an adopted emergency response plan or emergency evacuation plan. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project. A discussion of wildland fire hazards is provided in Chapter 4.18, Wildfire, of this Draft Environmental Impact Report (EIR).

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

Federal Regulations

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, delegating the responsibility for issuing permits, and monitoring and enforcing compliance to states and Native American tribes. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing waste volumes through such strategies as recycling. California falls under the jurisdiction of USEPA Region 9. Under the authority of the Resource Conservation and Recovery Act (RCRA) and in cooperation with State and tribal partners, the USEPA Region 9 Waste Management and Superfund Divisions manage programs for site environmental assessment and cleanup, hazardous and solid waste management, and underground storage tanks.

United States Department of Transportation

The United States Department of Transportation (DOT) has the regulatory responsibility for the safe transportation of hazardous materials between states and internationally. The DOT regulations govern all means of transportation, except for those packages shipped by mail, which are covered by United States Postal Service regulations. The federal RCRA of 1976 (described herein) imposes additional standards for the transport of hazardous wastes.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from materials manufacturers. The material safety data sheets describe the risks, as well as proper handling and procedures, related to specific hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The Department of Toxic Substances Control (DTSC) is responsible for implementing the RCRA program as well as California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, the California Environmental Protection Agency (CalEPA) has in turn delegated enforcement authority to the Marin County Department of Public Works, Waste Management Division, for State law regulating hazardous waste producers or generators in San Rafael.[1]

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. The Superfund Amendments and Reauthorization Act (SARA) amended the CERCLA on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other State and federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased State involvement in every phase of the Superfund program; increased the focus on human health problems posed by hazardous waste sites; encouraged greater citizen participation in making decisions on how sites should be cleaned up; and increased the size of the trust fund to $8.5 billion.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted in October 1986. This law requires State and local governments to plan for chemical emergencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community. EPCRA Sections 301 through 312 are administered by USEPA's Office of Emergency Management. USEPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, SARA Title III is implemented through California Accidental Release Prevention (CalARP) program. Under the CUPA program, the CalEPA has in turn delegated enforcement authority to the San Rafael Fire Department (SRFD) for CalARP.[2]

[1] City of San Rafael, 2004, *San Rafael General Plan 2020 Draft Environmental Impact Report*.

[2] PlaceWorks, 2016, Phase I Environmental Site Assessment for City of San Rafael Fire Station 57.

Hazardous Materials Transportation Act

The DOT regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations. State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The California State Fire Marshal's Office has oversight authority for hazardous materials liquid pipelines. The California Public Utilities Commission has oversight authority for natural gas pipelines in California. These agencies also govern permitting for hazardous materials transportation.

Federal Response Plan

The Federal Response Plan of 1992 is a signed agreement among 27 federal departments and agencies and other resource providers, including the American Red Cross, that: (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of State and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency. The Federal Response Plan is part of the National Response Framework, which was most recently updated in October 2019.

The Stafford Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988, as amended, authorizes federal government assistance for emergencies and disasters when State and local capabilities are exceeded. The Stafford Act forms the statutory authority for most federal disaster response activities, especially as they relate to the Federal Emergency Management Agency (FEMA) and FEMA programs.

National Response Framework

The National Response Framework, published by the United States Department of Homeland Security (updated October 28, 2019), is a guide for the nation to respond to all types of disasters and emergencies. This framework describes specific authorities and best practices for managing incidents that range from serious local or large-scale terrorist attacks to catastrophic natural disasters. In addition, the National Response Framework describes the principles, roles, and responsibilities, and coordinating structures for responding to an incident, and further describes how response efforts integrate with those of the other mission areas.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the DOT to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within the DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the

nation's 2.6-million-mile pipeline transportation system. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found at Code of Federal Regulations Title 49, Transportation, Parts 190 through 192, Part 195, and Part 199.

Pipeline Safety Improvement Act of 2002

The Pipeline Safety Improvement Act mandates that the DOT, the Department of Energy, and the National Institute of Standards and Technology in the Department of Commerce carry out a program of research, development, demonstration, and standardization to ensure the integrity of pipeline facilities.[3] The purpose of the Research and Design Program is to identify safety and integrity issues and develop methodologies and technologies to characterize, detect, and manage risks associated with natural gas and hazardous liquid pipelines.

Pipeline Inspection, Enforcement, and Protection Act of 2006

The Pipeline Inspection, Enforcement, and Protection Act confirms the commitment to the Integrity Management Program and other programs enacted in the Pipeline Safety Improvement Act of 2002. The 2006 legislation includes provisions on:

- Preventing excavation damage to pipelines through the enhanced use and improved enforcement of State "One-Call" laws that preclude excavators from digging until they contact the State One-Call system to locate the underground pipelines;
- Minimum standards for Integrity Management Programs for distribution pipelines (including installation of excess flow valves on single-family residential service lines based on feasibility and risk);
- Standards for managing gas and hazardous liquid pipelines to reduce risks associated with human factors (e.g., fatigue);
- Authority for the Secretary to waive safety standards in emergencies;
- Authority for the Secretary to assist in restoration of disrupted pipeline operations;
- Review and update incident reporting requirements;
- Requirements for senior executive officers to certify operator integrity management performance reports; and
- Clarification of jurisdiction between states and PHMSA for short laterals that feed industrial and electric generator consumers from interstate natural gas pipelines.[4]

Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 was designed to examine and improve the state of pipeline safety regulation. This act accomplishes the following:

- Reauthorizes PHMSA's federal pipeline safety programs through fiscal year 2015.
- Provides the regulatory certainty necessary for pipeline owners and operators to plan infrastructure investments and create jobs.

[3] Pipeline and Hazardous Materials Safety Administration, October, 2017. Pipeline Safety Improvement Act of 2002. https://www.phmsa.dot.gov/pipeline/congressional-mandates/pipeline-safety-improvement-act-2002.

[4] Interstate Natural Gas Association of America, 2019, *The Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006*. https://www.ingaa.org/Pipelines101/143/861/851.aspx.

- Improves pipeline transportation by strengthening enforcement of current laws and improving existing laws where necessary.
- Ensures a balanced regulatory approach to improving safety that applies cost-benefit principles.
- Protects and preserves Congressional authority by ensuring certain key rulemakings are not finalized until Congress has an opportunity to act.[5]

State Regulations

California Environmental Protection Agency

One of the primary State agencies that regulate hazardous materials is the CalEPA. CalEPA is authorized by the USEPA to enforce and implement certain federal hazardous materials laws and regulations. The California DTSC, a department of the CalEPA, protects California and Californians from exposure to hazardous waste, primarily under the authority of the RCRA and the California Health and Safety Code.[6] The DTSC requirements include the need for written programs and response plans, such as Hazardous Materials Management Plans. The DTSC programs include dealing with aftermath clean-ups of improper hazardous waste management, evaluation of samples taken from sites, enforcement of regulations regarding use, storage, and disposal of hazardous materials, and encouragement of pollution prevention.

California Division of Occupational Safety and Health

Like OSHA at the federal level, the California Division of Occupational Safety and Health (CalOSHA) is the responsible State-level agency for ensuring workplace safety. CalOSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. In the event that a work site is contaminated, a Site Safety Plan must be crafted and implemented to protect the safety of workers. Site Safety Plans establish policies, practices, and procedures to prevent the exposure of workers and members of the public to hazardous materials originating from the contaminated site or building.

California Office of Emergency Services

The California Office of Emergency Services (Cal OES) was established as part of the Governor's Office on January 1, 2009. It was created pursuant to Assembly Bill 38, which merged the duties, powers, purposes, and responsibilities of the former Governor's Emergency Management Agency with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, humanmade, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

[5] Pipeline and Hazardous Materials Safety Administration, March 2019, *Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011*. https://www.phmsa.dot.gov/legislative-mandates/pipeline-safety-act/pipeline-safety-regulatory-certainty-and-job-creation-act

[6] Hazardous Substance Account, Chapter 6.5 (Section 25100 et seq.) and the Hazardous Waste Control Law, Chapter 6.8 (Section 25300 et seq.) of the Health and Safety Code.

California Department of Transportation and California Highway Patrol

Caltrans and the CHP are the two State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. Caltrans manages more than 50,000 miles of California's highways and freeways, provides intercity rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on highways, freeways, and intercity rail lines.

The CHP enforces hazardous materials and hazardous waste labeling and packing regulations designed to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the State.

Common carriers are licensed by the CHP, pursuant to Section 32000 of the California Vehicle Code. This section requires licensing every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business in the delivery of hazardous materials.

California Building Code

The State of California provided a minimum standard for building design through the California Building Code (CBC), which is found in Title 24, Part 2 of the California Code of Regulations. The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis and may be subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city and county building officials for compliance with the typical fire safety requirements of the CBC, including the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors and building materials; and the clearance of debris and vegetation near occupied structures in wildfire hazard areas. The City regularly adopts updates to the CBC under the San Rafael Municipal Code (SRMC) Chapter 12.100, Adopted Codes.

California Health and Safety Code

California Health and Safety Code Chapter 6.95 and California Code of Regulations Title 19, Section 2729, set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a management plan if the hazardous material is handled in certain quantities.

Senate Bill 379

Senate Bill 379, approved October 8, 2015, requires all cities and counties to include climate adaptation and resiliency strategies in the safety elements of their general plans upon the next revision beginning January 1, 2017. The bill requires the climate adaptation update to include a set of goals, policies, and objectives for their communities based on the vulnerability assessment, as well as implementation measures, including the conservation and implementation of natural infrastructure that may be used in adaptation projects. Specifically, the bill requires that upon the next revision of a general plan or local hazard mitigation plan (LHMP), the safety element is to be updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county.

Regional Regulations

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).

Zero Waste Marin

Marin County Hazardous and Solid Waste, now known as Zero Waste Marin, is a joint powers authority agreement between Belvedere, Larkspur, Mill Valley, Novato, San Rafael, San Anselmo, Corte Madera, Fairfax, Ross, Tiburon, and Marin County established in 1996 to help Marin County residents and businesses meet the County's zero waste goal by 2025. This agency is responsible for coordinating recycling of solid waste and disposing of hazardous materials, in addition to providing information on household hazardous waste disposal.

Marin Household Hazardous Waste Facility

The City of San Rafael and Zero Waste Marin sponsor the Marin Household Hazard Waste Facility (MHHWF). Jointly operated with the SRFD, MHHWF provides residents and business owners with a method of disposing of hazardous waste.

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 San Rafael. 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 San Rafael 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 San Rafael. The risks and mitigations in the MCM LHMP are broad and encompassing of the entirety of Marin County. The MCM LHMP incorporates each local jurisdictions individual LHMP as appendices to ensure jurisdiction-specific information supplements the vulnerability mitigation included in the MCM LHMP. The City of San Rafael LHMP is incorporated into the MCM LHMP as Appendix P. Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs relevant to hazards and hazardous materials are primarily in the Safety and Resilience Element. As part of the proposed project, some existing General Plan policies would be amended, substantially changed, or new policies would be added. Many of these changes are intended to incorporate LHMP initiatives adopted in November 2017 into the General Plan. 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 Section 4.9.3, Impact Discussion.

San Rafael Municipal Code

The SRMC includes various directives pertaining to hazards and hazardous materials. The SRMC is organized by title, chapter, and section. Most provisions related to impacts from hazards and hazardous materials are in Title 4, Fire, Title 12, Building Regulations, and Title 14, Zoning, as follows:

- Title 4, Fire: This title adopts the 2018 California Fire Code and 2019 International Fire Code, which includes several provisions regarding the storage and disposal of hazardous materials. Such provisions include storage of flammable and combustible liquids in aboveground tanks and the storing and dispensing of liquified petroleum gas and other flammable liquids and gases.
- Chapter 12.100, Adopted Codes: The City of San Rafael has adopted the CBC with certain modifications as Section 12.12.101 et seq.
- Chapter 14, Site and Use Regulations. Section 14.16.180, Hazardous Soils Conditions, requires new development on lots filled prior to 1974 used for auto service uses, industrial uses, or other land uses which may have involved hazardous materials to be evaluated for the presence of toxic or hazardous materials prior to development approvals. The SRMC also requires the submittal of a Phase 1 Environmental Site Assessment on non-residential sites that are proposed for residential use.

San Rafael Local Hazard Mitigation Plan

The San Rafael LHMP, adopted in November 2017, is a guide to hazard mitigation within San Rafael and serves as a tool to help decision makers direct hazard mitigation activities and resources. In the context of an LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including fire and other natural hazards. A more detailed description of the LHMP, relating to wildland fires, is provided in Chapter 4.18, Wildfire, of this Draft EIR.

San Rafael Wildfire Prevention and Protection Action Plan

The *San Rafael Wildfire Prevention and Protection Action Plan* (WPPAP), conditionally approved in March 2019 and formally adopted in August 2020 following review by a Steering Committee, provides a series of prescriptions, programs, and ordinance updates needed to make the city more fire and disaster resistant. The WPPAP is designed to serve as a master plan and framework to address all phases of disaster response: mitigation, preparedness, response, and recovery. The WPPAP considers and incorporates local, county, regional, and national findings and best practices. More information on the WPPAP can be found in Chapter 4.18, Wildfire, of this Draft EIR.

4.9.1.2 EXISTING CONDITIONS

EIR Study Area

Schools

As previously described in Chapter 4.3, Air Quality, of this Draft EIR, some land uses are considered more sensitive to airborne hazardous materials than others due to the types of population groups or activities involved. Because sensitive population groups include children, the California Environmental Quality Act (CEQA) requires an evaluation of hazardous emissions or handling hazardous materials, substances, or

waste within 0.25 miles of an existing or proposed school, private or public. The San Rafael City Schools District operates 13 schools in the city, including eight elementary schools, one K–8 school, one middle school, and three high schools. There are also approximately 64 private schools within the city of which four are in the Downtown Precise Plan Area. These schools are made up of Head Start programs and daycares, as well as elementary schools, middle schools, and high schools.[7] There are currently no known proposals for new schools in the EIR Study Area.

Hazardous Materials Sites

California Government Code Section 65962.5 requires the CalEPA to compile, maintain, and update specified lists of hazardous material release sites. CEQA (California Public Resources Code Section 21092.6) requires the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether the project and any alternatives are identified on any of the following lists:

- USEPA NPL. The USEPA's National Priorities List (NPL) includes all sites under the USEPA's Superfund program, which was established to fund cleanup of contaminated sites that pose risks to human health and the environment.
- USEPA CERCLIS and Archived Sites. The USEPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) includes a list of 15,000 sites nationally identified as hazardous sites. This would also involve a review for archived sites that have been removed from CERCLIS due to No Further Remedial Action Planned status.
- USEPA RCRIS (RCRA Info). The Resource Conservation and Recovery Act Information System (RCRIS or RCRA Info) is a national inventory system about hazardous waste handlers. Generators, transporters, handlers, and disposers of hazardous waste are required to provide information for this database.
- DTSC Cortese List. The DTSC maintains the Hazardous Waste and Substances Sites (Cortese) list as a planning document for use by the State and local agencies to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. This list includes the Site Mitigation and Brownfields Reuse Program Database.
- DTSC HazNet. The DTSC uses this database to track hazardous waste shipments.
- SWRCB LUSTIS. Through the Leaking Underground Storage Tank Information System, the SWRCB maintains an inventory of Underground Storage Tanks (USTs) and leaking USTs (LUST), which tracks unauthorized releases.

The required lists of hazardous material release sites are commonly referred to as the "Cortese List," named after the legislator who authored the legislation. Because the statute was enacted more than 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information required in the Cortese List does not exist. Those requesting a copy of the Cortese Lists are now referred directly to the appropriate information resources contained on websites hosted by the boards or departments referenced in the statute, including DTSC's online EnviroStor database and the SWRCB's online GeoTracker database. These two databases include hazardous material release sites, along with other categories of sites or facilities specific to each agency's jurisdiction.

[7] GreatSchools.org, 2019. California > San Rafael. https://www.greatschools.org/california/san-rafael/schools/?sort=name&st%5B%5D=private, accessed on September 3, 2019.

A search of the online EnviroStor and GeoTracker databases on May 20, 2019, identified 173 hazardous materials sites within the EIR Study Area excluding the hazardous materials sites in the Downtown Precise Plan Area, which are discussed in detail under the subheading "Downtown Precise Plan" later in this chapter). Of the 173 sites, 31 are designated as active and the remaining 142 sites are designated as "closed" or "completed – case closed."[8] The 31 active hazardous materials sites are shown in Table 4.9-1 and on Figure 4.9-1, while the remaining 142 sites are listed in Appendix G, Hazardous Materials Data, of this Draft EIR. The majority of the 31 listed sites are classified as LUST sites, which are primarily associated with gasoline and diesel fuels.

Airport Hazards

The EIR Study Area is not located within an airport land use plan area. The San Rafael Airport is a private airport in the northeastern EIR Study Area. The nearest public airport is the Marin County Airport, located approximately 8 miles to the north of the EIR Study Area.[9]

Emergency Response and Evacuation Planning Areas

As described in Section 4.9.1.1, Regulatory Framework, the EIR Study Area is within the planning areas of the Marin Operational Area EOP, the Marin County Operational Area ERP, and the San Rafael LHMP.

Wildfire Hazards

A more robust discussion of wildland fire hazards is provided in Chapter 4.18, Wildfire, of this Draft EIR. As described in Chapter 4.18, the EIR Study Area contains land within a State Responsibility Area and Local Responsibility Area (see Figure 4.18-1). The portion of the EIR Study Area within the State Responsibility Area is designated as a Moderate Fire Hazard Severity Zone. 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 4.18-2, approximately 6,000 acres are within the wildland-urban interface (WUI), which is defined as any area where structures and other human development meet or intermingle within wildland vegetation.[10]

Downtown Precise Plan Area

Schools

Four schools and daycares are located within the Downtown Precise Plan Area and 13 schools and daycares are within 0.25 miles of the Downtown Precise Plan Area border. There are currently no known proposals for new schools in the Downtown Precise Plan Area.

[8] Eleven of the 31 sites listed are located at the same address or are associated with a former military installation at the end of Smith Ranch Road.

[9] Caltrans, Division of Aeronautics Maps and Data, Caltrans Aviation GIS Data, https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=32c3cbe24491427d872e2fec173a4b22, accessed on April 23, 2019.

[10] Cal OES. 2018. California State Hazard Mitigation Plan.

HAZARDS AND HAZARDOUS MATERIALS

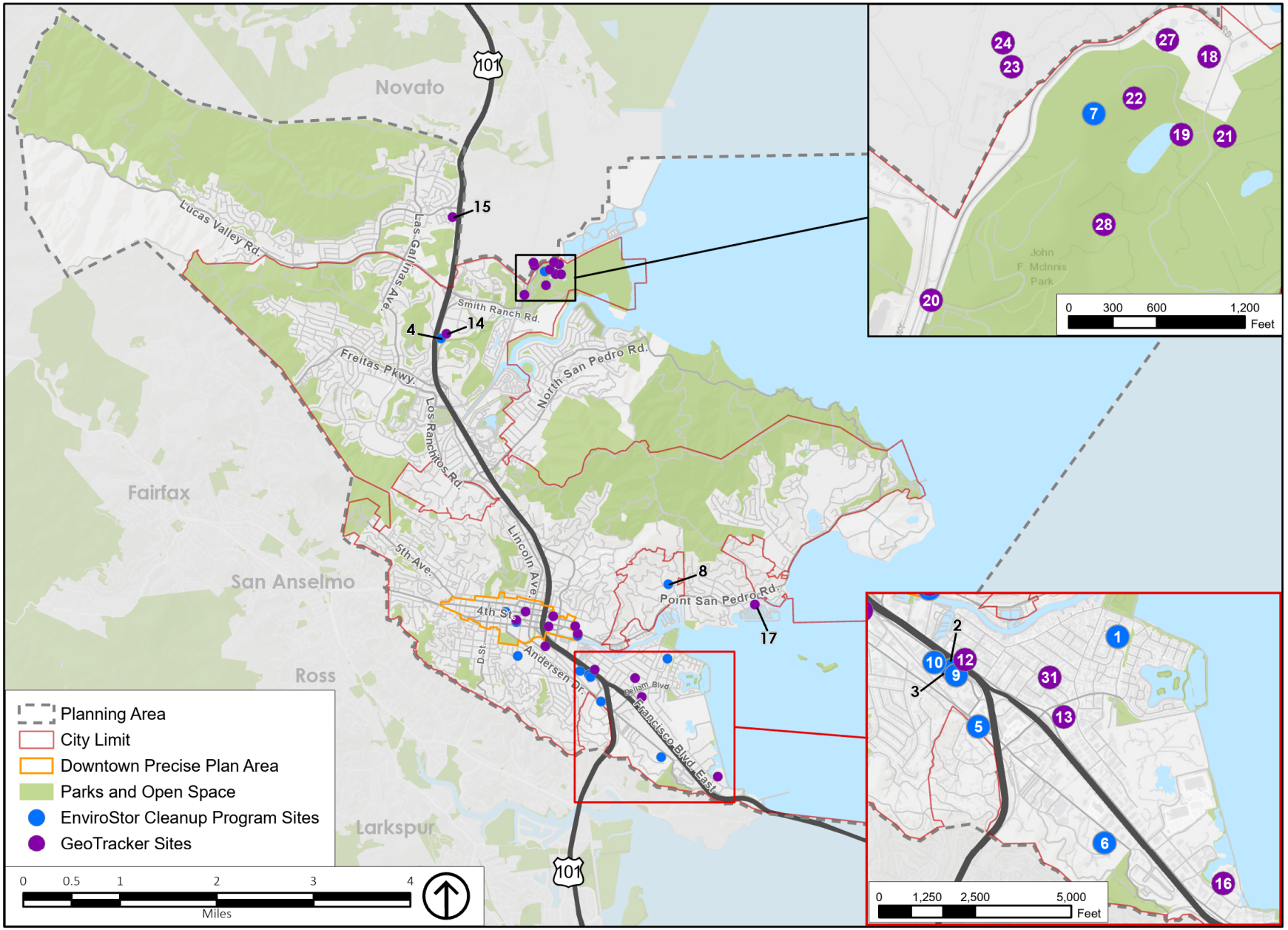
TABLE 4.9-1 ACTIVE HAZARDOUS MATERIAL SITES IN THE EIR STUDY AREA (EXCLUDING THE DOWNTOWN PRECISE PLAN AREA)

Map ID	Site Name	Address	Site Type	Potential Contaminants	Cleanup Status
Envirostor Cleanup Program Sites					
1.	Bahia Vista Elementary School	125 Bahia Way	School Investigation	No contaminants found	No Action Required
2.	Baxter Court Property	714 A Francisco Boulevard West	Tiered Permit	Chromium, PCE, TCE	Certified O&M - Land Use Restrictions Only
3.	Baxters Court Area	Baxters Court	State Response	None specified	Refer: RCRA
4.	Fairchild Semiconductor Corp	4300 Redwood Highway	Corrective Action	VOCs	Refer: RWQCB
5.	Marin Radiator & Auto Air Conditioning	786 Andersen Drive	Evaluation	Contaminated soil	Inactive - Needs Evaluation
6.	PG&E Utility Corporation Yard	1220 Andersen Drive	Evaluation	PCBS	Inactive - Needs Evaluation
7.	San Francisco Nike Battery 93 (J09CA0944)	—	Military Evaluation	None specified	Refer: RWQCB
8.	San Rafael BIV Area	—	Military Evaluation	None specified	No Further Action
9.	Specification Chromium Corporation	712 Francisco Boulevard	Tiered Permit	None specified	No Further Action
10.	Specification Chromium Corporation	14 Baxters Court	Evaluation	Cyanide, Metals, Uncategorized	Inactive - Needs Evaluation
11.	The Car Shop	616 Lindaro Street	Evaluation	Lead	No Further Action
GeoTracker Sites					
12.	7 Hoag Street	7 Hoag Street	Cleanup Program Site	None specified	Open
13.	City Of San Rafael Fire Station No.4	46 Castro Avenue	Cleanup Program Site	None specified	Open - Inactive
14.	Former Fairchild Semiconductor	4300 Redwood Highway	Cleanup Program Site	VOCs	Open - Verification Monitoring - Land Use Restrictions
15.	Former Prosperity Cleaners	187 Marinwood Avenue	Cleanup Program Site	DCE, PCE, TCE, Vinyl chloride	Open - Assessment & Interim Remedial Action
16.	Ghilotti; Barbara Fasken Trust	200 Morphew Street	Cleanup Program Site	Gasoline	Open - Inactive
17.	Loch Lomond Marina [a]	261 Loch Lomond Drive	Cleanup Program Site	Benzene, DCE, Ethylbenzene, Gasoline, Other petroleum, PCE, Toluene, TPH, Vinyl chloride, Xylene	Open - Assessment & Interim Remedial Action
18.	Los Gallinas Sanitary District	300 Smith Ranch Road	Cleanup Program Site	TPH, Waste oil	Open - Inactive
19.	Nike Battery 93, Sf (J09ca094400) - Aoi 1 S-112 Electrical Power Plant Ust	290 Smith Ranch Road	Military UST Site	None specified	Open - Eligible For Closure
20.	Nike Battery 93, Sf (J09ca094400) - Aoi 10 S-411 Electrical Power Plant Ast	290 Smith Ranch Road	Military Cleanup Site	None specified	Open - Eligible For Closure

TABLE 4.9-1 ACTIVE HAZARDOUS MATERIAL SITES IN THE EIR STUDY AREA (EXCLUDING THE DOWNTOWN PRECISE PLAN AREA)

Map ID	Site Name	Address	Site Type	Potential Contaminants	Cleanup Status
21.	Nike Battery 93, Sf (J09ca094400) - Aoi 2 - S-131 Missile Assembly And Test Building	290 Smith Ranch Road	Military UST Site	Diesel, Xylene	Open - Eligible For Closure
22.	Nike Battery 93, Sf (J09ca094400) - Aoi 3 S-158 Ready Room Ust	291 Smith Ranch Road	Military UST Site	None specified	Open - Eligible For Closure
23.	Nike Battery 93, Sf (J09ca094400) - Aoi 4 S-216 Administrative Area	290 Smith Ranch Road	Military UST Site	TPH, Xylene	Open - Eligible For Closure
24.	Nike Battery 93, Sf (J09ca094400) - Aoi 5 S-217 Ust, Administrative Area	290 Smith Ranch Road	Military UST Site	Diesel	Open - Eligible For Closure
25.	Nike Battery 93, Sf (J09ca094400) - Aoi 6 S-218 Ust (And Fuel Line), Administrative Area	290 Smith Ranch Road	Military UST Site	None specified	Open - Eligible For Closure
26.	Nike Battery 93, Sf (J09ca094400) - Aoi 7 S-219 Ust Administrative Area	290 Smith Ranch Road	Military UST Site	Diesel	Open - Eligible For Closure
27.	Nike Battery 93, Sf (J09ca094400) - Aoi 8 Radar Tower Ust S-418	290 Smith Ranch Road	Military UST Site	None specified	Open - Eligible For Closure
28.	Nike Battery 93, Sf (J09ca094400) - Aoi 9 S-213 Enlisted Men's Barracks	290 Smith Ranch Road	Military Cleanup Site	None specified	Open - Eligible For Closure
29.	Proshop Inc.	658 Irwin Street	Cleanup Program Site	Diesel, Waste oil	Open - Site Assessment
30.	San Rafael City Schools Maintenance Facility	38 Union Street	LUST Cleanup Site	Benzene, Gasoline, Toluene	Open - Assessment & Interim Remedial Action
31.	Warnecke Property	62-68 Belvedere Street	Cleanup Program Site	TPH	Informational Item

Notes: Sites with a cleanup status of "closed" or "completed – case closed" and are included in Appendix G, Hazardous Materials Data, of this Draft EIR.
[a] Loch Lomond Marina has one open site (former dry cleaners) and one closed site (former gas station which has been remediated).
Source: Department of Toxic Substance Control (DTSC) EnviroStor 2019 and State Water Resources Control Board (SWRCB) GeoTracker 2019.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.9-1
Active Hazardous Materials Sites

Hazardous Materials Sites

The search of the online EnviroStor and GeoTracker databases conducted on May 20, 2019, identified 39 hazardous materials sites within the Downtown Precise Plan Area. Of the 39 hazardous materials sites, there are eight active sites that are listed in Table 4.9-2 and shown on Figure 4.9-2. The remaining 31 sites have a designated cleanup status as "closed" or "completed – case closed" and are listed in Appendix G, Hazardous Materials Data, of this Draft EIR. The majority of listed sites are classified as cleanup sites, and most are associated with gasoline and diesel.

Airport Hazards

The Downtown Precise Plan Area, is not located within an airport land use plan area.

Emergency Response and Evacuation Planning Areas

As described in Section 4.9.1.1, Regulatory Framework, the EIR Study Area, including the Downtown Precise Plan Area is within the planning areas of the Marin Operational Area EOP, the Marin County Operational Area ERP, and the San Rafael LHMP.

Wildfire Hazards

A more robust discussion of wildland fire hazards is provided in Chapter 4.18, Wildfire, of this Draft EIR. The Downtown Precise Plan Area contains both high and moderate fire hazard severity zones in the northern portion of the area (see Figure 4.18-3). The northern, western, and southwestern areas of the Downtown Precise Plan Area are within the WUI (see Figure 4.18-4).

4.9.2 STANDARDS OF SIGNIFICANCE

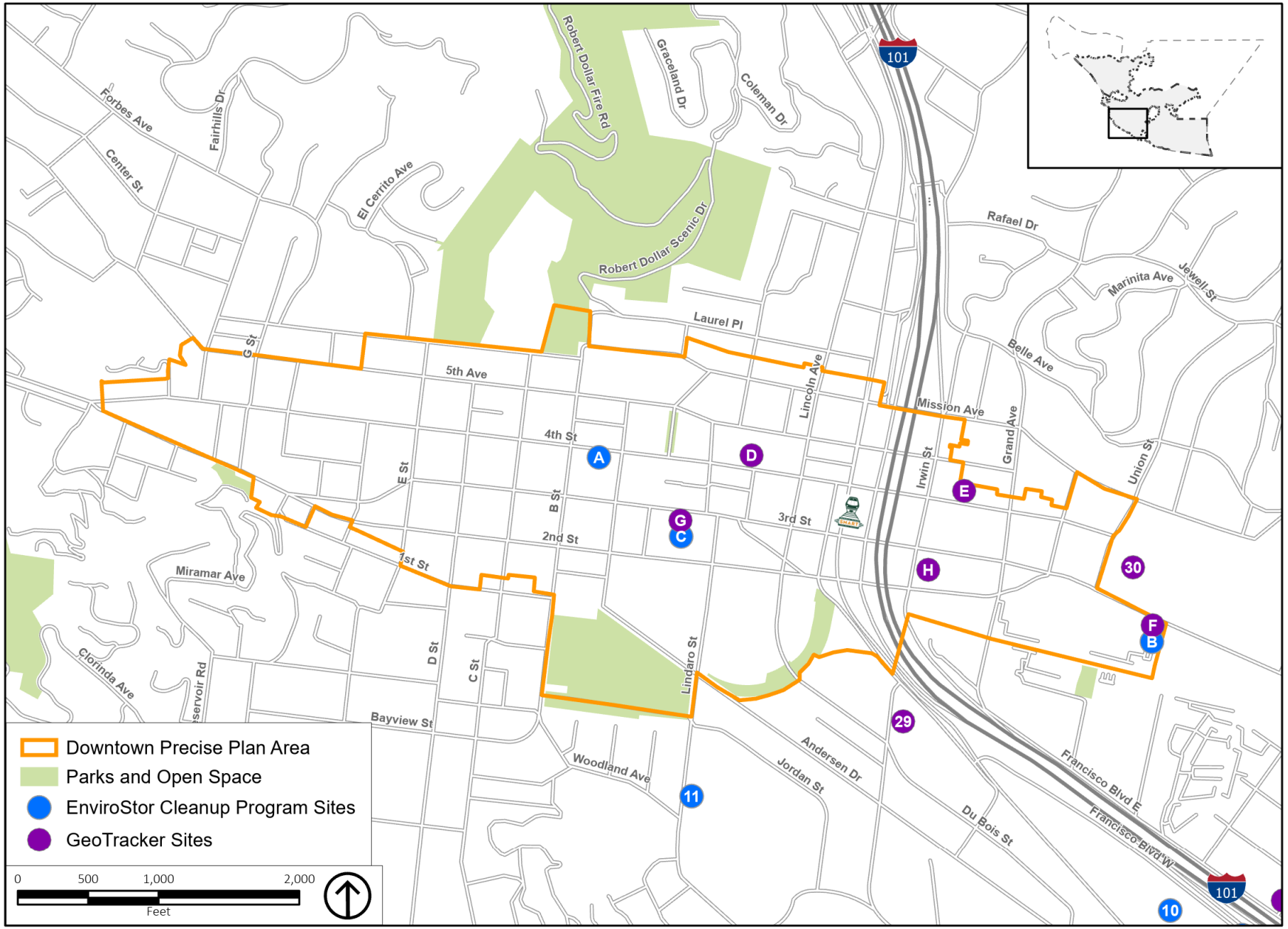
Pursuant to Appendix G, Environmental Checklist Form, of the CEQA Guidelines, implementation of the proposed project would result in a significant impact related to hazards and hazardous materials if it would:

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 materials, substances or waste within 0.25 miles of an existing or proposed school.
4. 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.
5. 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.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
8. Result in significant cumulative impacts related to hazards and hazardous materials

TABLE 4.9-2 RELEVANT HAZARDOUS MATERIAL SITES IN THE DOWNTOWN PRECISE PLAN AREA

Map ID	Site Name	Address	Site Type	Potential Contaminants	Cleanup Status
Envirostor Cleanup Program Sites					
A.	Former Maxim Gas Plant Office	4th Street Between A & B Streets	State Response	No contaminants found	No Further Action
B.	Marin-Sonoma Mosquito Abatement District	201 3rd Street	Voluntary Cleanup	Benzene, DDT, Diesel, Xylenes	Certified / Operation & Maintenance
C.	PG&E, San Rafael MGP (San Rafael Corporate Center)	2nd Street and Anderson Drive on both sides of Avenue and Lindaro Street	Voluntary Cleanup	Contaminated soil, Lead, PAHS, VOCs	Active
GeoTracker Sites					
D.	Former Grand Auto Store #9	850 4th Street	Cleanup Program Site	None specified	Open - Inactive
E.	Marin Cleaners	520 4th Street	Cleanup Program Site	Other chlorinated hydrocarbons, PCE, TCE	Open - Remediation
F.	Marin/Sonoma Mosquito (Former)	201 3rd St	Cleanup Program Site	Diesel	Open - Verification Monitoring
G.	PG&E - MGP - San Rafael	Listed as Third St And Brooks Ave, but known as the 999 3rd St site	Cleanup Program Site	Petroleum, Fuels, Soils, Polynuclear aromatic hydrocarbons	Open - Remediation - Land Use Restrictions
H.	Shell	834 Irwin St	LUST Cleanup Site	Diesel, Gasoline, Waste oil	Open - Verification Monitoring

Notes: Sites with a cleanup status of "closed" or "completed – case closed" and are included in Appendix G, Hazardous Materials Data, of this Draft EIR.
Source: Department of Toxic Substance Control (DTSC) EnviroStor 2019 and State Water Resources Control Board (SWRCB) GeoTracker 2019.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.9-2
Downtown Active Hazardous Materials Sites

4.9.3 IMPACT DISCUSSION

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.**

General Plan 2040

Implementation of the proposed General Plan 2040 would facilitate potential new development, including residential, mixed-use, commercial, industrial, and recreational uses, within San Rafael. However, there are no changes to the amount of land that is designated for industrial or light industrial uses that generate substantial quantities of hazardous materials and therefore the routine transport of hazardous materials. While 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. In general, these potentially hazardous materials would not be of the type to occur in sufficient quantities to pose a significant hazard to public health and safety or to the environment. As described in Section 4.9.1.1, 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) has substantial regulations concerning hazardous materials in the EIR Study Area. For example, Marin County WMD requires the development and approval of Hazardous Materials Management Plans demonstrating safe storage and handling of hazardous materials and requires inspections of such handling and storage.

Potential future development 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 Conservation and Climate Change (C) and Safety and Resilience (S) Elements contain goals, policies, and programs that require local planning and development decisions to require best hazardous materials practices as part of development. The following goals, policies, and programs would serve to minimize exposure to hazardous materials from routine transport, use, or disposal in the EIR Study Area.

Goal C-3: Clean Water. Improve water quality by reducing pollution from urban runoff and other sources, restoring creeks and natural hydrologic features, and conserving water resources.

- Policy C-3.5: Groundwater Protection. Protect San Rafael's groundwater from the adverse effects of urban uses. Encourage opportunities for groundwater recharge to reduce subsidence and water loss, and support water-dependent ecosystems.
  - Program C-3.5A: Underground Tank Remediation. Continue efforts to remediate underground storage tanks and related groundwater hazards. Avoid siting new tanks in areas where they may pose hazards, including areas prone to sea level rise.

Goal S-5: Protection from Hazardous Materials. Protect those who live, work, and visit San Rafael from risks associated with hazardous materials.

- Policy S-5.1: Hazardous Waste Management. Support State, regional, countywide and local programs to responsibly manage hazardous waste consistent with protection of public health, welfare, safety and the environment.
- Policy S-5.2: Hazardous Materials Storage, Use and Disposal. Enforce regulations regarding proper storage, labeling, use and disposal of hazardous materials to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal.
  - Program S-5.2A: CUPA Program. Continue to participate in the Certified Unified Program Agency (CUPA) program. The CUPA's responsibilities shall include overseeing the investigation and closure of contaminated underground storage tank sites.
- Policy S-5.4: Development on Formerly Contaminated Sites. Ensure that the necessary steps are taken to clean up residual hazardous materials on any contaminated sites proposed for redevelopment or reuse. Properties that were previously used for auto service, industrial operations, agriculture, or other land uses that may have involved hazardous materials should be evaluated for the presence of toxic or hazardous materials in the event they are proposed for redevelopment with a sensitive land use.
  - Program S-5.4A: Use of Environmental Databases in Development Review. When development is proposed, use environmental and hazardous materials data bases (such as the State GeoTracker data base) to determine whether the site is contaminated as a result of past activity. As appropriate, require studies and measures to identify and mitigate identified hazards.
  - Program S-5.4B: Hazardous Soils Clean-Up. Work with appropriate agencies to require remediation and clean-up prior to development of sites where hazardous materials have impacted soil or groundwater. The required level of remediation and clean-up shall be determined by the Certified Unified Program Agency based on the intended use of the site and health risk to the public.
- Policy S-5.5: Transportation of Hazardous Materials. Enforce Federal, State and Local requirements and standards regarding the transportation of hazardous materials. As appropriate, support legislation that strengthens these requirements.
  - Program S-5.5A: Safe Transport of Hazardous Materials. Support California Highway Patrol's efforts to ensure the safe transport of hazardous materials.
  - Program S-5.5B: Pipeline Safety. Coordinate with regulatory agencies and utilities to ensure the safety of all fuel pipelines and ensure that maintenance and operating conditions are fully compliant with all state and federal safety regulations

- Policy S-5.6: Hazardous Building Materials. Reduce the presence of hazardous building materials by implementing programs to mitigate lead, friable asbestos, and other hazardous materials where they exist today and by limiting the use of hazardous building materials in new construction. If such materials are disturbed during building renovation or demolition, they must be handled and disposed in a manner that protects human health and the environment.
- Policy S-5.7: Household Hazardous Waste. Promote education about the safe disposal of household hazardous waste, such as motor oil and batteries, including the location of designated household hazardous waste disposal sites.

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*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Similar to potential development in the remainder of the EIR Study Area, potential future development in the Downtown Precise Plan Area could occur on sites with known hazardous materials and/or potentially hazardous building materials that would require cleanup prior to any development; thus, the transport of hazardous materials could occur during future remediation and/or construction activities. Any remediation or construction activities that result in the transport and/or disposal of hazardous materials would be required to comply with all regulations applicable to potential future development under the proposed General Plan 2040. Therefore, it is anticipated that there would be no exposure of hazardous materials during routine transport and/or disposal of such materials.

The proposed types of uses that could occur in the Downtown Precise Plan Area are office, commercial, civic, and residential land uses and, therefore, would generally not include manufacturing or research processes that generate substantial quantities of hazardous materials. As with the proposed General Plan 2040, any potential future development 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 upset and accident involving the use of hazardous materials.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from hazardous materials; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not result in impacts related to the routine transport, use, and disposal of hazardous materials and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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.**

General Plan 2040

The proposed General Plan 2040 would facilitate potential new development, including residential, mixed-use, commercial, industrial, and recreational uses, within San Rafael. 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 4.9-1. 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.

Potential future development under the proposed project would be required to comply with existing regulations as part of the City's project approval process, as described in Section 4.9.1.1, Regulatory Framework, of this chapter. The City actively monitors compliance with federal, State, regional, and local regulations, including SRMC Chapter 14.16.180, Hazardous Soil Conditions, which requires new development on lots filled prior to 1974, that may have involved hazardous materials, be evaluated for the presence of toxic or hazardous materials prior to development approvals. Compliance with the required Stormwater Pollution Prevention Plan and best management practices (see Chapter 4.10, Hydrology and Water Quality, for additional detail), as well as the implementation of the General Plan goals, policies, and programs that have been prepared to minimize impacts related to accidents and spills of hazardous materials listed in Impact Discussion HAZ-1, 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. In addition, as described under Impact Discussion HAZ-4, implementation of Mitigation Measure HAZ-4 would reduce the accidental release of hazardous materials to the public and the environment from sites with known hazardous material contamination. Therefore, the impact is *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

Potential new development, including residential, mixed-use, and commercial uses would occur in the Downtown Precise Plan Area. Same as the proposed General Plan 2040 discussed previously, potential future development in the Downtown Precise Plan Area 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 4.9-2. Due to the age of the existing buildings in the

Downtown Precise Plan Area, these buildings may contain asbestos-containing materials or lead-based paint, which were not regulated in construction until the early 1970s. Any remediation, construction and demolition activities, or routine use of, hazardous materials, would be required to comply with all federal, State, regional, and local regulations also applicable to potential future development in the remainder of the city. Furthermore, the mitigation measures identified in Impact Discussion HAZ-4 would also reduce impacts from airborne hazardous materials.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from hazardous materials; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not result in a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of these materials into the environment and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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.

General Plan 2040

It is possible that implementation of the proposed General Plan 2040 could result in potential future development that would involve hazardous materials, either through construction or operation of new development, within 0.25 miles of an existing or proposed school. As described under Impact Discussions HAZ-1 and HAZ-2, while some potential future development under the proposed General Plan 2040 could be reasonably expected to handle hazardous materials or generate hazardous emissions, the storage, use, and handling of these materials would be subject to existing federal, State, and local regulations. Potential future development would be required to comply with existing regulations as described in Section 4.9.1.1, Regulatory Framework, and reiterated in Impact Discussions 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.

The proposed Safety and Resilience (S) Element contains additional provisions that require local planning and development decisions to ensure hazardous materials sites do not impact adjacent sites that contain sensitive land uses or populations in the EIR Study Area.

Goal S-5: Protection from Hazardous Materials. Protect those who live, work, and visit San Rafael from risks associated with hazardous materials.

- Policy S-5.3: Protection of Sensitive Uses. Provide safe distances between areas where hazardous materials are handled or stored and sensitive land uses such as schools, public facilities, and

residences. When the location of public improvements in such areas cannot feasibly be avoided, effective mitigation measures will be implemented.

- Program S-5.3A: Inventory of Existing Hazards. Work with State and County GIS data to identify existing hazardous materials permit holders near schools, evaluate relative risk levels, and determine actions in the event of an accidental release. This data should be used to evaluate risk levels and develop measures to ensure the safety of students and school staff where necessary.
- Program S-5.3B: Reducing Hazards Near Schools. Consistent with CEQA and the California Public Resource Code 21151.4, limit activities with the potential to release hazardous materials within one-quarter mile of schools.

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. Furthermore, implementation of Mitigation Measures HAZ-4 below would reduce impacts from sites with known hazardous material contamination, and Mitigation Measure AIR-3.1b, in Chapter 4.3, Air Quality, of this Draft EIR, would reduce impacts from airborne hazardous materials during construction activities near sensitive land use projects (e.g., hospitals, nursing homes, daycare centers) in San Rafael. Compliance with existing requirements and the recommended mitigation measures, would therefore reduce the potential for emission of hazardous materials within 0.25 miles of a school during construction and operation of future development, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As with the proposed General Plan 2040, potential future development in the Downtown Precise Plan Area could occur on sites that require the removal of hazardous materials during construction, or the use of hazardous materials during project operation that are within 0.25 miles of existing schools. However, as discussed above, any remediation, construction activities, or routine use of, hazardous materials, would be required to comply with all federal, State, regional, and local regulations, including the proposed General Plan 2040 goals, policies, and programs listed in Impact Discussion HAZ-1, as well as Mitigation Measures HAZ-4 and AIR-3.1b, which reduce the risk of potential release of hazardous materials within 0.25 miles of an existing or proposed school.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from hazardous materials; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not result in a hazardous materials impact within 0.25 miles of an existing or proposed school and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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.**

General Plan 2040

As shown in Table 4.9-1, a number of hazardous materials sites are listed on databases compiled pursuant to Government Code Section 65962.5. These include 31 sites located in the greater EIR Study Area, outside of the Downtown Precise Plan Area, designated as active. Although implementation of the proposed General Plan 2040 anticipates that potential future development and redevelopment could occur on existing vacant or infill sites in urban areas, the location of potential future development is unknown and may occur on sites included in the database in Table 4.9-1. As discussed in Impact Discussions 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 Impact Discussions 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. However, because hazardous materials sites exist in the EIR Study Area, as indicated in Table 4.9-1, it is possible that future development could occur on a designated hazardous materials site, which could result in the direct contact, inhalation, or ingestion of hazardous materials that could potentially cause adverse health impacts to construction workers, future site inhabitants, and nearby sensitive receptors. The preparation of project-specific management plans and studies would require mitigation that would protect construction workers, future site inhabitants, and nearby sensitive receptors.

The severity of health effects would depend on the contaminant(s), concentration, use of personal protective equipment during construction, and duration of exposure. Site specific Environmental Site Management Plan for sites with known contamination would summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations. The ESMP would include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP would:

- Provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation and dewatering activities, respectively;

- Describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations;
- and Designate personnel responsible for implementation of the ESMP.

For sites with potential residual contamination in soil or groundwater that are planned for redevelopment with an overlying occupied building, a soil vapor intrusion assessment would indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor barriers, passive venting, and/or active venting.

Without site-specific evaluation for sites with known contamination, the disturbance and release of hazardous materials during earthwork activities, if present, could pose a hazard to construction workers, nearby receptors, and the environment, and impacts could be potentially *significant*.

Impact HAZ-4: Potential future development could result in construction and operation activities on sites with known hazardous materials and, as a result, create a significant hazard to the public or the environment.

Mitigation Measure HAZ-4: To ensure that construction on sites with known contamination pursuant to the lists compiled pursuant to Government Code Section 65962.5, which include, but are not limited to, the Department of Toxic Substance Control's online EnviroStor database and the State Water Resource Control Board's online GeoTracker database, do not result in or create a significant hazard to the public or the environment, the City shall adopt the following General Plan programs to support Policy S-5.4 (Development on Formerly Contaminated Sites) to be implemented as part of the project approval process:

- New Program: Environmental Site Management Plan. Require the preparation of an Environmental Site Management Plan (ESMP) in consultation with the San Francisco Bay Regional Water Quality Control Board and/or the Department of Toxic Substance Control, for development on sites with known contamination of hazardous materials pursuant to Government Code Section 65962.5, which include, but are not limited to, the Department of Toxic Substance Control's online EnviroStor database and the State Water Resource Control Board's online GeoTracker database.
- New Program: Soil Vapor Intrusion Assessment. For sites with potential residual contamination in soil or groundwater that are planned for redevelopment with an overlying occupied building, a soil vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements.

Significance with Mitigation: Less than significant.

Downtown Precise Plan

As shown in Table 4.9-2, a number of hazardous materials sites in the Downtown Precise Plan Area are listed on databases compiled pursuant to Government Code Section 65962.5. There are eight sites

specifically within the Downtown Precise Plan Area, which are currently active. The Downtown Precise Plan Area is considered urban and largely built out and all potential future development and redevelopment would therefore occur on existing vacant or infill sites. As with the proposed General Plan 2040, the specific location of future development is unknown and may occur on sites included in the database in Table 4.9-2. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from hazardous materials; therefore, the impacts and mitigation described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area and impacts could be potentially *significant* without mitigation.

Significance with Mitigation: Less than significant.

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.**

The EIR Study Area is not located within an airport land use plan area. A small private airport, the San Rafael Airport, is located in the northeastern corner of the EIR Study Area, and the nearest public airport, the Marin County Airport, is located approximately 8 miles north of the EIR Study Area. Given the distances from the nearest public or public use airports, the EIR Study Area would not be subject to any airport safety hazards. The proposed project would also not have an adverse effect on aviation safety or flight patterns. Therefore, there would be *no impact* related to public airport hazards.

Significance without Mitigation: Less than significant.

HAZ-6	**Implementation of the proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

General Plan 2040

Potential future development in the city is projected to occur primarily 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, and in areas with close proximity to public transportation. 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 San Rafael LHMP.

The proposed Safety and Resilience (S) Element 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 EIR Study Area does not physically interfere with any such adopted plan.

Goal S-1: A Safer, More Resilient City. Minimize San Rafael's vulnerability to the impacts of environmental hazards and public health emergencies.

- Policy S-1.1: Local Hazard Mitigation Plan (LHMP). The San Rafael LHMP is adopted by reference into the General Plan.1 Policies and actions throughout the General Plan shall be consistent with the LHMP and support its goals and objectives.
- Policy S-1.4: Public Health Emergencies. Minimize the impact of public health emergencies, including pandemics, through effective planning, response, and recovery. The City will work with the County of Marin and other public and private partners to contain and control disease outbreaks, limit the number of illnesses and deaths, preserve the continuity of critical government functions, minimize social disruption, and reduce economic loss.
  - Program S-1.4A: LHMP Amendments. Amend local emergency preparedness documents as needed to address public health emergencies, including communication protocol, emergency operating procedures, and provisions for sheltering-in-place.

Goal S-6: Emergency Preparedness. Improve disaster preparedness, resiliency, response, and recovery. The City should enhance public outreach, awareness, education, and preparedness for all hazards to minimize losses.

- Policy S-6.1: Disaster Preparedness Planning. Conduct disaster prevention and preparedness planning in cooperation with other public agencies and public interest organizations.
  - Program S-6.1A: Mutual Aid Agreements. Continue, and where feasible expand, mutual aid agreements that augment public safety personnel in times of emergency.
  - Program S-6.1B: Standardized Emergency Management System (SEMS). Maintain a SEMS-based emergency plan that provides direction and identifies responsibilities after a disaster. Continue to train all City employees and officials in SEMS procedures.
  - Program S-6.1.C: Emergency Preparedness Plan. Update and publicize the City's emergency preparedness plan in conformance with State guidelines, including information on evacuation routes and shelter locations. The City's Emergency Operations Center Handbook also should be updated.

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 San Rafael LHMP, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As with the proposed General Plan 2040, potential future development under the Downtown Precise Plan would occur on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized. Implementation of the Downtown Precise Plan would require

compliance with all federal, State, regional, and local regulations, including the proposed General Plan 2040 goals, policies, and programs listed above, which ensure compliance with existing emergency response and evacuation plans.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from hazardous materials; therefore, the impact described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not interfere with existing adopted plans such as the Marin Operational Area EOP, the Marin County Operational Area ERP, and the San Rafael LHMP, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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.**

General Plan 2040

Chapter 4.18, Wildfire, of this Draft EIR provides a discussion of the relevant regulatory framework and existing conditions pertaining to wildland fire hazards in the EIR Study Area. The EIR Study Area contains land within the State Responsibility Area and Local Responsibility Area, shown on Figure 4.18-1. The portion of the EIR Study Area within the State Responsibility Area is designated as a moderate fire hazard severity zone. 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 4.18-2, the EIR Study Area also includes lands within the WUI, which is defined as any area where structures and other human development meet or intermingle within wildland vegetation.[11] However, 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 2020.

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 EIR Study Area. Therefore, while not prohibiting potential future development from occurring in the State or Local Responsibility Area or within the WUI, by increasing infill opportunities, the City is reducing the need for development in higher-risk areas. As shown on Figure 4.18-3, some infill sites are located within the WUI areas. 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 4.18, Wildfire, of this Draft EIR, and the City's WPPAP, all which reduce the likelihood of significant risk of loss, injury, or death involving wildland fires. Therefore, implementation of the proposed General

[11] California Office of Emergency Services. 2018. *California State Hazard Mitigation Plan*.

Plan 2040 would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

The Downtown Precise Plan Area contains minimal areas of both high and moderate fire hazard severity zones, and as with the remainder of the city, there are no very high fire severity zones (see Figure 4.18-3). Areas in the north, northwest, and southwest of the Downtown Precise Plan Area are within the WUI (see Figure 4.18-4). As with the proposed General Plan 2040, the majority of potential future development under the Downtown Precise Plan would occur on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, some of which would occur within the WUI area.

The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to reduce impacts from wildland fire hazards; therefore, the impact described for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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 EIR Study 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, as well as implementation of Mitigation Measure HAZ-4 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 EIR Study Area from the proposed project would not contribute to a cumulative increase in hazards in the immediate vicinity of the Downtown Precise Plan Area, EIR Study Area, or greater Marin County region. Therefore, cumulative impacts associated with hazards and hazardous materials would be *less than significant*

Significance with Mitigation: Less than significant.

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