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DRAFT ENVIRONMENTAL IMPACT REPORT

808 Alameda de las Pulgas Townhome Development Draft EIR

for the City of San Carlos

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Draft Environmental Impact Report

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808 Alameda de las Pulgas Townhome Development Draft EIR

for the City of San Carlos

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1. Executive Summary

This chapter presents an overview of the proposed 808 Alameda de las Pulgas Townhome Development Project, herein referred to as the "proposed project." This executive summary also provides a summary of the alternatives to the proposed project, issues to be resolved, areas of controversy, and conclusions of the analysis contained in Chapters 4.1 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*, of this Draft EIR.

This Draft EIR addresses the environmental effects associated with the implementation of the proposed project. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to acting 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 and local and State governmental agency 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 (California Public Resources Code, Division 13, Section 21000, et seq.) and the CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000, et seq.) 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 Carlos, 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 subconsultant reports. Information for this Draft EIR was obtained from on-site field observations; discussions with affected 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, geotechnical hazards, and transportation).

1.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. The six main objectives of this document as established by CEQA are as follows:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental damage.
- 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 CEQA and the CEQA Guidelines and provides the information needed to assess the environmental consequences of a project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a 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 project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and adopt a Statement of Overriding Considerations if the project would result in a significant impact or impacts that cannot be avoided.

1.1.1 REPORT ORGANIZATION

This Draft EIR has been organized as follows.

- Chapter 1: Executive Summary. Summarizes the background and description of the proposed project, the format of this Draft EIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the proposed project.
- Chapter 2: Introduction. Describes the purpose of this Draft EIR, background on the proposed project, the Notice of Preparation (NOP), and Final EIR certification.
- Chapter 3: Project Description. A detailed description of the proposed project location and the environmental setting on and surrounding the project site, the proposed project, the objectives of the proposed project, the approvals anticipated being included as part of the proposed project, the necessary environmental clearances for the proposed project, and the intended uses of the Draft EIR.
- Chapter 4: Environmental Analysis. Organized into 18 sub-chapters corresponding to the environmental resource categories identified in Appendix G, *Environmental Checklist*, of the CEQA Guidelines, this chapter provides a description of the physical environmental conditions in the vicinity of the proposed project as they existed at the time the NOP was published, from both a local and regional perspective, as well as an analysis of the potential environmental impacts of the proposed project, and recommended mitigation measures, if required, to reduce their significance. The environmental setting included in each sub-chapter provides baseline physical conditions from which the lead agency determines the significance of environmental impacts resulting from the proposed project. Each sub-chapter 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. Considers two alternatives to the proposed project, including the CEQA-required "No Project" alternative, and a Tree Preservation Alternative.
- Chapter 6: CEQA-Mandated Sections. Discusses unavoidable significant effects, significant irreversible changes, and growth inducement as a result of the proposed project. Additionally, this chapter identifies environmental issues with no impacts pursuant to CEQA Guidelines Section 15128.
- Chapter 7: Organizations and Persons Consulted. Lists the people and organizations that were contacted during the preparation of this EIR.
- Chapter 8: List of Acronyms and Abbreviations. Lists the acronyms and abbreviations used in this EIR and their corresponding definitions.
- Appendices. The appendices for this document include the following supporting documents:
  - Appendix A: Notice of Preparation and Scoping Comments
  - Appendix B: Proposed Project Plans
  - Appendix C: Air Quality and Greenhouse Gas Emissions Data
  - Appendix D: Health Risk Assessment
  - Appendix E: Biological Resources
  - Appendix F: Wetland Delineation
  - Appendix G: Cultural Resource Reports
  - Appendix H: Geotechnical and Geologic Study
  - Appendix I: Phase I Environmental Site Assessments
  - Appendix J: Hydrology and Water Quality
  - Appendix K: Noise Data
  - Appendix L: Transportation Impact Analysis
  - Appendix M: Transportation Demand Management Plan
  - Appendix N: Utilities
  - Appendix O: Emergency Access

1.1.2 TYPE AND PURPOSE OF THIS DRAFT EIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

> *Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

As described in the CEQA Guidelines, different types of EIRs are used for varying situations and intended uses. Given the short-term nature of the proposed project and the permitting 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 project EIR, pursuant to Section 15161 of the CEQA Guidelines. As a project EIR, the environmental analysis will focus primarily on the changes in the environment that would result from the development of the 808 Alameda de las Pulgas Townhome Development Project. This project EIR will examine the specific short-term impacts (construction) and

long-term impacts (operation) that would occur as a result of proposed project approval by the City of San Carlos City Council.

1.2 SUMMARY OF THE PROPOSED PROJECT

Veev Group, the project applicant, is proposing the 808 Alameda de las Pulgas Townhome Development Project. The proposed project would involve site preparation and construction of a townhouse development on the approximately 11.4-acre former Black Mountain Spring Water Company property (project site) in central San Carlos, just west of the intersection of Castor Road and Alameda de las Pulgas. The project would result in the development of 87 attached townhouses of three distinct unit types, reconfigured and new rights-of-way, new landscaping, a walking trail, and erosion-control elements. The proposed project is described in further detail in Chapter 3, *Project Description*, of this Draft EIR.

1.3 SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

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 some 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:

- No Project Alternative
- Tree Preservation Alternative

Chapter 5, *Alternatives*, of this Draft EIR includes a complete discussion of these alternatives and of alternatives that were rejected for various reasons.

1.4 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 Carlos, 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 those 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 mitigation measures should be adopted or modified.

- Whether there are other mitigation measures that should be applied to the proposed project besides those mitigation measures identified in this 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.

1.5 AREAS OF CONTROVERSY

On February 11, 2019, the City of San Carlos issued an NOP for the Black Mountain Townhome Development EIR. Subsequently, in September 2020, the applicant submitted a revised project, the 808 Alameda de las Pulgas Townhome Development Project, and the City determined that a second NOP reflecting the new project should be circulated to allow responsible agencies and the public to comment on the revised project. The City issued the second NOP on January 8, 2021. The scoping period for this Draft EIR was between January 8 and February 8, 2021, during which, interested agencies and the public could submit comments about the proposed project. During this time, the City received 34 comment letters, including letters from the California Department of Transportation (Caltrans) and members of the public at large. These letters are provided in Appendix A, *Notice of Preparation and Scoping Comments*, of this Draft EIR.

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. While every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive, but rather attempts to capture those concerns that are likely to generate the greatest interest based on the input received during the scoping process.

- Biological resources
- Construction-related noise and air quality
- Operational noise
- Transportation and traffic

1.6 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by a project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. While the proposed project has the potential to generate significant environmental impacts in a number of areas, as described in Chapter 6, *CEQA-Mandated Sections*, of this Draft EIR, the proposed project would have no significant impact on the following environmental topics due to existing conditions on the project site and surrounding area. These issues have therefore not been analyzed further in this Draft EIR.

- Agricultural and Forestry Resources
- Mineral Resources

Table 1-1, *Summary of Significant Impacts and Mitigation Measures*, summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of the significant impacts and

mitigation measures identified. It is organized to correspond with the environmental issues discussed in Chapters 4.1 through 4.18. The table is arranged in four columns: (1) significant environmental impacts, (2) significance without mitigation, (3) mitigation measures, and (4) significance with mitigation. For a complete description of the proposed project's potential impacts, please refer to the specific discussions in Chapters 4.1 through 4.18.

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
AESTHETICS			
AES-4: The project may include the installation of photovoltaic solar panels. Because the placement and specifications for the panels is not yet known, the panels have the potential to become sources of glare.	S	**AES-4:** Prior to the installation of photovoltaic panels on the project site, the City shall review the panel specifications and construction plans and verify that the panels are designed and installed to ensure the following: ▪ The angle at which panels are installed precludes, or minimizes to the maximum extent practicable, glare observed by viewers on the ground. ▪ The reflectivity of materials used shall not be greater than the reflectivity of standard materials used in residential developments.	LTS
AIR QUALITY			
AQ-2: Uncontrolled fugitive dust (PM_{10} and $PM_{2.5}$) could expose the areas that are downwind of construction sites to air pollution from construction activities without the implementation of the Air District's best management practices.	S	**AQ-2:** The project contractor shall comply with the Bay Area Air Quality Management District's best management practices for reducing construction emissions of uncontrolled fugitive dust (coarse inhalable particulate matter [PM_{10}] and fine inhalable particulate matter [$PM_{2.5}$]): ▪ Water all active construction areas at least twice daily or as often as needed to control dust emissions. Watering shall be sufficient to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible. ▪ Pave, apply water twice daily or as often as necessary to control dust, or apply (non-toxic) 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. ▪ Hydro-seed or apply non-toxic soil stabilizers to inactive construction areas. ▪ Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (e.g., dirt, sand).	LTS

LTS = Less than Significant; S = Significant

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Limit vehicle traffic speeds on unpaved roads to 15 miles per hour. ▪ Replant vegetation in disturbed areas as quickly as possible. ▪ Install sandbags or other erosion control measures to prevent silt runoff from public roadways. These measures shall be noted on grading plans prepared by the applicant submitted to the City of San Carlos. The construction contractor shall implement these measures during ground disturbing activities. The City of San Carlos Building Division shall verify compliance that these measures have been implemented during normal construction site inspections.	

AQ-3: Construction activities of the project could expose sensitive receptors to substantial concentrations of TACs and $PM_{2.5}$, exceeding the applicable Air District thresholds.	S	**AQ-3**: Construction contractors shall use United States Environmental Protection Agency Tier 4 Interim equipment for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours, unless it can be demonstrated to the City of San Carlos Building Division that such equipment is not commercially available. For purposes of this mitigation measure, "commercially available" shall mean the availability of Tier 4 Interim engines similar to the availability for other large-scale construction projects in the city occurring at the same time and taking into consideration factors such as (i) potential significant delays to critical-path timing of construction and (ii) geographic proximity to the project site of Tier 4 Interim equipment. Where such equipment is not commercially available, as demonstrated by the construction contractor, Tier 3 equipment retrofitted with a California Air Resources Board's Level 3 Verified Diesel Emissions Control Strategy (VDECS) shall be used. The requirement to use Tier 4 Interim equipment for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours shall be identified in construction bids. In addition, the following shall also be completed:
		▪ Requirements for off-road equipment:
		  ▪ Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for United States Environmental Protection Agency Tier 4 Interim or higher emissions standards for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours.
		  ▪ During construction, the construction contractor shall maintain a list of all operating off-road equipment in use over 20 hours on the construction site for
			LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		verification by the San Carlos Building Division. ▪ The construction equipment list shall state the makes, models, Engine Identification Numbers, Engine Family Numbers, and numbers of off-road construction equipment on-site. ▪ To the extent that equipment is available and cost-effective, contractors shall use electric, hybrid, or alternate-fueled off-road construction equipment. ▪ Contractors shall use electric construction tools, such as saws, drills, and compressors, where grid electricity is available. ▪ Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9. ▪ All sub-contracts and construction documents shall identify that all non-essential idling of construction equipment is restricted to 5 minutes or less in compliance with California Air Resources Board Rule 2449. The construction contractor is responsible for ensuring that this requirement is met.	
BIOLOGICAL RESOURCES			
BIO-1.1: Removal of vegetative cover during project construction (including potential construction under Mitigation Measure TRAN-4b of an access road) may result in the inadvertent destruction of active nests of raptors and other native birds unless appropriate precautions are followed.	S	**BIO-1.1:** Adequate measures shall be taken to avoid inadvertent take of bird nests of native species protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps: ▪ If tree removal and initial construction is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of tree and vegetation removal in order to identify any active nests on the site and surrounding area within 100 feet of proposed construction. The project site, and the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, shall be resurveyed to confirm that no new nests have been established if vegetation removal and demolition has not been completed or if construction has been delayed or curtailed for more than 7 days during the nesting season. ▪ If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September 1 to January 31), tree and vegetation removal, building demolition, and project construction may proceed with no restrictions.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ If bird nests are found, an adequate setback shall be established around the nest location and vegetation removal, grading, and other construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW, and may vary depending on nest location, species, and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the project site. ▪ A report of findings shall be prepared by the qualified biologist and submitted for review and approval by the City prior to initiation of vegetation removal, building demolition, grading and other construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. Following approval by the City, tree removal, building demolition, and construction within the nest buffer zone may proceed. No report of findings is required if vegetation removal and other construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.	
BIO-1.2: Removal of trees and existing structures during project construction may result in the inadvertent destruction of active bat roosts unless appropriate precautions are followed. This impact does not pertain to the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, due to the lack of mature trees and absence of potential bat roosting habitat along the access road alignment.	S	**BIO-1.2:** Adequate measures shall be taken to avoid inadvertent take of special-status bat species if present in trees on the project site. This shall be accomplished by taking the following steps. ▪ A qualified biologist shall visually inspect trees to be removed and buildings to be demolished for bat roosts within 7 days prior to their removal. The biologist shall look for signs of bats including sightings of live or dead bats, bat calls or squeaking, the smell of bats, bat droppings, grease stains or urine stains around openings in trees, or flies around such openings. Trees with multiple hollows, crevices, forked branches, woodpecker holes, or loose and flaking bark have the highest chance of occupation and shall be inspected the most carefully. ▪ If signs of bats are detected, confirmation on presence or absence shall be determined by the qualified biologist, which may include night emergency or acoustic surveys. ▪ Due to restrictions of the California Health Department, direct contact by workers with any bat is not allowed. The qualified bat biologist shall be contacted immediately if a bat roost is discovered during project construction.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ If an active maternity roost is encountered during the maternity season (April 15 to August 31), the CDFW shall be contacted for direction on how to proceed and an appropriate exclusion zone established around the occupied tree or structure until young bats are old enough to leave the roost without jeopardy. The size of the buffer would take into account: ▪ Proximity and noise level of project activities; ▪ Distance and amount of vegetation or screening between the roost and construction activities; and ▪ Species-specific needs, if known, such as sensitivity to disturbance.	
BIO-1.3: Removal of trees and dense vegetative cover during project construction may result in the inadvertent destruction of active nests of San Francisco dusky-footed woodrat unless appropriate precautions are followed. This impact does not pertain to the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, due to the lack of suitable nesting habitat for dusky-footed woodrat along the access road alignment.	S	**BIO-1.3:** Adequate measures shall be taken to avoid inadvertent take of San Francisco dusky-footed woodrats on the project site. This shall be accomplished by taking the following steps: ▪ A qualified biologist shall be retained to conduct a preconstruction survey for San Francisco dusky-footed woodrats, to determine whether any stick nests are present in the vicinity of proposed vegetation removal and development. The survey shall be performed within 30 days prior to initiation of vegetation removal and grading. ▪ If any nests are encountered within the limits of proposed grading and development, a trapping and relocation effort shall be conducted outside the breeding season (March 1 through August 31) to ensure any young are not inadvertently lost due to the destruction of the protective nest. ▪ Any nests within the construction zone shall be relocated to locations retained as undeveloped open space and individual woodrats released into their relocated nests. The trapping and relocation effort shall preferably be conducted within 7 days prior to grubbing and vegetation removal to prevent individual woodrats from moving back into the construction zone.	LTS
BIO-3: Grading and other project activities could result in inadvertent disturbance to the wetland seep on the project site unless appropriate precautions are followed.	S	**BIO-3:** Appropriate measures shall be taken to avoid inadvertent damage to the wetland seep on the project site and secure appropriate authorization from the RWQCB for proposed modifications in the vicinity of this feature, if required. This shall consist of the following: ▪ Authorization for modifications to the wetland seep shall be obtained from the RWQCB in accordance with applicable regulations. This may include enrolling in and complying with the terms of Water Quality Order No. 2004-004 DWQ, if required by the RWQCB.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Temporary construction exclusion fencing shall be installed a minimum of 20-feet around the perimeter of the wetland seep in advance of any grading or other project construction, and all construction equipment shall be restricted from this no-disturbance zone. The temporary exclusion fencing may be removed in advance of installation of native enhancement plantings and seeding to be accomplished as part of the proposed habitat enhancement around this feature. ▪ Permanent signage shall be installed at a minimum 100-foot interval a minimum of 20-feet around the perimeter of the wetland seep, indicating the feature is "Sensitive Wetland Habitat" to reduce the risk of inadvertent damage in the future.	
BIO-5: Proposed tree removal and replacement would conflict with local plans and policies unless further refinement of the proposed project is provided.	S	**BIO-5a:** A detailed Landscape and Vegetation Management Program (LVMP) shall be prepared by a qualified landscape architect in consultation with a qualified biologist or plant ecologist experienced with native species. The LVMP shall: 1) provide for re-establishment of grassland and oak woodland cover on graded slopes in open space areas; 2) incorporate mitigation requirements to replace native trees removed as part of the project; 3) identify unsuitable species that should not be used in landscaping; 4) prevent the establishment and spread of introduced broom and other invasive species ; and 5) specify long-term management provisions to ensure re-establishment of native and ornamental landscape improvements. Aspects of the LVMP shall include the following: ▪ Graded slopes to remain as Natural State Areas shall be reseeded with a mixture of compatible native perennial and annual grassland species to increase the diversity of the grassland cover. Suitable species to be used in the seed mix include: California brome (*Bromus carinatus*), purple needlegrass (*Stipa pulchra*), creeping wildrye (*Leymus tritichoides*), California poppy (*Escscholtzia californica*), among others. Invasive non-native annuals typically used for erosion control alone shall not be used. Seeds shall be procured from weed-free suppliers, and the labels shall be inspected by the project biologist prior to planting. ▪ Landscaping and revegetation shall emphasize the use of native plant species along the fringe of proposed development, and plantings in open space areas should be restricted to native species. Suitable plant species for use in open space areas include: valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), California rose (*Rosa californica*), creeping wildrye (*Elymus triticoides*), and purple needlegrass (*Stipa pulchra*), among other species.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Vehicles and motorcycles shall not be allowed to travel off designated roadways to minimize future disturbance to grassland cover and other vegetation, and unauthorized access to the surrounding undeveloped lands and open space. ▪ Use of non-native, invasive species that may spread into adjacent undeveloped open space areas shall be prohibited in landscaping plans. Unsuitable species include but may not be limited to: eucalyptus (*Eucalyptus* spp.), acacia (*Acacia* spp.), pampas grass (*Cortaderia selloana*), broom (*Cytisus* spp.), gorse (*Ulex europaeus*), bamboo (*Bambusa* spp.), cotoneaster (*Cotoneaster* spp.), giant reed (*Arundo donax*), periwinkle (*Vinca* spp.), English ivy (*Hedera helix*), and German ivy (*Senecio milanioides*), among others ▪ Graded slopes and areas disturbed as part of the project shall be monitored to prevent reestablishment and spread of introduced broom species (*Cytisus* spp and *Genista monspesullana*). The removal and monitoring program shall include annual late winter removal of any rooted plants when soils are saturated and cutting back of any remaining flowering plants in the spring before seed begins to set in late April. ▪ Provisions for maintenance of landscaping and revegetation of graded slopes shall be specified as part of the LVMP, with replacement plantings and seeding provided as necessary to ensure re-establishment of cover. Tree replacement shall be at ratios consistent with Mitigation Measure BIO-5d. Maintenance and monitoring of landscape improvements in open space areas shall be provided for a minimum of five years. **BIO-5b:** Trees near the limits of grading shall be preserved and protected to the greatest extent possible where feasible from an engineering and geotechnical standpoint and warranted based on their fair to good health and structure. At minimum, these shall include consideration of preservation of heritage trees #1, 2, 3, 4, 5, 22, 23, 24, 26, 34, 35, 36, 69, 86, 228, 328, 332, 333, 334, and 335 identified in the applicant's Arborist Report. Where it is determined that preservation is feasible, the project applicant shall revise project grading and development plans to reflect adjustments to the limits of grading and improvements, use of retaining walls, short over-steepened slopes, and other methods. The feasibility of additional tree preservation shall be evaluated by both the applicant's and the City's arborist prior to the issuance of tree removal permits and/or grading permits, or the start of any construction activities (whichever comes first), and additional trees considered suitable for preservation shall be identified. During this evaluation, the project applicant's arborist shall conduct a follow-up survey of the site to identify additional trees that have died or are in decline since the Arborist Report was last	

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		updated in 2021. Following this survey, the applicant's arborist shall update the Arborist Report or prepare a separate memorandum containing an update to the Tree Assessment Chart contained in Appendix A of the Arborist Report in order to accurately reflect current tree status, update the number of trees to be retained and preserved, and update specific recommendations for preservation. The number of trees protected through further refinement of project plans shall be quantified, and the updated Arborist Report or memo with the Tree Assessment Chart summarizing final estimates for tree removal and preservation shall be submitted to the City for review and approval. **BIO-5c**: Following the refinement of tree removal and preservation estimates recommended in Mitigation Measure BIO-5b, the Tree Protection Guidelines and Restrictions (TPGR) in Appendix F of the project applicant's Arborist Report shall be updated and refined into a Tree Preservation Plan by a certified arborist to minimize possible damage to trees to be preserved during and after construction. The Grading Plan and Landscape Plan shall include the mapped location of all trunks for trees to be retained within 50 feet of proposed grading, show the recommended Tree Protection Zones, and identify locations of construction-restriction fencing, among other controls specified in the updated TPGR. **BIO-5d:** A Tree Replacement Program shall be prepared as part of the LVMP to provide for replacement of oak woodlands and individual native trees removed by proposed development. The Tree Replacement Program shall provide for replacement of individual native heritage trees at a minimum 1:1 ratio and shall preferably be accomplished on-site in areas to be retained as undeveloped open space. The Tree Replacement Program shall include the following provisions: ▪ Species composition of native replacement plantings shall generally be consistent with the percentage of each tree species removed. ▪ Replacement plantings shall be irrigated a minimum of two years during initial establishment and then artificial water cut back over the course of the next two to three years until artificial irrigation is completely curtailed. ▪ Tree plantings shall be monitored and maintained for a minimum of 5 years. Any plantings lost within this monitoring period shall be replaced at a 1:1 ratio on an annual basis and monitoring shall continue for at least two years past any loss of a replacement planting.	

LTS = Less than Significant; S = Significant

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Where on-site replacement plantings cannot be accommodated completely on-site because of insufficient suitable planting areas or due to wildfire prevention strategies, the Tree Replacement Program shall specify details for how the 1:1 mitigation ratio would be achieved at an off-site location or through payment of an in-lieu fee to the City. All details of any off-site tree replacement mitigation or payment of an in-lieu fee must be reviewed by the City's arborist and approved by the City.	
CULTURAL RESOURCES			
CULT-2: Implementation of the proposed project would have the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	S	**CULT-2:** Project supervisors, contractors, and equipment operators shall participate in an Archaeological Resource Awareness Training, conducted by a Secretary of Interior-qualified archaeologist, to become familiar with the type of artifacts and features that could be encountered during project-related ground disturbing activities, as well as the procedures to follow if archaeological resources are unearthed during construction. If archaeological resources are encountered during excavation or construction, construction personnel shall immediately suspend all activity within 50 feet of the suspected resources and the City and a licensed archaeologist shall be contacted to evaluate the situation. A licensed archaeologist shall be retained to inspect the discovery and determine the significance of the find and the appropriate mitigation. If the deposits are determined to be potentially significant, the resources shall be avoided if feasible. If avoidance is not feasible, project impacts shall be mitigated in accordance with the recommendations of the archeologist, in coordination with the City, local tribe, and the CEQA Guidelines Section 15126.4 (b)(3)(C), which requires implementation of a data recovery plan. Once the recovery plan has been reviewed and approved by the City, implemented, and any appropriate resource recovery completed, project construction activity within the area of the find may resume.	LTS

LTS = Less than Significant; S = Significant

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
CULT-3: Construction activities may result in unanticipated discovery of human remains interred outside of dedicated cemeteries.	S	**CULT-3:** In the event a human burial or skeletal element is identified during excavation or construction, all work must stop within 100 feet of the discovery area and the area shall be secured to prevent further disturbance. The City and the San Mateo County Coroner's office shall be notified immediately. If deemed prehistoric, the Coroner's office would notify the Native American Heritage Commission within 24 hours. The Native American Heritage Commission would identify a "Most Likely Descendant (MLD)." The archaeological consultant and MLD, in conjunction with the project sponsor, shall formulate an appropriate treatment plan for the find, which might include, but not be limited to, respectful scientific recording and removal, being left in place, removal and reburial on site, or elsewhere. Associated grave goods are to be treated in the same manner.	LTS
ENERGY			
No significant impacts			
GEOLOGY AND SOILS			
GEO-1: The proposed project would result in the placement of new buildings in areas susceptible to ground shaking, potentially resulting in significant loss, injury, or death.	S	**GEO-1:** Project construction shall adhere to the recommendations of the November 1, 2017, Cornerstone Earth Group *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California* (or an updated project geotechnical report reviewed and approved by the City), which provides preliminary recommendations for conceptual planning and preliminary design, including those for the presence of undocumented fills, the presence of moderately to highly expansive soils and soil creep, presence of a tunnel, potential difficult excavation within bedrock, springs, and differential movement at an on-grade to on-structure transitions. As recommended in the project geotechnical report, a licensed geotechnical engineer or their representative shall be present to provide geotechnical observation and testing during earthwork and foundation construction.	LTS
GEO-3: The proposed project would require mitigation to ensure safety regarding the potential for collapse associated with the on-site tunnel associated with the former bottling facility.	S	**GEO-3**: Implement Mitigation Measure GEO-1.	LTS
GEO-4: The proposed project would be placed on soil that is potentially susceptible to expansion, resulting in direct or indirect risks to life or property.	S	**GEO-4:** Implement Mitigation Measure GEO-1.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
GEO-6: The proposed project could cause damage to, or destruction of, unknown paleontological resources or unique geologic features due to ground-disturbing construction.	S	**GEO-6:** In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery, as needed, in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in California Environmental Quality Act (CEQA) Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project based on the qualities that make the resource important. The plan shall be submitted to the City of San Carlos for review and approval prior to implementation.	LTS
GREENHOUSE GAS EMISSIONS			
No significant impacts			
HAZARDS AND HAZARDOUS MATERIALS			
HAZ-1: Demolition activities for the proposed project, including the disposal of materials, could result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site.	S	**HAZ-1:** The construction contractor shall remove asbestos-containing materials and/or lead-based paint from the site prior to any activities which will disturb these materials. Asbestos disturbance and/or removal must be conducted by a California Division of Occupational Safety and Health registered and State licensed asbestos removal contractor. Disturbance and/or abatement operations shall be performed under the direct supervision of a California Certified Asbestos Consultant or Certified Site Surveillance Technician. The California Certified Asbestos Consultant must be approved by the Chief Building Official prior to the issuance of a demolition permit.	LTS
HAZ-2: Demolition activities for the proposed project could result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site.	S	**HAZ-2:** Implement Mitigation Measure HAZ-1.	LTS
HAZ-4: The proposed project may result in significant impacts due to the unrecorded removal of an underground storage tank and aboveground storage tank and from the unverified import of fill soils.	S	**HAZ-4:** Soil sampling and testing shall be performed to determine if the property has been impacted by former on-site fuel tanks. Additionally, soil sampling and testing of the fill material should be performed to ensure that contaminated soils above action levels are not present. If the testing results show that the soils are contaminated above action levels, the Applicant shall notify the San Mateo County Environmental Health Division of a leak as statutorily required and follow the Division's direction to obtain case closure.	LTS

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EXECUTIVE SUMMARY

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
HAZ-5.1: The proposed project exceeds the 30-foot height threshold and is within an area that has "Terrain Penetration of Airspace Surface" and is required to notify the Federal Aviation Administration prior to construction.	S	**HAZ-5.1:** As a requirement for development located within an FAA Notification Area, the project applicant shall file Form 7460-1, *Notice of Proposed Construction or Alteration*, with the FAA at least 30 days prior to project construction.	LTS
HAZ-5.2: The proposed project may result in significant impacts due to its being within 1.5 miles of San Carlos Airport in Airport Influence Areas A and B.	S	**HAZ-5.2**: The project site's proximity to San Carlos Airport shall be disclosed to future townhome buyers. The disclosure shall state: NOTICE OF AIRPORT IN VICINITY This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.	LTS
HYDROLOGY AND WATER QUALITY			
No significant impacts			
LAND USE AND PLANNING			
No significant impacts			
NOISE			
NOI-1.1: The proposed project would generate a substantial temporary increase in ambient noise levels during construction.	S	**NOI-1.1**: The project applicant shall incorporate the following practices into the construction contract specifications to be implemented by the construction contractor during the entire construction phase of the project. The project applicant and contractors shall prepare a Construction Noise Control Plan that includes the following measures: ▪ Limit construction to the hours of 8:00 a.m. to 6:00 p.m., Monday through Friday, and between 9:00 a.m. to 5:00 p.m. on weekends. ▪ At least 21 days prior to the start of construction activities, property owners within a 500-foot radius of the project site shall be notified of the planned construction. The notification shall include a brief description of the project, a description of the construction phases to occur, the construction hours noted above, and the overall construction duration. The notification shall include the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the	LTS

LTS = Less than Significant; S = Significant

TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		event of a noise or vibration complaint. ▪ At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, they shall investigate, take appropriate corrective action, and report the action to the City. ▪ Prior to the start of construction, the project applicant shall retain a qualified acoustical consultant to conduct construction noise monitoring during the major phases of project construction at select locations in the surrounding neighborhood. The number and location of monitoring positions, and the construction phases during which monitoring shall occur, shall be determined by City staff in consultation with the acoustical consultant. All sound level meters used during monitoring shall satisfy the American National Standards Institute (ANSI) standard of Type 1 instrumentation. All measurements shall be at least 5 feet above the ground and away from reflective surfaces. The noise monitoring data and results shall be submitted in a memorandum to the City on a weekly basis during the construction phases requiring monitoring, along with comparison to the 80 dBA $L_{eq\ (8\text{-}hr)}$ construction noise limit. If exceedances of the construction noise limit are found, the applicant's construction contractor shall modify construction techniques and equipment to reduce the construction noise below the 80 dBA $L_{eq(8\text{-}hr)}$ limit. ▪ Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. The signs shall note that all other equipment shall be turned off if not in use for more than 5 minutes. The construction manager shall be responsible for enforcing these noise reduction requirements. ▪ Construction trucks and equipment shall utilize the best available noise control techniques including improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible. ▪ The contractor shall use impact tools that are hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.	

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
		▪ Stationary noise sources (e.g., generators and air compressors) shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, insulation barriers, or other measures to reduce noise levels. ▪ Stockpiling of materials shall be located as far as feasible from nearby noise-sensitive receptors. ▪ During the entire active construction period, the use of noise-producing signals—including horns, whistles, alarms, and bells—shall be for safety warning purposes only. The construction manager shall require the use of smart back-up alarms on equipment. (These devices automatically adjust the alarm level based on the background noise level.) Alternately, equipment back-up alarms may be turned off and replaced with human spotters in compliance with all safety requirements and laws.	
NOI-1.2: The proposed project would include rooftop decks, the usage of which could generate ambient noise levels that exceed the City's noise standards during operation of the project.	S	**NOI-1.2:** The project site plan shall be redesigned to remove rooftop decks from townhomes within 150 feet of existing residential properties (as measured from the adjacent property line).	LTS
NOI-4: Construction of the proposed project, together with the construction of cumulative development, could generate a substantial temporary increase in ambient noise levels during construction.	S	**NOI-4:** Implement Mitigation Measure NOI-1.1.	LTS
POPULATION AND HOUSING			
No significant impacts			
PUBLIC SERVICES			
No significant impacts			
RECREATION			
No significant impacts			
TRANSPORTATION			
TRAN-1: The proposed project does not include construction of pedestrian facilities at the project site entrance.	S	**TRAN-1:** Prior to occupancy of the proposed project, the proposed project shall construct all pedestrian facilities shown on the project site plans, including a crosswalk across the project driveway entrance and a crosswalk with Rectangular Rapid Flashing Beacons across Alameda de las Pulgas at its intersection with the project entrance.	LTS
TRAN-3: Sight distance would be inadequate for	S	**TRAN-3a:** The proposed project shall be designed to achieve adequate stopping sight	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
southbound traffic on Alameda de las Pulgas approaching the project entrance driveway, and proposed on-site driveways for Lot 1 and Lots 15 through 21 do not comply with applicable safety-related code requirements.		distance for both northbound and southbound traffic on Alameda de las Pulgas. This can be achieved through removal of vegetation obstructing roadway views. A qualified traffic engineer shall verify sight distance upon removal to confirm that adequate sight distance has been achieved. Vegetation along Alameda de las Pulgas off of the project site shall be maintained to ensure it does not exceed 3 feet in height within sight distance triangles. The City of San Carlos shall be responsible for removing and maintaining vegetation within the public right of way, and the private property owner(s) shall be responsible for removing and maintaining vegetation within private property. The City shall enforce this requirement through its existing code enforcement procedures. **TRAN-3b:** Prior to issuance of grading permits, the project applicant shall demonstrate compliance with the site safety provisions in applicable code requirements (such as Municipal Code Sections 18.15.130 and 12.20.040).	
TRAN-4: The proposed emergency vehicle access does not comply with applicable code requirements related to fire safety, and the project has inadequate emergency access due to the lack of a second emergency egress point.	S	**TRAN-4a:** Prior to issuance of building permits, the project sponsor shall obtain final approval of an Alternative Materials and Methods Request(s) from the City of San Carlos. **TRAN-4b:** Prior to the issuance of permits that allow for any combustible construction on the project site (e.g., grading or building permits), the project sponsor shall construct an access road connecting the project site to Coronado Avenue. The Redwood City-San Carlos Fire Department shall review and approve the roadway plans to ensure that the road is adequately designed to accommodate emergency vehicle apparatus. The road shall provide emergency vehicle access to the project site as well as site evacuation in the event of an emergency. Construction of the roadway is not required in the event that a roadway connection to Coronado Avenue has already been established by another party prior to issuance of building permits.	LTS
TRIBAL CULTURAL RESOURCES			
TCR-1.1: Implementation of the proposed project may cause a substantial adverse change in the significance of a TCR, as defined in Public Resources Code Section 21074.	S	**TCR-1.1:** Implement Mitigation Measure CULT-2.	LTS
TCR-1.2: Implementation of the proposed project could cause a substantial adverse change in the	S	**TCR-1.2:** Implement Mitigation Measure CULT-3.	LTS

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TABLE 1-1 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Significance without Mitigation	Mitigation Measures	Significance with Mitigation
significance of a tribal cultural resource, pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.			
UTILITIES AND SERVICE SYSTEMS			
No significant impacts			
WILDFIRE			
WILD-2: Proposed project landscaping plans are not consistent with applicable defensible space requirements. Therefore, the project has the potential to exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire.	S	**WILD-2:** Prior to issuance of building permits, the applicant shall submit revised landscape plans as well as a vegetation management plan to the Redwood City-San Carlos Fire Department for review and approval. The landscape plans shall reflect that vegetation within 100 feet of structures incorporates vertical and horizontal spacing strategies for reducing fuels. The vegetation management plan shall include strategies such as the trimming of grasses; removal of dead or dying fuels; removal of fallen leaves, needles, etc.; removal of combustible items near or under balconies, decks, stairs, etc.; as well as any additional strategies required to maintain defensible space, as directed by the City of San Carlos and/or the Redwood City-San Carlos Fire Department. Vegetation management activities shall comply with Public Resources Code Section 4442, which requires that engines that use hydrocarbon fuels be equipped with a spark arrester, and that these engines be maintained in effective working order to help prevent fire. The project site plan shall be revised, if necessary, to conform to the revised landscaping plan and vegetation management plan.	LTS

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2. Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Chapter 14 of the California Code of Regulations, Section 15378[a], *Project*, the 808 Alameda de las Pulgas Townhome Development Project is considered a "project" subject to environmental review as its approval is "an action [undertaken by a public agency] which has a 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 (EIR) provides an assessment of the potential environmental consequences of implementation of the project, herein referred to as "proposed project." Additionally, this Draft EIR identifies mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR compares the development of the proposed project with the existing baseline condition, described in detail in Chapter 4, *Environmental Analysis*, and each sub-chapter (Chapters 4.1 through 4.18). The City of San Carlos (City) is the lead agency for the proposed project. This assessment informs the City's decision-makers, other responsible agencies,[1] and the public at large of the nature of the proposed project and its effect on the environment.

2.1 PROPOSED PROJECT

The proposed project would involve site preparation and construction of a townhouse development on the approximately 11.4-acre former Black Mountain Spring Water Company property (project site) in central San Carlos, just west of the intersection of Castor Road and Alameda de las Pulgas. The proposed project would result in the development of 87 attached townhouses of three distinct unit types, reconfigured and new rights-of-way, new landscaping, a walking trail, and erosion-control elements. The proposed project is described in more detail in Chapter 3, *Project Description*, of this Draft EIR.

2.2 EIR SCOPE

This Draft EIR is a project-level EIR that identifies and analyzes site-specific potential impacts of the project. This project EIR examines the specific short-term impacts (construction) and long-term impacts (operation) that would occur as a result of project approval and implementation. For a complete listing of environmental topics covered in this Draft EIR, see Chapter 4, *Environmental Analysis*.

[1] "Responsible agencies" are public agencies, other than the lead agency, that have discretionary approval over a project.

2.3 ENVIRONMENTAL REVIEW PROCESS

2.3.1 DRAFT EIR

On February 11, 2019, the City of San Carlos issued a Notice of Preparation (NOP) for the Black Mountain Townhome Development EIR. Subsequently, in September 2020, the applicant submitted a revised project, the 808 Alameda de las Pulgas Townhome Development Project, and the City determined that a second NOP reflecting the new project should be circulated to allow responsible agencies and the public to comment on the revised project. The City issued the second NOP on January 8, 2021. The scoping period for this Draft EIR was between January 8 and February 8, 2021, during which interested agencies and the public could submit comments about the proposed project. The NOP and scoping process solicited comments from responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR.[2] Appendix A, *Notice of Preparation and Scoping Comments,* of this Draft EIR contains the first and second NOP, as well as the comments received by the City in response to both NOP.

The scope of environmental issues to evaluate in this EIR was established by the City of San Carlos through the EIR scoping process. The EIR includes an analysis of both the proposed project's impacts and cumulative impacts in the following issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- CEQA-Mandated Assessment Conclusions:
  - Impacts Found Not to Be Significant
  - Significant Unavoidable Impacts
  - Significant and Irreversible Changes
  - Growth Inducement

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 60-day comment period starting on December 1, 2022, and ending on January 30, 2023. During the comment period, the public is invited to submit written comments on the Draft EIR by mail or email to the City of San Carlos Planning Department. Written comments should be submitted to:

Lisa Costa Sanders, Principal Planner
City of San Carlos, Planning Department
600 Elm St, San Carlos, CA 94070-3085
Email: lcostasanders@cityofsancarlos.org

[2] While "responsible agencies" are public agencies, other than the lead agency, that have discretionary approval over a project, "trustee agencies" are State agencies with jurisdiction over natural resources affected by a project.

Written and/or verbal comments on the Draft EIR will also be accepted at a Planning Commission hearing, during the public comment period, which will be legally noticed and is tentatively scheduled for January 17, 2023.

2.3.2 FINAL EIR

Upon completion of the 45-day review period for the Draft EIR, the City of San Carlos will review all comments received and prepare written responses for 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 City of San Carlos for 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 before the City.

The Planning Commission will review the Final EIR and the proposed project as the decision-making body for the EIR and the proposed project. A Planning Commission public hearing will then be scheduled to concurrently consider certification of the Final EIR and a decision on the project. If the Planning Commission determines that the project may be approved, the Planning Commission will adopt and incorporate into the project all feasible mitigation measures identified in the EIR and may also require other conditions of approval.

In some cases, the Planning Commission may find that certain mitigation measures are outside the jurisdiction of the City to implement, or that there are no feasible mitigation measures for a given significant impact. In that case, the Planning Commission 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.

The Planning Commission may also find that the project does not satisfy the required findings for approval and decide to reject the project on that basis. Public input is encouraged at all public hearings before the City.

2.3.3 MITIGATION MONITORING

California Public Resources Code Section 21081.6 requires that the lead agency adopt a monitoring or reporting program for any project for which it has made mitigation findings pursuant to Public Resources Code Section 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted as a result of the preparation of an EIR. The Mitigation Monitoring and Reporting Program for the proposed project will be completed and available to the public prior to certification of this EIR.

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3. Project Description

Veev Group, the project applicant, is proposing the 808 Alameda de las Pulgas Townhome Development Project (proposed project). The proposed project would involve site preparation and construction of a townhome development on the approximately 11.4-acre former Black Mountain Spring Water Company property (project site) in central San Carlos, just west of the intersection of Castor Road and Alameda de las Pulgas. The proposed project would result in the development of 87 attached townhomes of three distinct unit types, reconfigured and new rights of way, new landscaping, a walking trail, and erosion-control elements. The proposed project would disturb approximately 10.1 acres and leave approximately 1.4 acres in a natural state with no grading or disturbance.

This chapter provides a detailed description of the project, including the location, setting, characteristics of the site, objectives of the project, principal features, and approximate construction phasing, as well as required permits and approvals. These activities and approvals collectively constitute the "project" for the purposes of this Environmental Impact Report (EIR). Additional environmental setting information is provided in Chapters 4.1 through 4.18 of this Draft EIR.

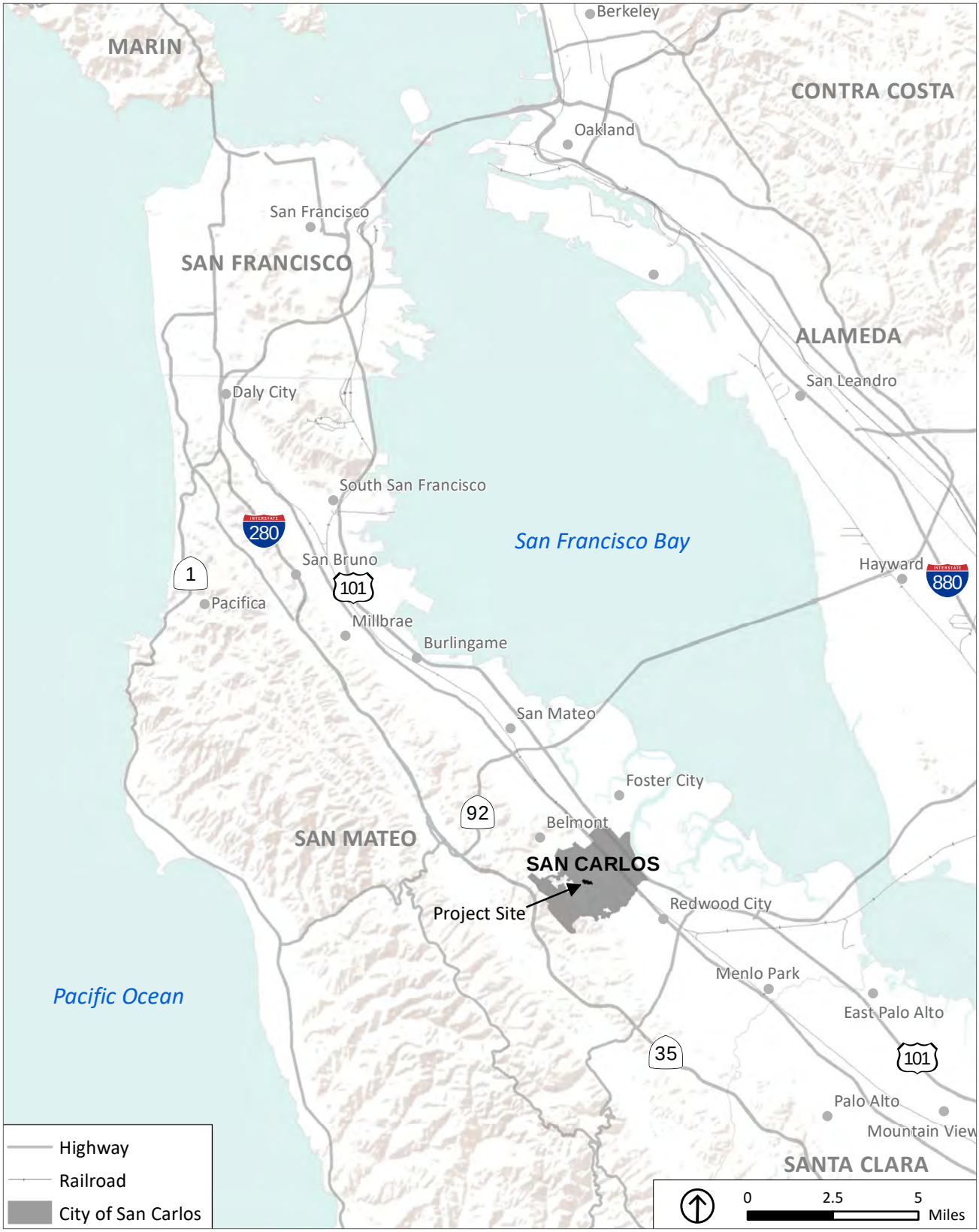
3.1 PROJECT SITE LOCATION AND CHARACTERISTICS

3.1.1 REGIONAL LOCATION AND ACCESS

The project site is in the City of San Carlos in San Mateo County, California. The regional location is shown on Figure 3-1, *Regional Location*. The city is bordered by the City of Belmont to the north; the San Francisco Bay to the east; Redwood City to the south; and the Pulgas Ridge Open Space Preserve, Edgewood Park and Natural Preserve, other open space, and Interstate 280 (I-280) to the west. The project site is in the central portion of the city. The west shore of San Francisco Bay is about 1.5 miles to the east.

Regional access to the site is primarily via the north to south running US Highway 101 (Highway 101), an eight-lane freeway about 1.25 miles east of the site. Access to the project site from Highway 101 is provided from the Holly Street interchange. I-280 also provides regional access to the site. It is about 1.7 miles west of the site and provides access via the Edgewood Road exit. Finally, State Route 82 (SR 82 or El Camino Real), 0.75 miles east of the site, provides both regional and local access.

The site is approximately one mile southwest from the San Carlos Caltrain Station. San Mateo County Transit District (SamTrans) Route 61 bus also services Alameda de las Pulgas adjacent the site. The project site is approximately 10 miles southeast of San Francisco International Airport (SFO) and 1.5 miles west of San Carlos Airport.



Source: San Mateo County, 2016; PlaceWorks, 2022.

Figure 3-1
Regional Location

3.1.2 LOCAL SETTING

As shown in Figure 3-2, *Local Vicinity*, the project site generally surrounds Castor Road, a private right-of-way that extends westward from Alameda de las Pulgas. The site is within a larger area of sparsely developed land and is bounded on the north by an approximately 12-acre property currently proposed for development as the Vista del Grande residential project; on the west by low-density, single-family residential land uses; on the east by Alameda de las Pulgas, between Brittan and San Carlos Avenues, and residential and institutional (St. Charles School) land uses; and on the south by residential land uses and an open space lot that is owned and managed by Heather Homeowners' Association. The eastern portion of the site was occupied by the Black Mountain Spring Water Company from 1940 to 2000. The site and surroundings are in an upsloping valley between two knolls, with gradients from slight to steep descending primarily to the west.

Figure 3-3, *Surrounding Setting*, illustrates the surrounding setting via an aerial view.

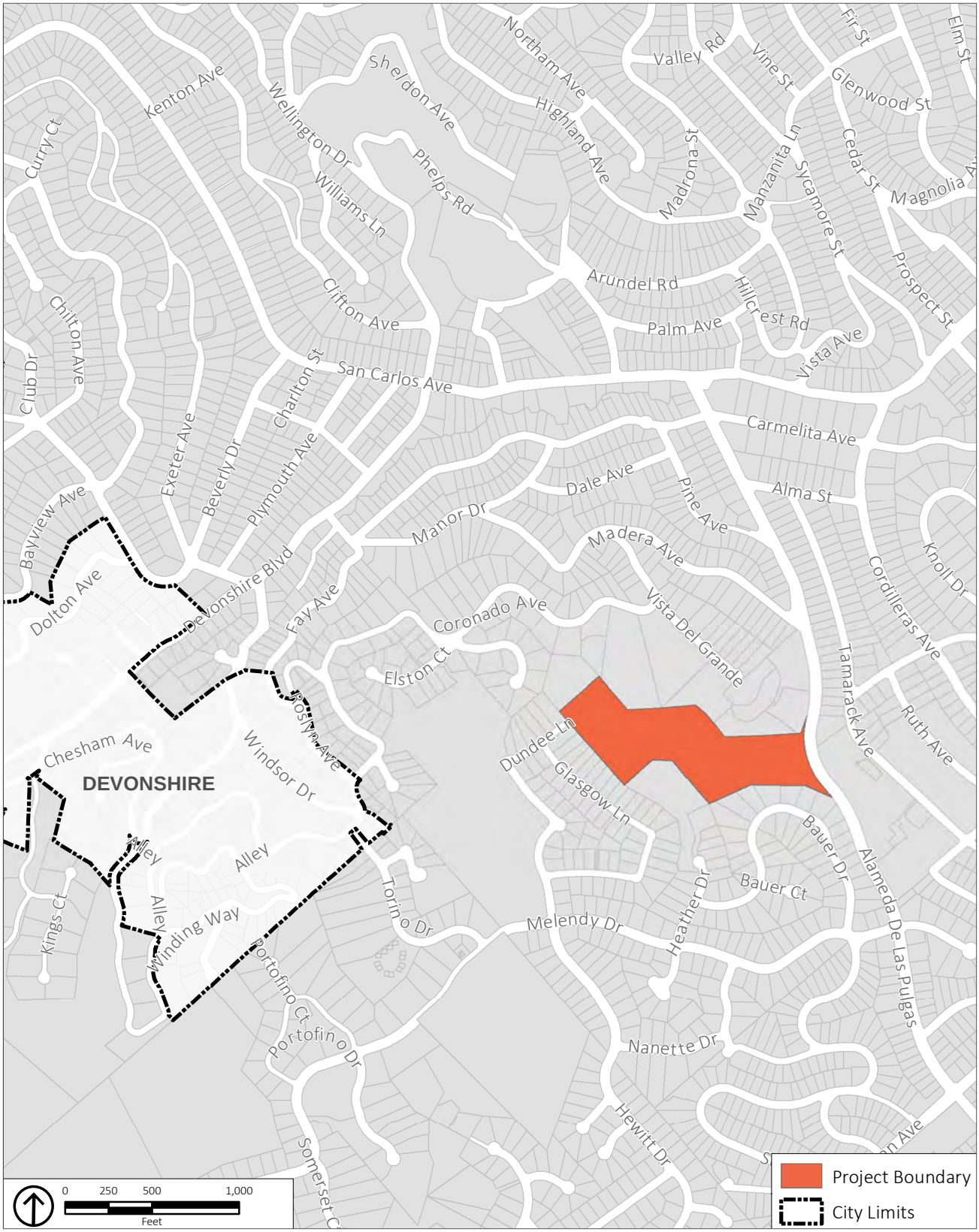
3.1.3 EXISTING SITE CONDITIONS

As shown in Figure 3-3, the site consists of four parcels, which include the following Assessor's Parcel Numbers (APNs) and street addresses:

1. APN 049-360-060 at 800 Alameda de las Pulgas
2. APN 050-220-020 at 804 Alameda de las Pulgas
3. APN 050-220-170 at 806 Alameda de las Pulgas
4. APN 050-220-160 at 808 Alameda de las Pulgas

The four parcels that comprise the site total approximately 11.4 acres of hillside terrain with an average 28.5-percent slope. The site currently contains three single-family residences (804, 806, and 808 Alameda de las Pulgas); paved elements such as east-west running Castor Road, driveways, and parking areas; landscaped and open space areas; and a freshwater spring. Large areas of earthen fill are distributed throughout the site, and the remnants of the Black Mountain Spring Water Company bottling facility are at the eastern boundary of the site, adjacent to Alameda de las Pulgas. Also in the eastern portion of the site is a tunnel that was constructed to reach the source of the spring water within the hillside and underlying rock mass and to act as a water-storage reservoir.[1] The entrance to the tunnel is approximately 4 feet wide by 5.5 feet high and consists of a brick masonry arch opening with a locked steel door. Standing water is present in the tunnel at a depth of about 2.5 feet. Three PVC pipes extend from the bottom of the tunnel opening with water flowing at a rate of about 5 gallons per minute (gpm) that discharges into a storm drain drop inlet and connects to the City's storm drain system beneath Alameda de las Pulgas.[2]

[1] Condor Earth Technologies, Inc., 2016, *Black Mountain Spring Tunnel Preliminary Evaluation*.
[2] WSP/Parsons Brinckerhoff, 2016, *Black Mountain Spring Investigation and Site Inspection Summary*.



Source: San Mateo County, 2016; PlaceWorks, 2022.

Figure 3-2
Local Vicinity

Source: ESRI, 2018; PlaceWorks, 2022.

Figure 3-3
Surrounding Setting

The site currently contains Pacific Gas & Electric Company (PG&E) gas and electric easements as well as a series of public and private utility easements. The site is heavily wooded and contains 384 trees representing 17 species.

3.1.4 GENERAL PLAN LAND USE DESIGNATION AND ZONING

3.1.4.1 GENERAL PLAN

The San Carlos 2030 General Plan designates the majority of the project site as Single Family, a residential land use designation that permits up to six dwelling units per acre (du/ac). As shown in Figure 3-4, *General Plan Land Use,* the far western portion of the site is designated as Single-Family, Low-Density, which permits up to three du/ac. Uses in these designations are generally restricted to detached homes.

3.1.4.2 ZONING

As shown in Figure 3-5, *Zoning*, the project site is zoned RS-6: Single-Family on the City of San Carlos zoning map. According to the San Carlos Municipal Code, residential, public, and semi-public development is allowed in the RS-6 District, with density limited to six units per net acre. Specifically, residential development in the RS-6 District is permitted as single-unit dwellings, accessory dwelling units, and junior accessory dwellings units, and residential development is allowed with a Conditional-Use Permit as small-lot single-unit development, bungalow court development, duplexes, and townhouses. Multi-unit residential development is not permitted in the RS-6 District.

Neighborhood Hub Overlay

As shown in Figure 3-5, the site is within a Neighborhood Hub Overlay. This zoning overlay was developed to facilitate general plan policy for areas that are "envisioned as nodes or focal points that offer neighborhood-serving retail and amenities within a reasonable walking distance from adjoining residential areas."[3] The hubs were developed to increase accessibility of goods and services within existing residential neighborhoods, particularly for those with limited mobility. Development within Neighborhood Hubs is subject to restrictions to ensure that new commercial development is compatible with surrounding neighborhoods. Neighborhood Hubs are restricted to lands beyond a half-mile radius from the downtown, west of El Camino Real.

Hillside Overlay

The project site is within the City's Hillside (H) Overlay District. Per Chapter 18.12, *Hillside (H) Overlay District*, of the San Carlos Municipal Code, the Hillside Overlay District applies to all lots and sites that have a footprint slope of 19.9 percent or greater. It is intended to protect residents by establishing regulations for managing the development of hillside areas. Goals of the Hillside Overlay District are to minimize soil erosion, preserve scenic character, conserve open space, and respect existing natural features. The Hillside Overlay District includes the following set of development standards to achieve these goals:

[3] City of San Carlos, 2009. *2030 General Plan*, page 42.

- Subdivision standards for lot and road safety
- Excavation and grading requirements
- Development standards to minimize grading and maximize accessibility
- Various building design standards related to height, foundation design, articulation, and decks
- Landscaping standards for screening, slope stabilization, and fire safety

3.2 PROJECT OBJECTIVES

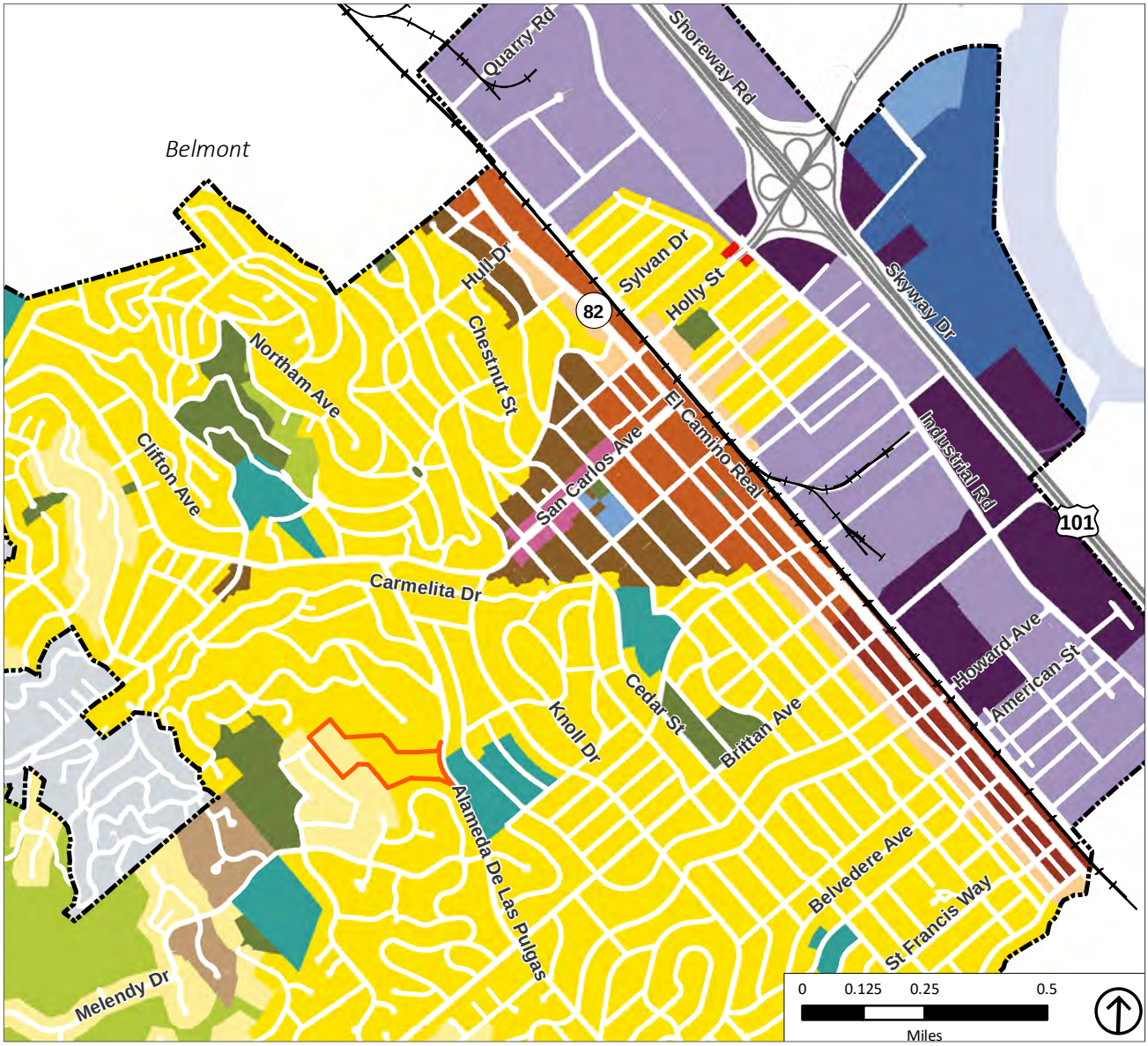
The primary purpose of the proposed project is to increase the available housing supply in the City of San Carlos via the development of an attractive, medium-density residential development. The project applicant, in coordination with the City, has developed the following project objectives to aid decision-makers in their review of the project, consideration of project alternatives, and associated environmental impacts:

- Develop high-quality, code-compliant, and environmentally sustainable residences in a setting that maximizes open space, preserves existing trees and vegetation, and limits disturbance to the land.
- Create a small neighborhood dynamic organized around open spaces connected by trails that promote interaction between residents and nature.
- Develop a residential setting that fosters community building and engagement and promotes casual interaction.
- Encourage connectivity between residences and surrounding public amenities, including parks, schools, and multiple modes of transport.

3.3 PROPOSED PROJECT COMPONENTS

3.3.1 OVERALL SITE PLAN

The proposed project applies the State Density Bonus provision to the base project of 68 units with a proposal for a total of 87 units, 10 of which will be deed restricted as affordable. The existing buildings on-site would be demolished to accommodate the 87 new townhomes that consist of three distinct unit types throughout the project site. As shown on Figure 3-6, *Site Plan*, the proposed project would consist of 17 clusters of townhomes around a curving, east-west running right-of-way that would generally follow existing Castor Road from its starting point at Alameda de las Pulgas. Areas between the townhome clusters and outside of the proposed right-of-way would be landscaped with new plantings and trees. All dwelling units would be accessible from privately maintained roads and alleys for vehicular and bike access, as well as sidewalks and trails for pedestrian access. A portion of the on-site trail system and the road and related infrastructure would be publicly dedicated. The internal roadway network is designed to connect to the property to the north, on which a proposed development project (the Vista Del Grande project), if developed, would provide a connection to Coronado Avenue as a public street.

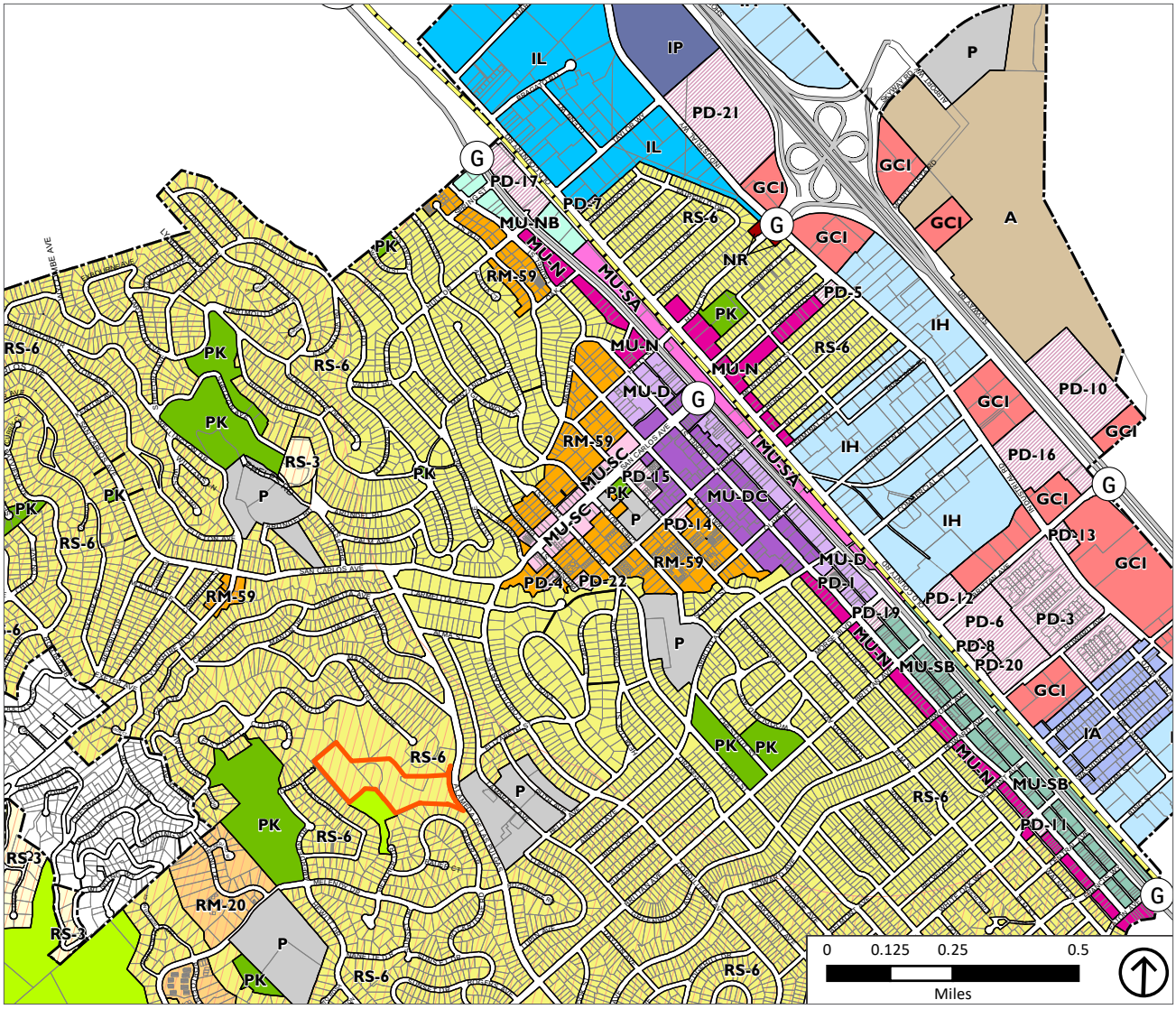


Source: ESRI, 2018; City of San Carlos, 2016; PlaceWorks, 2021.

Land Use Designation

- Single Family, Low Density (3 DUs/Ac)
- Single Family (6 DUs/Ac)
- Multiple Family, Low Density (10-20 DUs/Ac)
- Multiple Family, Medium Density (21-59 DUs/Ac)
- Mixed Use, Low Density (10-20 DUs/Ac)
- Mixed Use, Medium Density (21-50 DUs/Ac)
- Mixed Use, Medium High Density (21-59 DUs/Ac)
- Neighborhood Retail/Mixed Use, Medium Density (21-50 DUs/Ac)
- Neighborhood Retail
- Planned Industrial
- General Commercial/Industrial
- Public
- Park
- Open Space
- Open Space/Schools
- Airport
- County Jurisdiction
- City Limit
- Project Site

Figure 3-4
General Plan Land Use



Source: City of San Carlos, 2010; Dyett & Bhatia, 2011; PlaceWorks, 2022.

- RS-3: Single Family, Low Density
- RS-6: Single Family
- RM-20: Multi-Family, Low Density
- RM-59: Multi-Family, Medium Density
- MU-NB: Mixed Use North Boulevard
- MU-SB: Mixed Use South Boulevard
- MU-D: Mixed Use Downtown
- MU-DC: Mixed Use Downtown Core
- MU-N: Neighborhood Mixed Use
- MU-SA: Mixed Use Station Area
- MU-SC: Mixed Use San Carlos Ave
- IL: Light Industrial
- IH: Heavy Industrial
- IA: Industrial Arts
- IP: Industrial Professional
- GCI: General Commercial/Industrial
- NR: Neighborhood Retail
- PD: Planned Development
- A: Airport
- P: Public
- PK: Park
- OS: Open Space
- City Boundary
- Neighborhood Hub Overlay
- G Gateway Overlay District
- Project Site

Figure 3-5
Zoning

Source: Lowney Arch, 2022.

Figure 3-6
Site Plan

The proposed project would have a total of approximately 3.6 acres of "Natural State Area," including common open space area to be restored with landscaping. Approximately 1.4 acres of the Natural State Area, primarily on the outer boundaries, would be completely undisturbed. A proposed walking trail would run along the southern edge of the site and a portion of the western edge. Landscaped bioretention areas (see Section 3.3.4, *Landscaping and Open Space*) would be distributed throughout the project site.

3.3.2 TOWNHOMES

The project's 87 townhomes would include two-, three-, and four-bedroom units of between 2,525 to 2,950 square feet of floor area per unit. The townhomes would be organized into 17 clusters ranging from two to eight units per cluster. The pattern and size of the clusters, and the design of individual units within them, have been designed based on topographical conditions. The total floor area of all the townhomes (not including decking) would be 235,192 square feet.

The proposed project would include three major townhome design types differentiated by their street orientation, use of cut and fill, foundation design, step-backs, and cantilevers. Each cluster would be composed of the same design type, with variations in size and layout. All of the townhome designs would include a rooftop deck and cantilevered decks with steel and glass deck guardrails. Green roofs and/or planters would be installed on each townhome. The three design types are:

- Type A structures are designed for downslopes. They would have third-level front doors and carports at street elevation. As a result of downward slopes, these units would have three-level rear facades, with exposed concrete foundation walls. All three levels would have rear cantilevered decks. The proposed project would include 20 Type A townhomes.
- Type B structures are upslope designs. Street-level elevations would include all three levels, with first-level entryways and carports. The first levels would be cut into the hillside, resulting in a rear elevation that includes levels two and three only. Levels two and three would have cantilevered decks. The proposed project would include 44 Type B townhomes.
- Type C structures would be downslope designs, with second-level entryways and carports, and the third level at street elevation. First levels would be cut into hillsides; all three levels would be visible at rear elevation. There would be cantilevered decks on all three levels. The proposed project would include 23 Type C townhomes.

The proposed quantities and attributes of the townhome types are summarized in Table 3-1, *Matrix of Proposed Units*. Renderings of the townhomes are included as Figures 3-7 through 3-10. Detailed section and elevation plans can be found in Appendix B, *Proposed Project Plans*, of this Draft EIR.

TABLE 3-1 MATRIX OF PROPOSED UNITS

Townhome Style	Unit Quantity	Bedrooms per Unit	Bathrooms per Unit	Building Area per Unit (square feet)			
				Floor Area	Garage/Misc.	Decking	Gross Building Area
Type A							
Type A1	12	4	4.5	2,830	453	1,299	4,582
Type A2	4	4	4.5	2,830	453	1,399	4,682
Type A3	4	4	4.5	2,830	453	1,521	4,804
Type B							
Type B1	28	3	4	2,527	541	1,303	4,371
Type B2	8	3	4	2,527	541	1,362	4,430
Type B3	8	3	4	2,527	541	1,418	4,486
Type C							
Type C1	13	3	4.5	2,943	499	1,376	4,818
Type C2	5	3	4.5	2,886	499	1,490	4,875
Type C3	5	3	4.5	2,943	499	1,543	4,985
Project Total	**87**	**281**	**369.5**	**235,192**	**44,341**	**119,045**	**398,578**

Source: Lowney Architecture, 2022.

Source: Zapir Visualizations, 2022.

Figure 3-7
Project Site Entrance/Townhome Rendering, Looking Northwest

Source: Zapir Visualizations, 2022.

Figure 3-8
Townhome Rendering, Looking Northwest

Source: Zapir Visualizations, 2022.

Figure 3-9
Townhome Rendering, Looking Southwest

Source: Zapir Visualizations, 2022.

Figure 3-10
Townhome Rendering, Looking West

3.3.3 ACCESS AND CIRCULATION

3.3.3.1 VEHICLE CIRCULATION AND EMERGENCY VEHICLE ACCESS

The proposed circulation pattern of the project would be loosely based on the existing private Castor Road right-of-way. The proposed project would result in a series of surface improvements that would provide access to the townhome clusters, improve ingress and egress, and facilitate emergency vehicle access.

Automobile access to the project site would be from Alameda de las Pulgas, into a roadway that would begin at what is currently private Castor Road, between Brittan Avenue and San Carlos Avenue. Castor Road and the adjacent private driveway would be transformed into a meandering two-lane right-of-way through the project site. All townhome clusters would front either the main roadway or be accessible via a series of proposed secondary access roads.

The proposed internal roadway at the northern boundary of the project site has been designed to connect to the adjacent property to the north of the project site that is planned for the Vista Del Grande development project, if and when the Vista Del Grande property is developed. This connection would provide roadway access to Coronado Avenue and would thereby enable emergency vehicle access to access the project site from the north and emergency egress to the north.

All project roadways would be required to adhere to California Fire Code requirements for emergency vehicle access, and are subject to San Carlos Fire Department and Building Official review and approval.

3.3.3.2 TRAIL, BICYCLE, AND PEDESTRIAN FACILITIES AND ACCESS

A series of proposed sidewalks and pedestrian trails would provide access within and to the site from various points. The primary pedestrian access point would be from Alameda de las Pulgas. The proposed project would create a new sidewalk immediately north of the proposed entrance roadway that would extend into the site. This would connect to a new crosswalk across Alameda de las Pulgas that would be funded by the proposed project to facilitate movement between an existing walking trail and St. Charles School, located directly across Alameda de las Pulgas from the project site. The crosswalk across Alameda de las Pulgas at the project entrance intersection would include Rectangular Rapid Flashing Beacons. The proposed project would also fund a new crosswalk across the project roadway at the entrance. Internal roadways would contain sidewalks on at least one side of the road throughout the site, and recreational trails would be provided.

A proposed walking trail would also provide pedestrian access throughout the site. A trail would run along the southwestern boundary of the site and provide access between internal sidewalks and a shortcut around the winding road for pedestrians.

The project would include bicycle racks at the proposed bus shelter on southbound Alameda de las Pulgas (see Section 3.3.3.3, *Transit Access*).

3.3.3.3 TRANSIT ACCESS

San Mateo County Transit (SamTrans) Route 61, which offers northbound bus service in the morning and southbound routes in the evenings, currently provides access to the project site. The proposed project would create a new southbound bus stop with a shelter immediately south of the project entrance along Alameda de las Pulgas and a new northbound bus stop on the opposite side of Alameda de las Pulgas. The bus stop and shelter would be dedicated to SamTrans.

3.3.3.4 PARKING

Automobile

The proposed project would include 206 total vehicular parking spaces on-site. Each townhome would have a two-car garage for a total of 174 covered parking spaces for residents. There would be 32 on-site, on-street parking spaces for townhome guests distributed along the main roadway throughout the site.

In addition to the on-site parking spaces provided by the project, there are 11 on-street parking spaces immediately adjacent to the project site on Alameda de las Pulgas that could be used by guests.

Bicycle

The proposed project would provide 18 short-term public bike parking spaces at the entrance to the proposed project. As each townhome would include a parking garage, all residents would have private storage for bicycles.

3.3.3.5 TRANSPORTATION DEMAND MANAGEMENT

A Transportation Demand Management (TDM) Plan prepared for the proposed project is included in Appendix M, *Transportation Demand Management Plan*, of this Draft EIR and outlines a variety of features of the proposed project that would help to reduce vehicle trips associated with the proposed project. In addition to some features inherent to the proposed project due to its proposed land use and location (e.g., the inclusion of affordable housing and proximity to schools, parks, and open space), the project would include the following strategies to further reduce vehicle trips:

- On-site pedestrian network and pedestrian connections to off-site sidewalks
- Traffic calming measures (marked crosswalks, flashing pedestrian beacons, stop signs, on-street parking, street trees, textured pavement)
- Long-term bicycle storage
- Bus stops
- Subsidized transit passes
- Transit amenities (website run by the homeowners association with information about transit, carpooling/vanpooling, bicycle travel, and alternative commute subsidies; and welcome packets with information about transit passes, transit maps and schedules, and contact information for the TDM coordinator)
- Ridesharing/schoolpooling program

The City would require that the project implement the measures in its TDM Plan through a condition of approval.

3.3.4 LANDSCAPING AND OPEN SPACE

Of the approximately 11.4-acre project site, approximately 3.6 acres (31.5 percent of the project site) would be a "Natural State Area," including common open space area to be restored with landscaping. Approximately 1.4 acres of the Natural State Area, primarily on the outer boundaries, would be completely undisturbed. As a result of the proposed project, approximately 10.1 acres would be disturbed, including 6.3 acres (55 percent of the project site) that would be developed with impervious improvements, including the building footprints and paved surfaces. The remaining 3.8 disturbed acres (33 percent of the project site) consist of landscaped areas, open space, and bioretention area. The 1.4 acres of undisturbed Natural State Area would comprise 12 percent of the site. As shown in Figure 3-11, *Natural State Area*, lands that would comprise the Natural State Area lie between the perimeter of the developed areas and the site boundary.

The majority of new, site-wide landscaping would be in the form of trees planted in association with housing clusters, the roadway, and trail. Of the existing 384 trees on the project site, 272 trees would be removed for development; 124 new trees are proposed to be planted for a total of 236 trees in the proposed project development, as shown in Figure 3-12, *Tree Proposal Plan*. Housing clusters would have small areas of new greenery and trees between units on street frontages, and areas of natural landscaping made up largely of existing tree cover behind them. All shrub, ornamental grass, and groundcover planting beds would be irrigated with water-efficient bubblers and drip irrigation systems. Irrigation systems would be automatically controlled with smart-type control capabilities based on weather conditions and would have flow-sensing capabilities designed to minimize water use. The landscaping plan is included as Figure 3-13, *Overall Landscape Site Plan*.

3.3.5 LIGHTING

The project site would be illuminated by LED (light-emitting diode) bollard light luminaires positioned in front of townhomes, as well as a series of 16-foot LED residential light pole luminaries positioned along the internal roadway. The source, intensity, and type of exterior lighting design along the roadway would adhere to the Backlight, Uplight, Glare (BUG)[4] ratings for the appropriate lighting zone for the site, as well as the most recently adopted criteria of the Illuminating Engineering Society of North America (IESNA) for cutoff or full cutoff luminaries. All lighting fixtures would be shielded to reduce glare onto the public right-of-way or adjoining properties.

Exterior illumination and lighting would comply with the requirements of the San Carlos Municipal Code Section 18.15.070, *Lighting and Illumination*, to provide a secure nighttime pedestrian environment by reinforcing entrances, open areas, and public sidewalks with a safe level of illumination.

[4] California Building Standards Commission, 2016. *2016 California Green Building Standards Code*, Chapter 5.1, page 36

Source: BKF Engineers, 2022.

0 200
Scale (Feet)

Figure 3-11
Natural State Area

NOTE:
1. SEE CIVIL DRAWINGS C2.2 TREE REMOVAL PLAN.
2. PRUNE EXISTING TREES TO REMAIN PER THE ARBORIST REPORT TO ENHANCE DEFENSIBLE SPACE AROUND THE PROPOSED BUILDINGS.
3. REFER TO L3.0 OVERALL LANDSCAPE PLANTING PLAN FOR MORE INFORMATION ABOUT NEW TREES, PROPOSED.

CLASSIFICATION	EXISTING TREE COUNT	PROPOSED			TOTAL PROPOSED TREE COUNT
		TREE REMOVAL	EXISTING TREE TO BE SAVED	NEW TREES PLANTED	
HERITAGE	219	150	69		
SIGNIFICANT	11	9	2		
PUBLIC	3	2	1		236
NON-PROTECTED	151	111	40		
TOTALS	**384**	**272**	**112**	**124**	

Source: Creo Landscape Architecture, 2022.

0 200
Scale (Feet)

Figure 3-12
Tree Proposal Plan

Source: Creo Landscape Architecture, 2022.

0 200
Scale (Feet)

Figure 3-13
Overall Landscape Planting Plan

3.3.6 UTILITIES AND SERVICE SYSTEMS

The proposed utility infrastructure would connect to the existing utilities and services serving the site, including water, sanitary sewer, stormwater, solid waste, and electricity and other utilities.

3.3.6.1 WATER SUPPLY

The project site is within the California Water Service Company (CalWater) service area and is managed by the CalWater Mid-Peninsula District of the Bayshore District.[5] The proposed project would connect to the existing water main beneath Alameda de las Pulgas to serve the lower portion of the project site and the water main at the intersection of Dundee Lane and Glasgow Lane to serve the upper portion of the project site.

If it is not possible to obtain the easement, the proposed project would install an 8-inch extension from the CalWater line at Alameda de las Pulgas and install two 125- to 150-horsepower vertical turbine pumps in a pump house centrally located on the property and a 2,000-gallon high-pressure hydropneumatic tank to provide adequate pressure for fire flow and domestic uses for the upper site.[6]

The proposed project would adhere to City-required on-site irrigation conservation standards.[7] The project would use direct runoff from sidewalks, walkways, and/or patios to irrigate vegetated areas.

3.3.6.2 SANITARY SEWER SERVICE

The San Carlos Public Works Department provides wastewater collection and treatment service for San Carlos. Sanitary wastewater generated on the project site would be treated by the Silicon Valley Clean Water (formerly the South Bayside System Authority) regional wastewater treatment facility. The proposed project would connect to the existing sewer system line beneath Alameda de las Pulgas. Any new connections or replaced sewer lines shall be in conformance with the San Carlos Municipal Code or appropriate sanitary sewer district.

3.3.6.3 STORMWATER MANAGEMENT

The proposed project would include a private storm drain line ranging from 4 to 12 inches in diameter and generally following the internal roadway. Flows would be controlled by a Stormwater Control Plan (SCP) composed of six Drainage Management Areas.

The proposed project would use four bioretention areas and one flow-through planter area located throughout the project site that would capture rainfall and runoff and would provide both water treatment and the temporary retention of peak flows. In addition, each townhome cluster will have flow-through planters that also provide water treatment and temporary retention. Once treated, the

[5] City of San Carlos, 2009. *San Carlos 2030 General Plan EIR*, Utilities and Infrastructure, page 4.13-4.

[6] A figure showing this scenario is shown as Figure 6 in Appendix N, *Water Supply Memorandum*, of this Draft EIR.

[7] City of San Carlos Municipal Code, Title 18, *Zoning*, Chapter 18.18, *Landscaping*, Section 18.18.080, *Water efficient landscaping and irrigation*, and Section 18.18.090, *Irrigation specifications*.

stormwater will be routed through the internal storm drain system and eventually discharged into the 18-inch City storm drain in Alameda de las Pulgas. Runoff from the landscape areas will be routed directly to the internal storm drain system via swales and rock-lined channels and discharged to the storm drain in Alameda de las Pulgas. These are detailed in Chapter 4.9, *Hydrology and Water Quality*.

Runoff from the off-site tributary areas that does not enter the project site will continue to flow into catch basins along Alameda de las Pulgas, which is the same as under existing conditions. Off-site runoff that enters the project site will be diverted to on-site swales and drainage channels before discharge into the storm drain system in Alameda de las Pulgas. The bioretention areas and flow-through planters have been designed with outlet orifices so that the post-project peak runoff rates and durations are less than the pre-project flow rates and durations for storm events ranging from 2 to 25 years. This meets the City's storm drain design guidelines and the County of San Mateo's hydromodification requirements.

3.3.6.4 SOLID WASTE SERVICE

The proposed project would include a trash enclosure in the southeastern portion of the project site near the site entrance at Alameda de las Pulgas. The trash enclosure would not be accessible by residents, as the homeowners association (HOA) would provide trash valet service. Solid waste and recyclables are collected within the city by a provider contracted through the South Bay Waste Management Authority (SBWMA).[8] Solid waste and recyclables in San Carlos are initially taken to the Shoreway Recycling and Disposal Center (SRDC) and then to Ox Mountain Landfill in Half Moon Bay.[9] The proposed project would be serviced by municipal waste and recycling providers.

Consistent with City requirements,[10] the proposed project would include a Construction Waste Management Plan, which describes the estimated volume of reusable and recyclable construction and demolition debris; the vendor or facility proposed to collect or receive the diverted materials; and the estimated volume of the residual debris that would be disposed of rather than reused or recycled. The project applicant would be required to submit a Waste Management Report within 60 days after completion of the proposed project demonstrating that the proposed project met waste-diversion requirements.[11]

3.3.6.5 OTHER UTILITIES

The proposed project would be entirely electric. There would be no gas meters or gas pipelines. All townhomes would have electric vehicle (EV) charging outlets and infrastructure required for future installation of EV fast-chargers. The project would be required to adhere to applicable energy efficiency code requirements, and may include photovoltaic solar panels.

[8] City of San Carlos, 2009. *San Carlos 2030 General Plan EIR*, Utilities and Infrastructure, page 4.13-20.

[9] City of San Carlos, 2009. *San Carlos 2030 General Plan EIR*, Utilities and Infrastructure, page 4.13-21.

[10] City of San Carlos Municipal Code, Title 8, *Health and Safety*, Chapter 8.05, *Recycling and Diversion of Construction and demolition Debris*, Section 8.05.050, *Information required before issuance of demolition and/or building permit*.

[11] City of San Carlos Municipal Code, Title 8, *Health and Safety*, Chapter 8.05, *Recycling and Diversion of Construction and demolition Debris*, Section 8.05.090, *Reporting*.

All existing on-site PG&E easements would be vacated as part of the proposed project. The project would connect to portions of a 10-foot City of San Carlos utility easement and portions of three other private utility easements, as well as one private ingress-egress easement that is not currently used. Telephone, cable television, and internet services would be supplied by various providers.

An equipment shed would be in the southeastern corner of the project site, next to the trash enclosure near the Alameda de las Pulgas site entrance.

3.3.7 SITE PREPARATION AND CONSTRUCTION

Development of the proposed project would involve demolition of the existing residential structures and associated surface parking areas, grading and earthwork, tree removal, and construction of the proposed project.

The tunnel associated with the artesian spring would be permanently abandoned while maintaining discharge of the existing spring to the ground surface. The tunnel would be structurally backfilled, and the existing portal would be excavated during mass grading work. A discharge pipe would be installed, and any collected runoff would either be used for future landscape irrigation or directed into the storm drain system.

The construction period is expected to span approximately 32 months.

3.3.7.1 DEMOLITION

Because the construction of existing buildings and completion of earthen fill work was conducted between 1937 and 1956, inspection of the buildings for asbestos-containing materials (ACM) would be required before demolition, and abatement for lead-based paint (LBP) would be required during demolition. Existing parking spaces, other hardscape, and landscaping would be removed following demolition of the buildings.

Demolition debris would be recycled, reused, or disposed of pursuant to a Construction & Demolition Waste Management Plan Agreement between the project applicant and the City, as required under the San Carlos Municipal Code Chapter 8.05, *Recycling and Diversion of Construction and demolition Debris*.[12] Debris from the demolition, including 3,000 cubic yards of grading and soil off-haul during site preparation, would be hauled to the Ox Mountain Landfill in Half Moon Bay.

3.3.7.2 EARTHWORK

The project site has significant topography variation. The average slope of the site is 28.5 percent, with the lowest point on the eastern side and sloping up to the west. Because of the slope restraints, a cut-and-fill strategy will be used to create developable sites. Anticipated net earthwork quantities include

[12] San Carlos Municipal Code, Title 8, *Health and Safety*, Chapter 8.05, *Recycling and Diversion of Construction and Demolition Debris Ordinance*.

2,000 cubic yards of cut and 10,000 cubic yards of rough grading. Rough and fine grading is expected to occur over approximately five months. Earthwork is not expected for the Natural State Area.

A portion of the grading off-haul would be used as infill on the adjacent Vista Del Grande project site.

3.3.7.3 CONSTRUCTION EQUIPMENT AND STAGING

During demolition and construction, vehicle, equipment, and materials would be staged and stored on a portion of the project site. Typical equipment to be used for demolition, grading, trenching, and site preparation would include a concrete/industrial saw, excavators, dozers, tractors, loaders, backhoes, graders, and haul trucks. Typical equipment to be used for construction of the proposed project would include backhoes, cranes, forklifts, loaders, generators, welders, tractors, air compressors, mixers, rollers, and pavers. During construction, a bore/drill rig is proposed for the building foundations. No pile driving, rock blasting, or rock crushing would occur during the construction phase.

The construction site and staging areas would be clearly marked, and barriers would be installed to prevent disturbance and safety hazards. No staging would occur in the public right-of-way. A combination of on- and off-site parking facilities for construction workers would be identified during demolition, grading, and construction, and all work would be subject to a construction traffic control plan to be approved by the City. The demolition and construction phase would generate temporary jobs with approximately 10 to 30 workers on-site daily depending on the construction phase. Construction work hours would be in accordance with Section 9.30.070-B, *Exempt Activities*, of the San Carlos Municipal Code, which limits construction activities in the City of San Carlos to the hours between 8:00 a.m. and 6:00 p.m. Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on Saturdays and Sundays.

3.3.7.4 TOWNHOME CONSTRUCTION

The total building area to be constructed, including both building floor area and decking, would be 398,578 square feet. All of the townhomes would be of prefabricated construction. They would be composed of 8 to 10 light-gauge steel modules constructed off-site and assembled on concrete foundations on-site.

3.4 REQUIRED APPROVALS

Development of the project would require the following approvals and certifications from the City of San Carlos:

- Certification of the EIR
- Conditional-Use Permit (CUP) for townhome development in the RS-6 Zoning District
- Planned Development Permit for site design and architectural design
- Demolition, Grading and Dirt Haul, and Building certificates
- Below-Market Rate Housing Plan approval
- Design review and approval per San Carlos Municipal Code Sections 18.29.060 and 18.27.070
- Protected Tree Removal Permit per San Carlos Municipal Code Section 18.18.07
- Subdivision map approval

The proposed project is located in Area B of Airport Influence Area (AIA) of the San Carlos Airport. For development located within Area B of the AIA, the City/County Association of Governments of San Mateo County Board shall exercise its statutory duty to review proposed land development proposals, among other plans, ordinances, amendments, and actions.

In addition, the proposed project would be required to file Form 7401 with the Federal Aviation Administration for building heights over 30 feet in an area mapped with "Terrain Penetration of Airspace Surface."

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4. Environmental Analysis

CHAPTER ORGANIZATION

This chapter of the Draft Environmental Impact Report (EIR) is made up of 18 sub-chapters. This chapter describes the organization of the environmental effects analysis of this Draft EIR and the methodology of the cumulative impact analysis. The 18 sub-chapters evaluate the direct, indirect, and cumulative environmental impacts of the proposed project. The potential environmental effects of the proposed project are analyzed for the following environmental issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

FORMAT OF THE ENVIRONMENTAL ANALYSIS

Each sub-chapter is organized into the following sections:

- Environmental Setting provides an overview of federal, state, regional, and local laws and regulations relevant to each environmental issue, together with a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed project can be compared.
- Standards of Significance refers to the quantitative or qualitative standards or conditions used to compare the existing setting with and without the proposed project to determine whether the impact is significant. These standards are based primarily on Appendix G of the CEQA Guidelines, and 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 were found to be significant or less than significant and include suggested measures that would mitigate impacts with potentially significant or significant impacts. Impacts and mitigation measures are numbered consecutively within each topical analysis and begin with an acronymic or abbreviated reference to the impact section. The following abbreviations are used for individual topics. This subsection also includes a discussion of cumulative impacts of the proposed project.
  - AES – Aesthetics
  - AQ – Air Quality
  - BIO – Biological Resources
  - CULT – Cultural Resources
  - ENE – Energy
  - GEO – Geology, Seismicity, and Soils
  - GHG – Greenhouse Gas Emissions and Sustainability
  - HAZ – Hazards and Hazardous Materials
  - HYD – Hydrology and Water Quality
  - LU – Land Use and Planning
  - NOISE – Noise
  - POP – Population and Housing
  - PS – Public Services
  - REC – Recreation
  - TRAN – Transportation
  - TCR – Tribal Cultural Resources
  - UTIL – Utilities and Service Systems
  - WILD – Wildfire

LEVEL OF SIGNIFICANCE

As noted previously, the significance criteria are identified before the impact discussion section, in the section, "Standards of Significance." For each impact identified, a level of significance is determined using the following classifications:

- *Significant (S)* impacts include a description of the circumstances where an established or defined threshold would be exceeded.
- *Less-than-significant (LTS)* impacts include effects that are noticeable, but do not exceed established or defined thresholds, or are mitigated below such thresholds.
- *No impact* describes the circumstances where there is no adverse effect on the environment.

For each impact identified as being significant, the EIR identifies feasible mitigation measures to reduce, eliminate, or avoid the adverse effect where available. If the mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the EIR. However, *significant and*

unavoidable (SU) impacts are described where mitigation measures would not diminish these effects to less-than-significant levels or no feasible mitigation measures are identified.

EVALUATION METHODOLOGY

OFF-SITE IMPACTS

Where relevant, the environmental evaluation in this Draft EIR includes an analysis of potential off-site environmental impacts. Certain components of the proposed project or the mitigation measures in this EIR involve off-site activities and improvements, such as trenching for utility connections, the installation of crosswalks and transit facilities, and the potential creation of a second access road (see Mitigation Measure TRAN-4b). The physical effects associated with any such off-site activity are incorporated into the analysis throughout this Draft EIR.

SECONDARY IMPACTS

In some cases, mitigation measures may involve temporary physical effects during construction or short-term physical effects during operation that would have the potential to create or contribute to an impact on the environment. For example, some mitigation measures require activities such as irrigation for vegetation establishment, the installation of temporary fencing during construction for tree protection, and the use of vegetation maintenance equipment during operation. These activities and equipment use could involve water and energy consumption, generate noise, and/or create air emissions. In addition, physical features such as temporary construction fencing for tree protection could have temporary aesthetic effects. The physical effects associated with any such mitigation measures incorporated into the implementation of the project as evaluated throughout this Draft EIR. The environmental effects of implementing the construction-phase mitigation measures would generally be nominal when compared to the overall effects of the operation of the proposed project. In addition, implementation of the mitigation measures would be short term during operation or temporary during construction. For example, Mitigation Measure BIO-5d, which requires watering of replacement plantings, would use a nominal amount of water during the establishment period of the plantings, when compared to the ongoing operation of the proposed project as a whole. The combined effect of mitigation measures, when implemented as part of construction and operation of the proposed project, would be to reduce environmental effects as demonstrated where listed in each environmental topic of this Draft EIR (see Chapters 4.1 through 4.18).

CUMULATIVE IMPACT ANALYSIS

GEOGRAPHIC AREA FOR CUMULATIVE ANALYSIS

The cumulative impact discussions in Chapters 4.1 through 4.18 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate plan vicinity, city, county, watershed, or air basin). The geographic area considered for each cumulative impact depends on the impact that is being analyzed. For example, in assessing aesthetic impacts, only development within the vicinity of the proposed project would contribute to a cumulative visual effect because the project site is only visible within the vicinity of

the proposed project. In assessing macro-scale air quality impacts, on the other hand, all development within the San Francisco Bay Area Air Basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions provide the best tool for determining the cumulative effect.

CUMULATIVE PROJECTS CONSIDERED

The CEQA Guidelines Section 15130 outlines two approaches to analyzing cumulative impacts. The first is the "list approach," which requires a listing of past, present, and reasonably anticipated future projects producing related or cumulative impacts. The second is the projections-based approach wherein the relevant growth projections contained in an adopted General Plan or related planning document designed to evaluate regional or area-wide conditions are summarized. A reasonable combination of the two approaches may also be used.

Impacts are estimated using a combination of two methods.

- Related projects: The Vista Del Grande residential project is in early planning stages for the property directly adjacent to the north of the 808 Alameda de las Pulgas (proposed project) site. The Vista Del Grande project would involve the development of 89 residential units on a 12-acre site. The project is conceptually planned to include 81 total structures, of which 73 would be single-unit dwellings. The remaining 8 structures would be duplex buildings containing 16 units. The project conceptual plans include five types of residential unit configurations, ranging from 4 to 6 bedrooms and averaging approximately 2,900 net square feet in size per unit. The majority of the homes would be accessed via internal roadways that would connect to the internal roadways on the 808 Alameda de las Pulgas (proposed project) site. Some homes would have their primary access from Coronado Avenue, and some would have direct access via a cul-de-sac on Vista del Grande. The Vista del Grande and 808 Alameda de las Pulgas (proposed project) project applicants are coordinating their respective efforts through a mutual cooperation and access easement agreement. This agreement would provide joint access, maintenance responsibilities, and shared utilities, and lays the framework for future operations management.
- Buildout projections based on City of San Carlos 2030 General Plan (2009): The General Plan estimates a population of 32,303 people and a total of 13,396 housing units by 2030, an increase of 2,489 people and 974 housing units from 2021 conditions.[1,2]

The following provides a summary of the cumulative impact setting for each impact area:

- Aesthetics: The cumulative setting for visual impacts includes the effects of the proposed project together with other cumulative development projects in the immediate vicinity of the project site.
- Air Quality: The proposed project's potential contribution to cumulative impacts is assessed using the same significance criteria as those for project-specific impacts. Individual development projects that

[1] City of San Carlos, 2009, *2030 General Plan*, Chapter 3, *Land Use Element*, Table 3-3, *Housing, Population and Job Growth Under the General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

[2] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

generate construction or operational emissions that exceed the Air District's screening thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the San Francisco Bay Area Basin is in nonattainment.

- Biological Resources: The cumulative setting for biological resource impacts includes the effects of the proposed project together with other cumulative development projects in the vicinity of the project site.
- Cultural Resources: Cumulative impacts to cultural resources could occur when development at the project site, combined with impacts from projected growth in the city, lead to the loss of a substantial type of site, building, or resource.
- Energy: The area considered for cumulative impacts to energy consumption is the service area of Peninsula Clean Energy and Pacific Gas & Electric.
- Geology, Soils, and Seismicity: Potential cumulative geological impacts could arise from a combination of development at the project site with future growth in the immediate vicinity of the project site.
- Greenhouse Gas Emissions: Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the cumulative analysis focuses on the global impacts and thus is cumulative by nature.
- Hazards and Hazardous Materials: The cumulative setting for impacts related to hazards and hazardous materials includes the proposed project together with other cumulative development projects in the vicinity of the project site.
- Hydrology and Water Quality: The geographic context used for the cumulative assessment of hydrology and water quality impacts includes the areas within the City of San Carlos that discharge stormwater to Belmont Creek, Brittan Creek, Cordilleras Creek, and Pulgas Creek which drains into the Francisco Bay.
- Land Use and Planning: The cumulative setting for land use and planning considers the effects of the proposed project together with the cumulative development projects in the vicinity of the project site.
- Noise: The cumulative setting for noise impacts includes the effects of the proposed project together with the cumulative development projects in the vicinity of the project site.
- Population and Housing: Cumulative impacts to population and housing occur when the proposed project together with other cumulative development projects in the vicinity of the project site result in displacement of either people or housing units.
- Public Services: Cumulative impacts are considered in the context of the growth from the proposed project combined with the estimated growth in the service areas of each service provider.
- Recreation: Cumulative impacts are considered in the context of the growth from the proposed project combined with the estimated growth from reasonably foreseeable projects and their cumulative impacts regarding local parks and recreation in the service area of the San Carlos Parks and Community Services Department.

- Transportation: A cumulative analysis of vehicle miles traveled is not required for CEQA pursuant to California Office of Planning and Research's 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA. The cumulative transportation analysis therefore focuses on other transportation topics, including transportation demand management, pedestrian facilities, bicycle facilities, transit services, sight distance, emergency vehicle access, when considered along with cumulative development projects.
- Tribal Cultural Resources: Cumulative impacts to tribal cultural resources could occur when development at the project site, combined with impacts from projected growth in the city, leads to adverse effects on local Native American tribes or tribal lands.
- Utilities and Service Systems: Cumulative impacts are considered in the context of the growth from the proposed project combined with the estimated growth in each utility's service area.
- Wildfire: The cumulative setting for wildfire impacts includes the effects of the proposed project together with cumulative development projects in the City of San Carlos Sphere of Influence.

4.1 AESTHETICS

This section describes the visual resources within the project site and in the surrounding area and evaluates the effects that the proposed project would have on these resources, including effects on scenic quality, scenic views and vistas, and scenic resources.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations related to aesthetics concerning the proposed project. There are no federal regulations pertaining to aesthetics that apply to the proposed project.

State Regulations

California Building Code

The California Building Code (CBC), Part 2 of Title 24 in the California Code of Regulations (CCR), is based on the International Building Code and combines three types of building standards from three different origins:

- Building standards that have been adopted by State agencies without change from building standards contained in the International Building Code.
- Building standards that have been adopted from the International Building Code to meet California conditions.
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the International Building Code that have been adopted to address particular California concerns.

The purpose of the California Building Code is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, outdoor lighting standards, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC includes standards for outdoor lighting that are intended to improve energy efficiency, and to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

California Scenic Highway Program

The California Scenic Highway Program,[1] administered by the California Department of Transportation (Caltrans), protects scenic State highway corridors from changes that would diminish the aesthetic value of lands adjacent to those highways. Caltrans designated the segment of Interstate 280 (I-280) from Santa

[1] Streets and Highways Code Section 260 et seq.

Clara County line to the south, to the northern boundary of the City of San Bruno to the north as a State Scenic Highway.[2] The project site is located approximately 1.5 miles northeast of I-280 and is not visible from this scenic highway due to the topography of the land on the east side of I-280.

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to aesthetics and visual resources in San Carlos in Chapter 3, *Land Use Element*, and Chapter 5, *Circulation and Scenic Highways Element*. The Land Use Element addresses the visual appearance and character of the built environment and is intended to maintain and enhance San Carlos' sense of place and the quality of life of its residents.

The Circulation and Scenic Highways Element addresses the protection of the scenic qualities of major road corridors in San Carlos. The General Plan recognizes Alameda de las Pulgas, on the eastern edge of the project site, as a local scenic road and encourages special landscape treatment along the road to enhance the corridor. The project site is visible from Alameda de las Pulgas. In addition, the General Plan recognizes Brittan Avenue and Crestview Drive, approximately 0.5 and 1.2 miles from the proposed project site, respectively, as local scenic roads. The project site is not visible from Brittan Avenue or Crestview Drive.

The policies relevant to the proposed project are listed in Table 4.1-1, *City of San Carlos 2030 General Plan Policies Relevant to Visual Resources*.

TABLE 4.1-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO VISUAL RESOURCES

Policy Number	Policy Text
Chapter 1, Land Use (LU) Element	
Policy LU-7.5	Consider the inclusion of public art as part of development projects.
Policy LU-8.1	Require all development to feature high quality design that enhances the visual character of San Carlos.
Policy LU-8.2	Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.
Policy LU-8.3	Encourage design features and amenities in new development and redevelopment, including, but not limited to: a. Interconnected street layout. b. Clustering of buildings. c. Landscaping on each lot. d. Visual buffers. e. Facilitation of pedestrian activity. f. Distinctiveness and variety in architectural design.
Policy LU-8.5	Optimize architectural quality by encouraging the use of quality materials, particularly as accents and authentic detailing, such as balconies and window trims.

[2] Caltrans, 2018, California State Scenic Highway System Map, https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa, accessed February 11, 2022.

TABLE 4.1-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO VISUAL RESOURCES

Policy Number	Policy Text
Policy LU-8.9	Encourage the design of attractive outdoor pedestrian spaces that encourage impromptu public gathering places with features such as plazas, interior walkways and paseos, ornamental gates, trellises, lighting, trees and landscaping, seating and fountains.
Policy LU-8.10	On all sides of buildings, require the incorporation of quality architectural design elements for all building façades and stepping back upper floors in order to reduce bulk and mass and to break up monotonous wall lines.
Policy LU-8.11	Discourage abrupt changes in building scale. A gradual transition between low-rise to mid-rise buildings should be achieved by using the low-rise buildings at the edge of the project site. Consider the relationship of buildings to the street, to one another and to adjacent structures and land uses, especially single-family residential.
Policy LU-8.13	Require parking areas associated with development to be located and designed to minimize visual impact to the greatest extent feasible. This may include locating parking behind buildings street frontage, below grade, or screening through the use of natural landscaping.
Policy LU-8.15	Require the undergrounding of all utilities, or a deferred improvement agreement, in conjunction with new construction and encourage the undergrounding of existing utilities where feasible.
Policy LU-8.16	Require high quality signage through design, use of materials and colors compatible with and complementary to the architectural character of the building(s) and surrounding.
Policy LU-8.17	Require telecommunications and utility facilities to be sensitively placed, shielded, screened or lessened from view to the greatest extent possible through design review.
Policy LU-9.5	Require buffering, screening, setbacks, or other measures for new and expanded multi-family residential and/or commercial/industrial developments adjacent to single-family residential neighborhoods to minimize impacts and compatibility conflicts.
Policy LU-9.9	Encourage the design of development to minimize the obstruction of significant views of the San Francisco Bay, the western hills, or other significant natural vistas to the greatest extent possible.
Chapter 5, Circulation and Scenic Highways (CSH) Element	
Policy CSH-8.4	The City shall continue architectural and site plan review of all signage, structures and site developments proposed in the scenic corridors to ensure appropriateness of design and materials and proper placement of structures and vegetative screening where necessary.

Source: City of San Carlos, 2009, *2030 General Plan.*

Residential Neighborhoods West of El Camino Real

The 2030 General Plan identifies five geographic areas within the city based on each area's unique character and distinctive land use pattern. The project site is located in the "Residential Neighborhoods West of El Camino Real" area with a Single-Family (six dwelling units per acre [DUs/ac.]) land use designation. The Residential Neighborhoods West of El Camino Real area of San Carlos is bounded by the city limit to the north, west, and south, and the Downtown, El Camino Real, and Laurel Street areas to the east.

San Carlos Municipal Code

The Municipal Code is organized by Title, Chapter, and Section. The following provisions from the Municipal Code help minimize visual impacts associated with new development projects:

- Chapter 18.12, *Hillside (H) Overlay District*, applies to all lots and sites that have a footprint slope of 19.9 percent or greater. It is intended to protect residents by establishing regulations for managing the development of hillside areas. Goals of the H District are to minimize soil erosion, preserve scenic character, conserve open space and respect existing natural features. Section 18.12.050, *Development*

Standards, requires that structures be located in the most accessible, least visually prominent, most geologically stable portions of the site and shall be aligned with natural contours. Parking may be permitted as close as 5 feet from the street property line, at the discretion of the Director, to reduce grading. Section 18.12.050(C) of the Municipal Code provides a formula for calculating the amount of the site that must remain in its natural state; exceptions are granted for lots zoned PD or developed with cluster development. The Fire Department shall review the location and design of driveways. Requirements for retaining walls are also provided.

- Section 18.15.070, *Lighting and Illumination*, limits maximum height of lighting to 16 feet in residential districts. This section also provides requirements for outdoor artificial light, including requirements for minimizing glare.
- Section 18.18.010, *Purpose*, includes landscaping requirements that preserve, maintain, and provide for reforestation of trees for the health and welfare of the City in order to preserve the scenic beauty.
- Section 18.18.030, *Landscape Design Principles*, establishes the design principles to be used by decision-makers in evaluating whether landscaping plans adequately meet the intended purpose of the City's Municipal Code.
- Section 18.29.060, *Design Review Criteria*, sets forth the criteria for the City's design review process and requires the scale, massing, site plan, exterior design, and landscaping of projects in San Carlos to enhance the appearance and features of the project site and surrounding natural and built environment; the project to be compatible with neighboring development; the project to preserve major public views and vistas from major public streets and open spaces and enhance them; parking areas to be designed and developed to buffer surrounding land uses; lighting and lighting fixtures to be designed to complement buildings, be of appropriate scale, provide adequate light over walkways and parking areas to create a sense of pedestrian safety, and avoid creating glare; and, the proposed planting materials to avoid conflicts with views and lighting.

4.1.1.2 EXISTING CONDITIONS

Visual Character and Existing Viewsheds

The project site currently consists of a mix of disturbed land interspersed among vegetated and open space areas with ruderal exotic species, non-native forbs and grasses, oak woodland, and ornamental trees. The elevation of the site generally increases from east to west, with varied topography and several areas of fill.

Three homes currently exist within the project site, along with associated driveways. Castor Road winds through the site. Remnants of the former Black Mountain Spring Water Company operations are also located on the project site, including a tunnel that was used by the water company for harvesting the spring on the eastern portion of the site.

At its entrance on Alameda de las Pulgas, the view of the project site includes Castor Road, a slatted chain link gate, signage, and remnants of the former bottling facility.

The area surrounding the project site is comprised of single-family residential neighborhoods with visual features of a typical suburban neighborhood. An aerial view of the project site and surrounding land uses is shown on Figure 3-3, *Surrounding Setting*, in Chapter 3, *Project Description*, of this Draft Environmental Impact Report (EIR).

Scenic Corridors and Vistas

Scenic corridors consist of land visible from roadways and are comprised primarily of scenic and natural features where corridor boundaries are determined by the topography, vegetation, viewing distance, and jurisdictional lines.[3] 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). Public views are those that can be seen from vantage points that are publicly accessible, such as freeways, streets, parks, and vista points. These views are generally available to a greater number of persons than private views. Private views are those views that can be seen from vantage points on private property. Private views are not necessarily considered to be impacted when interrupted by land uses on adjacent properties. CEQA case law has established that only protection of public views is emphasized, generally, rather than the private views specific to a particular person.[4]

The City of San Carlos has topography that ranges from land at sea level to hills on the western portion of the city, with elevations up to 900 feet. The City's numerous hillsides and ridgelines provide vantage points from which scenic vistas can be viewed. These scenic vistas include the city's surrounding open space and San Francisco Bay.[5] Major ridgelands to the southwest include the 366-acre Pulgas Ridge Open Space Preserve. The San Carlos General Plan identifies the Preserve as a management area for public open space use.[6]

As mentioned under Section 4.1.1.1, *Regulatory Framework*, there are several scenic routes within a few miles of the project site, including I-280, Brittan Avenue, and Crestview Drive. The project site is not visible from any of these scenic roadways.

The project site is in the western portion of San Carlos that contains residential neighborhoods that are integrated in picturesque and often dramatic hillside terrain. In these areas, streets follow the contours of the hills, with many multi-story hillside homes appearing as single-story residences from the street. Views visible from the surrounding area into the project site are represented by the seven viewpoints identified on Figure 4.1-1, *Photosimulation Viewpoints*. The viewpoint locations were selected by San Carlos City staff as best representing public viewpoints of the project site from all directions. Viewpoints 1 through 7

[3] Caltrans, 2022, Scenic Highways – Frequently Asked Questions, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2, accessed February 11, 2022.

[4] Protect Niles v. City of Fremont (2018) 25 Cal.App.5th 1129, 1142; Casetext, July 2018. Protect Niles v. City of Fremont, https://casetext.com/case/niles-v-city-of-fremont, accessed February 11, 2022. See also, Taxpayers for Accountable School Bond Spending v. San Diego Unified School District (2013) 215 Cal.App.4th 1013, 1042 [complaints that high school stadium lights would disturb peace and calm of neighborhood were evidence of aesthetic impacts only on particular persons].

[5] City of San Carlos, 2009, *2030 General Plan*, Chapter 3, *Land Use Element*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

[6] City of San Carlos, 2009, *2030 General Plan*, Chapter 6, *Environmental Management Element,* https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

are key vantage points from which the project would be visible from roadways surrounding the project. Additional locations were considered for simulation viewpoints, but it was determined that the project buildings would not be visible from those locations.

4.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant aesthetic impact if it would:

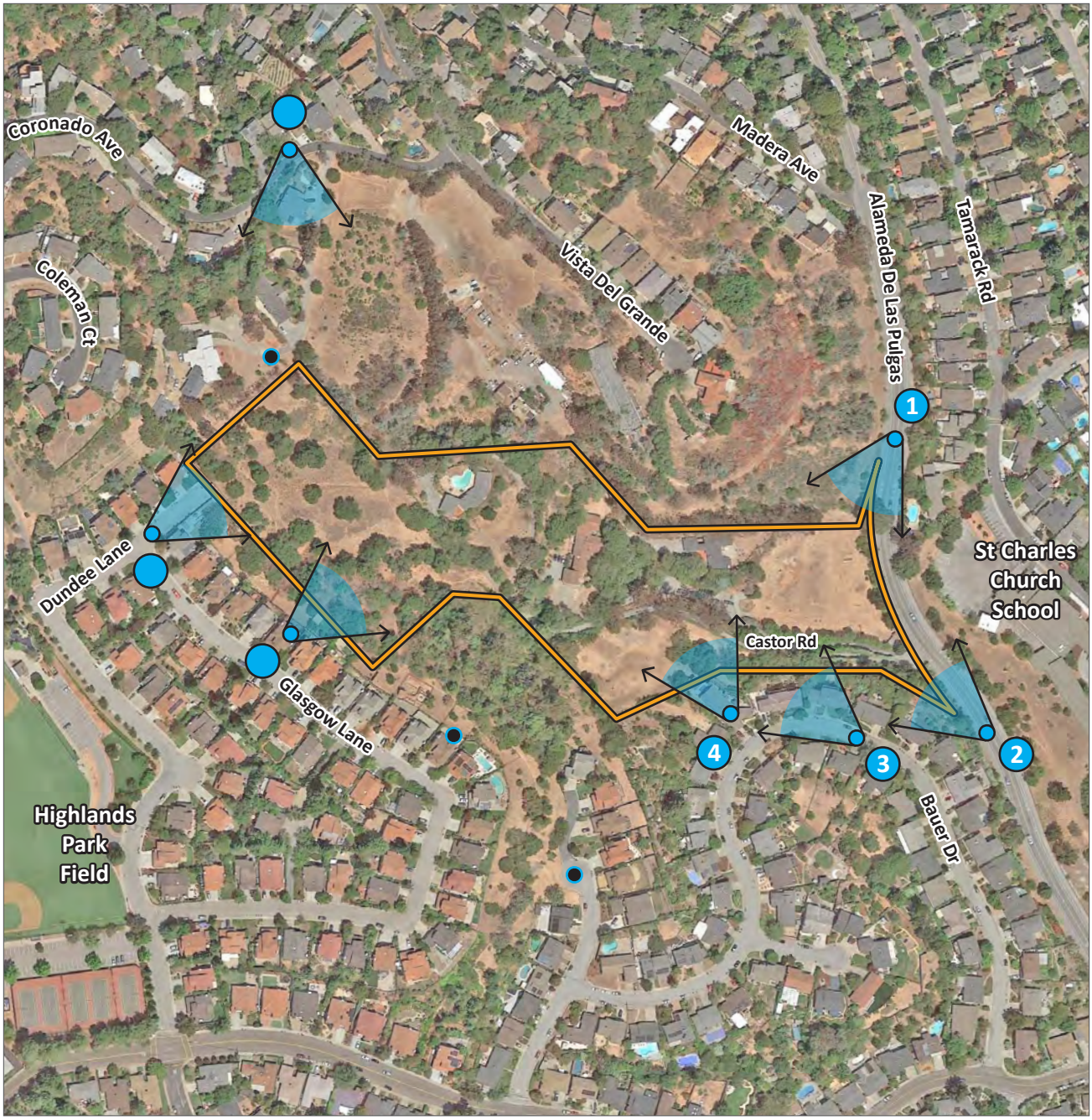
1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.
3. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. If in an urbanized area, 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 of the area.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative aesthetics impacts in the area.

4.1.3 IMPACT DISCUSSION

AES-1	The proposed project would not have a substantial adverse effect on a scenic vista.

Scenic vistas are generally interpreted as long-range views, while scenic corridors may provide short-, middle-, and/or long-range views. As described under Section 4.1.1.1, *Regulatory Framework*, there are several scenic routes within a few miles of the project site, including I-280, Brittan Avenue, and Crestview Drive, and the project site is not visible from any of these scenic roadways. However, the General Plan does include policies that require visual buffers, screening, setbacks, or other measures to ensure that new development minimizes impacts to adjacent residential neighborhoods to address compatibility conflicts. Although portions of the site are developed with roads, housing sites, associated parking areas, and fill, the overall appearance and character is of a largely undeveloped, vegetated hillside site. In addition, the site abuts and is visible from surrounding residential neighborhoods. Therefore, for the purposes of this analysis, representative views from adjacent roadways to the project site are used to consider whether the proposed project would adversely affect any publicly accessible scenic views toward or across the project site.

As discussed under Chapter 3, *Project Description*, the proposed project would be developed with a site layout designed to minimize grading, with multi-level townhomes built into the hillside so that the site layout is designed along natural contours where possible. Visual simulations were prepared for the proposed project at seven viewpoint locations, as shown on Figures 4.1-2 through 4.1-8. The visual simulations illustrate site conditions immediately after construction of the proposed project.



Source: Lowney Arch, 2022. Google Earth, 2020. PlaceWorks, 2022.

0 300
Scale (feet)

Project Boundary

Simulation View Point

*the project is not visible from this viewpoint

Figure 4.1-1
Photosimulation Viewpoints

Source: Lowney Arch, 2022. PlaceWorks, 2022.

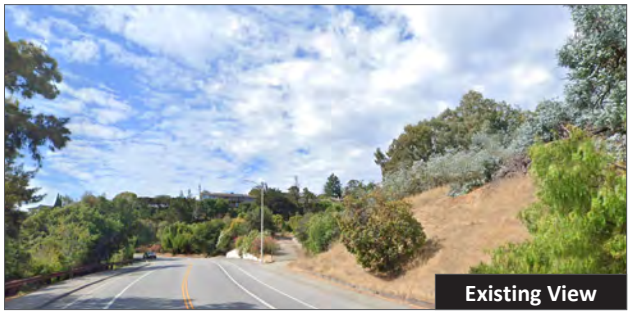


Figure 4.1-2
Viewpoint 1 – Northeast Corner of the Project Site Entrance

Source: Lowney Arch, 2022. PlaceWorks, 2022.

Figure 4.1-3

Viewpoint 2 – Southeast Corner of the Project Site Entrance

Source: Lowney Arch, 2022. PlaceWorks, 2022.

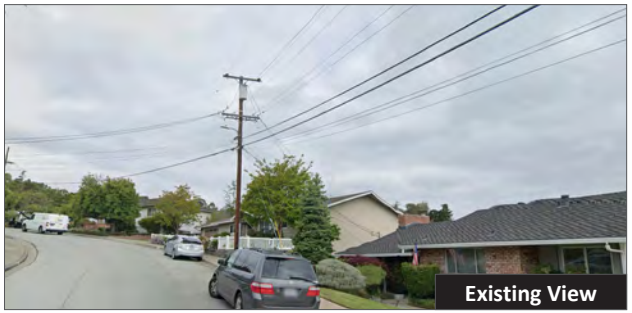


Figure 4.1-4

Viewpoint 3 – Southeastern Portion of the Project Site Looking West

Source: Lowney Arch, 2022. PlaceWorks, 2022.

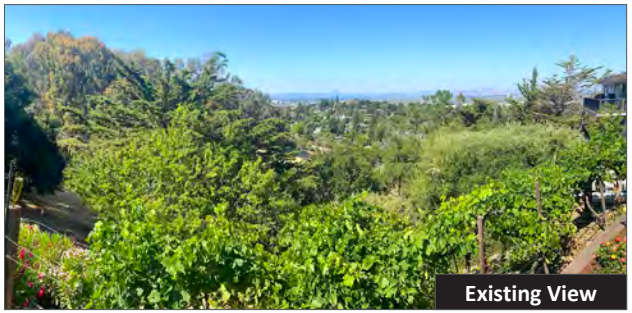
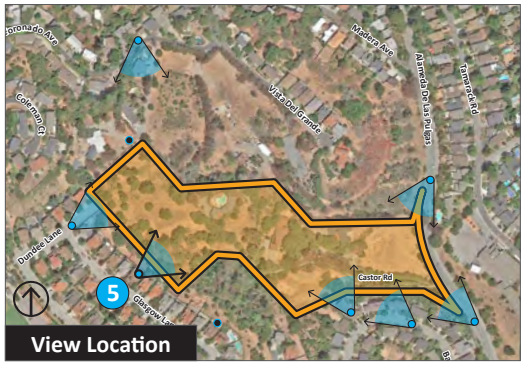


Figure 4.1-5
Viewpoint 4 – Southeastern Portion of the Project Site Looking North

Source: Lowney Arch, 2022. PlaceWorks, 2022.



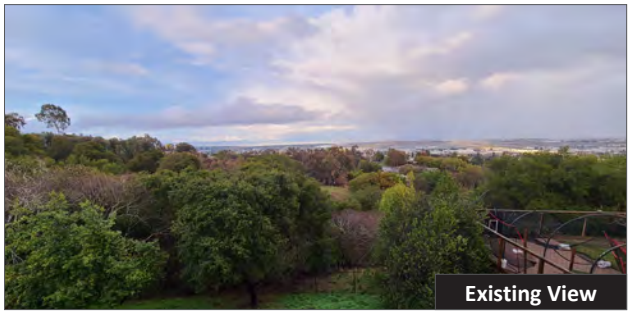


Figure 4.1-6
Viewpoint 5 – Southwestern Portion of the Project Site

Source: Lowney Arch, 2022. PlaceWorks, 2022.

Figure 4.1-7
Viewpoint 6 – Western Corner of the Project Site

Source: Lowney Arch, 2022. PlaceWorks, 2022.

Figure 4.1-8
Viewpoint 7 – Northwestern Portion of the Project Site

Visual Simulations

Viewpoint 1 - Northeast Corner of the Project Site Entrance

The view from this location on Alameda de las Pulgas to the northeast of the project site spans across the easternmost portion of the project site and includes the Alameda de las Pulgas roadway, project entrance, and townhomes on the northeastern boundary of the site. In addition, the existing residential neighborhood to the south of the project site is visible in the far-field view. Views of the Pulgas Ridge Open Space from this location are already obstructed by existing structures and vegetation.

As shown in Figure 4.1-2, *Viewpoint 1 – Northeast Corner of the Project Site Entrance,* from this viewpoint, the easternmost row of townhomes is visible on the right, fronting Alameda de las Pulgas at a slightly higher elevation than the roadway. These townhomes are Type A townhomes, and would have balconies overlooking Alameda de las Pulgas. The project site entrance is visible beyond these townhomes. In addition, a cluster of townhomes located further into the site are visible upslope to the right of the townhomes that front Alameda de las Pulgas; these would be Type C townhomes fronting a new interior roadway that is not visible from this viewpoint. In the center of the far-field view, there is an existing off-site residential building located on Bauer Drive above the townhomes in the mid-field view.

Viewpoint 2 - Southeast Corner of the Project Site Entrance

The view from this location on Alameda de las Pulgas to the southeast of the project site spans across the easternmost portion of the project site and includes the Alameda de las Pulgas roadway and multiple clusters of townhomes. Distant views are already obstructed by the topography of the project site and existing off-site vegetation.

As shown on Figure 4.1-3, *Viewpoint 2 – Southeast Corner of the Project Site Entrance*, from this viewpoint, the easternmost row of townhomes is visible on the left, fronting Alameda de las Pulgas at a slightly higher elevation than the roadway. These townhomes are Type A townhomes, and would have balconies overlooking Alameda de las Pulgas. In addition, a cluster of townhomes located further into the site are visible upslope behind the townhomes that front Alameda de las Pulgas; these would be Type C townhomes fronting a new interior roadway that is not visible from this viewpoint. To the right of the far-field view, there is an existing on-site residential building on Vista Del Grande above the townhomes in the mid-field view.

Viewpoint 3 - Southeastern Portion of the Project Site Looking West

The western view from this location on Bauer Drive, south of the project site, includes existing residential homes and limited views of the townhomes. Views to the west are obstructed by existing topography, vegetation, and residences.

As shown on Figure 4.1-4, *Viewpoint 3 – Southeastern Portion of the Project Site Looking West*, from this viewpoint, the very top of a townhome cluster of lower elevation is visible in the left far-field. These would be the easternmost Type B townhomes fronting a new interior roadway that is not visible from this viewpoint. Views of the townhome cluster are blocked by existing residential homes located on Bauer Drive.

Viewpoint 4 - Southeastern Portion of the Project Site Looking North

The northern view from this location on Bauer Drive, south of the project site, includes existing residential homes and limited views of the townhomes. Views to the north are obstructed by existing topography, vegetation, and residences.

As shown on Figure 4.1-5, *Viewpoint 3 – Southeastern Portion of the Project Site Looking North*, from this viewpoint, the top levels of two townhome clusters are visible in the center mid-field view. These would be Type C townhomes on the left and Type B townhomes on the right. These townhomes front new interior roadways that are not visible from this viewpoint. Views of the townhome clusters are partially blocked by existing vegetation located on Bauer Drive.

Viewpoint 5 - Southwestern Portion of the Project Site

The northeastern view from this location on Glasgow Lane, southwest of the project site, includes existing vegetation and limited views of the townhomes. Distant views are obstructed by the topography of the project site and existing off-site vegetation.

As shown on Figure 4.1-6, *Viewpoint 5 – Southwestern Portion of the Project Site*, from this viewpoint, the tops of three townhome clusters are visible. These townhomes are Type B in the left mid-field and in the center far-field, and Type A in the center mid-field. Views are already obstructed by the existing off-site topography and vegetation.

Viewpoint 6 - Western Corner of the Project Site

The far field, northwest view of San Francisco Bay from this location at the end of Dundee Lane is mostly blocked by solid wooden fences and dense vegetation. In the near field, views are partially obstructed by existing fencing, trees, and dense vegetation. The absence of viewpoints from the roadway prevents this location from serving as a public scenic vista.

As shown on Figure 4.1-7, *Viewpoint 6 – Western Corner of the Project Site*, the project townhomes obstruct the southeastern view of the San Francisco Bay and low-lying communities. From this viewpoint, the back of a townhome cluster at a lower elevation is partially visible to the left mid-field. These would be Type B townhomes south of the westernmost townhome cluster. Views of the westernmost townhome cluster are blocked by existing landscaping beyond Dundee Lane.

Viewpoint 7 - Northwestern Portion of the Project Site

The southeasterly view from this location on Coronado Avenue, near the intersection of Vista Del Grande, is obstructed by the hillside, trees, and vegetation.

As shown on Figure 4.1-8, *Viewpoint 7 – Northwestern Portion of the Project Site*, from this viewpoint, the back of a townhome cluster at a lower elevation is partially visible mid-field. These would be westernmost Type B townhomes fronting a new interior roadway that is not visible from this viewpoint. The townhomes would not block the far-field view to the hills.

Analysis of Potential Impacts to Scenic Vistas

The representative viewpoints analyzed provide varied levels of visibility of the proposed development. The project site is visible as an upslope development from areas to the east and a downslope development from areas to the west, north, and south. The project would be most visible from Alameda de las Pulgas (Viewpoints 1 and 2), from which several clusters of townhomes would be visible upslope from the roadway; however, construction of these units would not block any scenic vistas, due to the lower elevation of the proposed development along this road and would not represent an adverse effect on scenic views from Alameda de las Pulgas.

Views toward the project site from the other viewpoints are largely blocked by existing topography, vegetation, and off-site residences. The proposed project would block far-field views of San Francisco Bay from Viewpoint 6, at the end of Dundee Lane. However, the existing fencing that surrounds Dundee Lane prevents this location from serving as a public scenic vista.

The proposed project would be required to adhere to the San Carlos Municipal Code and General Plan policies that require visual buffers, screening, setbacks, or other measures to minimize impacts of new developments. Consistent with the requirements for development in the Hillside Overlay District, the proposed project is located in the most accessible, least visually prominent, most geologically stable portions of the site and is designed to be aligned with natural contours. As a designated scenic corridor, development along Alameda de Las Pulgas must be found by the City to comply with General Plan Policy CSH-8.4, which requires architectural and site plan review within scenic corridors to ensure appropriateness of design and materials and proper placement of structures and vegetative screening where necessary. Additionally, as discussed under Chapter 3, *Project Description*, the proposed project would be organized into clusters of differentiating pattern and size, depending on topographical conditions. This, along with site landscaping, would help to minimize the visual impact of development. Therefore, impacts on scenic vistas would be *less than significant*.

Significance without Mitigation: Less than significant.

AES-2	**The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.**

As discussed under Section 4.1.1.1, *Regulatory Framework*, the nearest State-designated scenic highway is I-280, approximately 1.5 miles west of the project site. The project site is not visible from this scenic highway due to the topography of the land along the east side of I-280. Therefore, the proposed project would have *no impact* on a State scenic highway.

Significance without Mitigation: No impact.

AES-3 The proposed project would not conflict with applicable zoning and other regulations governing scenic quality.

The proposed project would be developed in an urbanized area, with the majority of the surrounding area developed with residential structures and supporting facilities, including schools and churches. The project would be required to comply with applicable zoning and other regulations, as discussed under Section 4.1.1.1, *Regulatory Framework*, governing scenic quality. Design features and amenities of the proposed project include an interconnected street layout, clustering of buildings, landscaping, and facilitation of pedestrian activity, as encouraged by General Plan Policy LU-8.3. The proposed project would adhere to General Plan Policy LU-8.10 and include step-backs and cantilevers based on the townhome design types to reduce bulk and mass and to break up monotonous wall lines. In accordance with General Plan Policy LU-9.5 and Municipal Code Section 18.18.010, the proposed project would include landscaping, trees, natural state areas, buffering, screening, and setbacks to minimize impacts and compatibility conflicts through visual screening. Townhomes and roadways of the proposed project would be designed to follow the contours of the hills, minimizing the obstruction of significant views to the greatest extent possible, as required by Policy LU-9.9. This would also be in conformity with Chapter 18.12 of the San Carlos Municipal Code, which requires Hillside Overlay structures to be in the most accessible, least visually prominent, most geologically stable portions of the site and be aligned with natural contours to minimize soil erosion, preserve scenic character, conserve open space, and respect existing natural features. The project site would be illuminated by a series of shielded 16-foot LED residential light pole luminaries positioned along the internal roadway and exterior illumination and lighting would provide secure nighttime pedestrian environment through reinforced entrances, open areas, and public sidewalks with a safe level of illumination, in compliance with Section 18.15.070 and Section 18.20.070 of the City's Municipal Code. Furthermore, the proposed project would be reviewed for compliance with Section 18.29.060 of the San Carlos Municipal Code to ensure that proposed development complements the design characteristics of surrounding neighborhoods. The City's standard review, application of objective standards, and approval process would ensure that the project is consistent with the existing character of the city, protects scenic quality, and is built with high-quality design and construction. Therefore, impacts to the existing visual character or quality of the site and its surroundings would be considered *less than significant*.

Significance without Mitigation: Less than significant.

AES-4 The proposed project could create a new source of glare which would adversely affect views of the area.

For the proposed project, all landscape lighting fixtures would be provided by poles and bollards and would be shielded so as not to produce obtrusive glare onto the public right-of-way or adjoining properties. Luminaires would meet the most recently adopted criteria of the Illuminating Engineering Society of North America (IESNA) for cutoff or full cutoff luminaires and would comply with the

requirements of Section 18.12.070 of the City of San Carlos Zoning Ordinance.[7] Exterior lighting and illumination would be provided for a secure nighttime pedestrian environment by reinforcing entrances, public sidewalks, and open areas with a safe level of illumination in compliance with applicable lighting regulations. Additionally, as required Section 18.15.070 of the San Carlos Municipal Code, the project's outdoor lighting would not exceed 16 feet in height. The landscaping lighting plan is included in Sheet L1.1 of the project plans (see Appendix B, *Proposed Project Plans*). Therefore, the proposed project would not create a new source of substantial light.

The project may include the installation of photovoltaic solar panels, if necessary to meet applicable energy efficiency code requirements. The installation of solar panels on the project site could potentially result in a new source of glare on the project site. As such, impacts from new sources of glare are potentially *significant*.

Impact AES-4: The project may include the installation of photovoltaic solar panels. Because the placement and specifications for the panels is not yet known, the panels have the potential to become sources of glare.

Mitigation Measure AES-4: Prior to the installation of photovoltaic panels on the project site, the City shall review the panel specifications and construction plans and verify that the panels are designed and installed to ensure the following:

- The angle at which panels are installed precludes, or minimizes to the maximum extent practicable, glare observed by viewers on the ground.
- The reflectivity of materials used shall not be greater than the reflectivity of standard materials used in residential developments.

Significance with Mitigation: Less than significant.

AES-5 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in cumulative aesthetics impacts in the area.

The proposed project would be in an area surrounded by existing residential development and school facilities. As a residential project, the project would be in line with the residential character of the area. With mitigation, the proposed project would not generate any significant aesthetic impacts. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the planned Vista Del Grande housing development, which would be similarly designed with 89 residential units, located adjacent to the north side of the project site. The Vista Del Grande project, as well as other cumulative development projects, would be subject to design review by the City where applicable, and would conform to zoning requirements and General Plan policies regarding community character and visual appearance. Additionally, the project would not contribute to any cumulative impacts to scenic vistas, as it would not block any public scenic vistas. The Vista Del Grande project and the

[7] City of San Carlos, July 2011, *San Carlos Zoning Ordinance*, http://greatereastsancarlos.org/wp-content/uploads/2011/07/San-Carlos-Hearing-Draft-Zoning-Ordinance-optimized-web1.pdf, accessed February 11, 2022.

proposed project would increase the amount of light and glare in the project site vicinity but would be similar to that of other residential neighborhood and would follow the required regulations and ordinances intended to reduce light spillage effects. Thus, cumulative aesthetics impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

4.2 AIR QUALITY

This chapter describes the existing air quality setting and evaluates the potential environmental impacts that could occur by developing the proposed project. This chapter is based on the methodology recommended by the Bay Area Air Quality Management District (Air District) for project-level review. The analysis focuses on air pollution from regional emissions and localized pollutant concentrations from buildout of the proposed project.

Construction criteria air pollutant emissions modeling is in Appendix C, *Air Quality and Greenhouse Gas Modeling*, of this Draft Environmental Impact Report (EIR). The health risk assessment (HRA) prepared for the proposed project is in Appendix D, *Health Risk Assessment*, of this Draft EIR.

"Emissions" refers to the actual quantity of pollutants, measured in pounds per day or tons per year. "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 ($\mu g/m^3$).

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 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 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 sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that 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. Table 4.2-1, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

TABLE 4.2-1 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} & $PM_{2.5}$)	▪ 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, 2022, Common Air Pollutants: Air Pollution and Health, https://ww2.arb.ca.gov/resources/common-air-pollutants, accessed January 31, 2022. South Coast Air Quality Management District, 2005, 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, accessed March 2, 2022.

- 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) 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.

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

There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, the Air District has established a significance threshold for this pollutant.

- **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).[5]
- **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 or Air Basin), most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, 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.

  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 (US EPA) 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]

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

- **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]
- **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 Air District has established a significance threshold for this pollutant.
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Because emissions of lead are found only in projects that are permitted by the Air District, lead is not an air quality of concern for the proposed project.

Toxic Air Contaminants

The public's exposure to air pollutants classified as toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant (HAP) pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code Section7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

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

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth 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 control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[4] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, CARB identified 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 Air District, PM emitted from diesel engines contributes to more than 85 percent of the cancer risk within the SFBAAB and cancer risk from TACs is highest near major diesel PM sources.[5]

4.2.1.2 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 US EPA, CARB, the CalEPA, and the Air District. Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Federal and State Regulations

Ambient air quality standards 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. The City of San Carlos is in

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

[5] 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).

the SFBAAB and is subject to the rules and regulations imposed by the Air District, the national AAQS adopted by the US EPA, and the California AAQS adopted by CARB.

Ambient Air Quality Standards

The federal Clean Air Act (CAA) was passed in 1963 by the United States Congress and has been amended several times. The 1970 federal 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 CAA 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.

The national and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 4.2-2, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Applicant Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

TABLE 4.2-2 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	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[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.

TABLE 4.2-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
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; $\mu g/m^3$; 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 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

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 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

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, 2016, Ambient Air Quality Standards, https://ww2.arb.ca.gov/resources/documents/ambient-air-quality-standards-0, accessed March 2, 2022.

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 to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." 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. Under State law, the CalEPA, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act 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 control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

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

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

- 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

Idling Restrictions

Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9 was adopted on May 2, 2008 that limits non-essential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled off-road engine, unless a waiver provides sufficient justification that such idling is necessary. The airborne toxic control measure helps reduce public exposure to oxides of nitrogen (NOx), diesel particulate matter (PM), and other criteria pollutant emissions from off-road diesel-fueled vehicles.

Regional Regulations

Bay Area Air Quality Management District

The Air District 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 Air District was created in 1955. The Air District prepares air quality management plans (AQMP) to attain ambient air quality standards in the SFBAAB. The Air District prepares ozone attainment plans for the national O3 standard and clean air plans for the California O_3 standard. The Air District 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.

Bay Area Air Quality Management District 2017 Clean Air Plan

The Air District adopted the 2017 "Clean Air Plan: Spare the Air, Cool the Climate" (2017 Clean Air Plan) on April 19, 2017, making it the most recently adopted 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. It sets a goal of reducing health risk impacts to local communities by 20 percent between 2015 and 2020 and lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following: Construct buildings that are energy efficient and powered by renewable energy.

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

A comprehensive multipollutant control strategy was developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and 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, (8) super-GHG pollutants, and (9) buildings. 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.[6]

[6] 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, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed March 2, 2022.

Community Air Risk Evaluation Program

The Air District 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 in 2014. Based on findings of the latest 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 contributors: 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 TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.

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

Air District Rules and Regulations

Regulation 7, Odorous Substances

Sources of objectionable odors may occur within the city. The Air District's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under the Air District 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 or property." Under the Air District's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other Air District Regulations

In addition to the plans and programs described above, the Air District administers a number of specific regulations on various sources of pollutant emissions that would apply to the proposed project:

- Regulation 2, Rule 2, Permits, New Source Review
- Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- Regulation 6, Rule 1, General Requirements
- Regulation 8, Rule 3, Architectural Coatings
- Regulation 8, Rule 4, General Solvent and Surface Coatings Operations

- Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing

Local Regulations

City/County Association of Governments of San Mateo (C/CAG)

The City/County Association of Governments of San Mateo (C/CAG) is the designated congestion management agency for the county. C/CAG's congestion management plan (CMP) identifies strategies to respond to future transportation needs, identifies procedures to alleviate and control congestion, and promotes countywide solutions.[7] Pursuant to the EPA's transportation conformity regulations and the Bay Area Conformity State Implementation Plan (also known as the Bay Area Air Quality Conformity Protocol), the CMP is required to be consistent with the MTC planning process, including regional goals, policies, and projects for the regional transportation improvement program (RTIP). MTC cannot approve any transportation plan, program, or project unless these activities conform to the State Implementation Plan.

Plan Bay Area 2050

MTC and ABAG adopted Plan Bay Area 2050 on October 21, 2021.[8] Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of Senate Bill 375. Strategies to reduce GHG emissions include focusing housing and commercial construction in walkable, transit-accessible places; investing in transit and active transportation; and shifting the location of jobs to encourage shorter commutes. To achieve MTC's/ABAG's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan for the region concentrates the majority of new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, vehicle miles traveled, and associated GHG emissions reductions.

San Carlos 2030 General Plan

Table 4.2-3, *City of San Carlos 2030 General Plan Policies Relevant to Air Quality*, shows the relevant policies related to air quality.

[7] City/Council Association of Governments of San Mateo County, 2021, *Congestion Management Program*. https://ccag.ca.gov/wp-content/uploads/2022/01/258-018-San-Mateo-CMP-Report_Final.pdf, accessed on February 18, 2022.

[8] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*. https://www.planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf, accessed on August 27, 2021.

TABLE 4.2-3 CITY OF SAN CARLOS GENERAL PLAN POLICIES RELEVANT TO AIR QUALITY

Policy Number	Policy Text
Land Use Element	
Policy LU-9.4	Mitigation measures shall be utilized to the greatest extent feasible for neighborhoods surrounding new proposed development.
Circulation & Scenic Highways Element	
Policy CSH-2.3	Access to public transportation facilities should be convenient and designed to encourage use of public transit.
Policy CSH-3.1	Strive to reduce base-line and development-related traffic by 20 percent through public-private partnership efforts
Policy CSH-3.2	Support city-wide efforts to reduce vehicular trips within and through the community.
Policy CSH-3.3	Support the incorporation of Transportation Demand Measures in new development to reduce traffic impacts.
Policy CSH-3.4	Support Smart Growth and Sustainability principles to reduce travel time from housing to jobs, provide affordable transportation to all members of the community, allow compact mixed-use development and decrease dependency on automobiles.
Policy CSH-3.10	The City shall support efforts for a coordinated ttransportation system and maintaining acceptable levels of traffic with local, regional and Caltrans agencies.
Environmental Management Element	
Policy EM-6.1	Support and comply with the Bay Area Air Quality Management District, State and federal standards and policies that improve air quality in the Bay Area.
Policy EM-6.2	Support and encourage commercial uses to adopt environmentally friendly technologies and reduce the release of pollutants.
Policy EM-6.3	Support the reduction of emissions of particulates from wood burning appliances, construction activity, automobiles, trucks and other sources.
Policy EM-6.4	Implement Bay Area Air Quality Management District (BAAQMD) guidelines that establish minimum screening or buffer distances between emissions sources and sensitive receptors. Exceptions may be made for projects that do not meet the distance requirements, but can be determined compatible with adjacent uses through a project-specific study that determines potential health risk. Mitigation measures shall be required to reduce these risks to acceptable levels.
Policy EM-6.5	Consider potential impacts from land uses that may emit pollution and/or odors when locating air pollution sources near sensitive receptors. Air pollution sources could include freeways, industrial uses, hazardous materials storage, waste disposal/transfer stations and other similar uses.
Policy EM-6.6	BAAQMD recommended measures to reduce PM10 and exhaust emissions associated with construction shall be applied to new development in San Carlos.
Parks and Recreation Element	
Policy PR-4.5	Consider transit, bicycle and pedestrian accessibility when evaluating locations for new or substantially renovated parks facilities.
Policy PR-4.11	Maintain or plant trees where appropriate to provide shade, absorb carbon, reduce the heat island effect and reduce cooling loads in shaded buildings.
Policy PR-4.12	Study the feasibility of reducing or eliminating City department use of gasoline-powered landscape maintenance equipment.

Source: City of San Carlos, 2009, San Carlos 2030 General Plan.

4.2.1.3 EXISTING CONDITIONS

San Francisco Bay Area Air Basin Conditions

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The State is divided into 15 air basins. The City of San Carlos is in the SFBAAB. The discussion below identifies the natural factors in the Air Basin that affect air pollution. Air pollutants of concern are criteria air pollutants and TACs. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality. The regulatory framework that is potentially applicable to the proposed project is also summarized below.

The Air District is the regional air quality agency for the SFBAAB, which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.[9]

Meteorology

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range[10] splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley. The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San José

[9] This section describing the Air Basin is from Bay Area Air Quality Management District, 2010 (Revised 2011), Appendix C: Sample Air Quality Setting, in *California Environmental Quality Act Air Quality Guidelines*.

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

when it meets the East Bay hills. Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap.

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

Temperature

Summertime temperatures in the Air Basin are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit (°F) cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10°F. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large. The average low is reported at 57.2°F in January while the average high is 73.2°F in September.[11]

Precipitation

The Air Basin 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 Air Basin 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 are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and

[11] USA.Com, San Carlos City, California: Historical Weather Report, http://www.usa.com/san-carlos-ca-weather.htm, accessed February 16, 2022.

ventilation are low and pollutant levels build up. Rainfall averages 27.07 inches per year in the project site area.[12]

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.

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions[13] are more common in the summer and fall, and radiation inversions[14] are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

Attainment Status of the SFBAAB

The AQMP provides the framework for air quality basins to achieve attainment of the State and federal AAQS through the 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.

[12] USA.Com, San Carlos City, California: Historical Weather Report, http://www.usa.com/san-carlos-ca-weather.htm, accessed February 16, 2022.

[13] 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.

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

- Nonattainment/Transitional: A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SFBAAB is shown in Table 4.2-4, *Attainment Status of Criteria Pollutants in the San Francisco Bay Area Air Basin.* 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 4.2-4 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}	Nonattainment	Unclassified/Attainment[b]
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
CO	Attainment	Attainment
NO_2	Attainment	Unclassified
SO_2	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, 2022, Maps of State and Federal Area Designations, https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations, accessed January 27, 2022.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area have been documented and measured by the Air District. The Air District has 24 permanent monitoring stations around the Bay Area. The nearest station is the Redwood City Monitoring Station, which monitors O_3, NO_2, and $PM_{2.5}$. Data from this monitoring stations is summarized in Table 4.2-5, *Ambient Air Quality Monitoring Summary*. The data show regular violations of the State and federal O_3 standards and federal $PM_{2.5}$ standard.

TABLE 4.2-5 AMBIENT AIR QUALITY MONITORING SUMMARY

	Number of Days Thresholds Were Exceeded and Maximum Levels During Such Violations				
Pollutant/Standard	2016	2017	2018	2019	2020
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	0	2	0	0	1
State & Federal 8-hour ≥ 0.07 ppm	0	2	0	2	1
Maximum 1-Hour Conc. (ppm)	0.075	0.115	0.067	0.083	0.098
Maximum 8-Hour Conc. (ppm)	0.060	0.086	0.049	0.077	0.077
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	0.0457	0.0674	0.0773	0.0549	0.0459
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	0	6	13	0	9
Maximum 24-Hour Conc. (µg/m^3)	19.5	60.8	120.9	9.5	124.1

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; * = insufficient data; NA = Not Available
Data for O_3, NO_2, and $PM_{2.5}$ was obtained from the Redwood City Monitoring Station.
Source: California Air Resources Board, 2022, Air Pollution Data Monitoring Cards (2016, 2017, 2018, 2019, and 2020), https://www.arb.ca.gov/adam/topfour/topfourdisplay.php, accessed January 18, 2022.

Existing Emissions

The site contains three single-family residences (804, 806, and 808 Alameda de las Pulgas). Existing uses currently generate criteria air pollutant emissions from natural gas use for energy, heating and cooking, vehicle trips, and area sources such as landscaping equipment and consumer cleaning products.

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. Residential areas are also 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 population. Sensitive receptors to the proposed project include the single-family residences to surrounding the project site as well as the St. Charles Private K-8 School to the east across Alameda de las Pulgas.

4.2.2 STANDARDS OF SIGNIFICANCE

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the proposed project would result in a significant air quality impact 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 non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to air quality.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The Air District CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the Air District's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which the Air District believed air pollution emissions would cause significant environmental impacts under CEQA.

In May 2011, the updated Air District 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 the 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. The Supreme Court 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 Supreme 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, the Air District published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. This latest version of the Air District CEQA Guidelines was used to prepare the analysis in this EIR for all CEQA Guidelines Appendix G thresholds.

Criteria Air Pollutant Emissions and Precursors

Regional Significance Criteria

The Air District's regional significance criteria for projects that exceed the screening thresholds are shown in Table 4.2-6, *Air District Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds*. Criteria for both the construction and operational phases of the project are shown.

TABLE 4.2-6 AIR DISTRICT 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

Source: Bay Area Air Quality Management District, 2017, CEQA Guidelines.

If projects exceed the emissions in Table 4.2-6, emissions would cumulatively contribute to the nonattainment status and would contribute in elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

However, for projects that exceed the emissions in Table 4.2-6, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above. The Air District is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the Air Basin and at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health.

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. To achieve the health-based standards established by the EPA, the air districts prepare air quality management plans that detail

regional programs to attain the AAQS. However, if a project within the Plan Area exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until such time the attainment standards are met in the Air Basin.

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 Air District 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 intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Community Risk and Hazards

The Air District's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the nearby residential, day care, and school-based sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The Air District has adopted screening tables for air toxics evaluation during construction.[15] 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 and on-site receptors, as applicable.[16]

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:

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

[16] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed March 2, 2022.

- An excess cancer risk level of more than 10 in a 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.[17]

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 a million or a chronic noncancer hazard index (from all local sources) greater than 10.0.
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.[18]

In February 2015, Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rate.[19]

Odors

The Air District's thresholds for odors are qualitative based on the Air District's Regulation 7, *Odorous Substances.* This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under Air District 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 the Air District's Rule 1-301. The Air District has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[20] For a plan-level analysis, the Air District requires:

- Identification of potential existing and planned location of odors sources.
- Policies to reduce odors.

[17] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed March 2, 2022.

[18] Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed March 2, 2022.

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

[20] 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.

4.2.3 IMPACT DISCUSSION

Methodology

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur with the proposed project. The Air District has published the CEQA Air Quality Guidelines that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis.

Regional Emissions Modeling

Criteria air pollutant emissions modeling is included in Appendix C, *Air Quality and Greenhouse Gas Modeling*, of this Draft EIR. The proposed project criteria air pollutant emissions inventory was modeled using the California Emissions Estimator Model (CalEEMod) Version 2020.4. and includes the following sectors:

- On-Road Transportation. Transportation emissions are based on the trip generation for residential uses provided by CHS Consulting Group (see Appendix L, *Transportation Impact Analysis*, of this Draft EIR). The fleet mix in CalEEMod was adjusted to reflect a higher proportion of passenger vehicles consistent with residential development.
- Area Sources. Area sources generated from use of consumer products and cleaning supplies are based on California Emissions Estimator Model (CalEEMod), Version 2020.4 default emission rates and on the assumed building square footages.
- Energy. New buildings would be 100-percent electric and no natural gas would be utilized on-site. The additional electricity use from fuel switching is accounted for in CalEEMod by applying the rates identified in the Sacramento Metropolitan Air Quality Management District's justification report for GHG Emissions Thresholds For Sacramento County.[21]
- Construction. The analysis below of average daily construction emissions considers both on- and off-site improvements identified in Chapter 3*, Project Description*, as well the emergency access road required by Mitigation Measure TRAN-4b. Modeling is based on the construction schedule provided for Phase 1 (June 2023 to February 2025) and Phase 2 (February 2025 to February 2026) provided by the Applicant. To provide the most conservative emissions, the construction phases of the proposed project were combined for the analysis. The construction equipment mix is based the equipment mix provided by the Applicant. Equipment listed in CalEEMod that best matched the applicant's information on equipment mix was incorporated into the model. A bore/drill rig on-site for 68 days was added to the building construction phase to account for the drilling required for the building foundation. In addition, construction worker and vendor trips were provided by the applicant.

[21] Sacramento Air Quality Management District (Sac Metro AQMD). GHG Emissions Thresholds for Sacramento County, https://www.airquality.org/LandUseTransportation/Documents/SMAQMDGHGThresholds2020-03-04v2.pdf

Localized Emissions Modeling

A construction HRA from TACs and $PM_{2.5}$ associated with construction equipment exhaust was prepared for the project and is included in Appendix D, *Health Risk Assessment*, of this Draft EIR. Sources evaluated in the HRA include off-road construction equipment and heavy-duty diesel trucks along the truck route. Modeling is based on the EPA's AERMOD air dispersion modeling program and the latest HRA guidance from the OEHHA to estimate excess lifetime cancer risks, chronic non-cancer hazard indices, and the $PM_{2.5}$ maximum annual concentrations at the nearest maximum exposed off-site sensitive receptors (residences and students at St. Charles Private K-8 School) and assumes 24-hour outdoor exposure with risks averaged over a 70-year lifetime.

DPM emissions were based on the CalEEMod construction runs, using annual exhaust PM_{10} construction emissions presented in pounds (lbs) per day. The $PM_{2.5}$ emissions were taken from the CalEEMod output for exhaust $PM_{2.5}$ also presented in lbs per day. The project was assumed to take place over approximately 2.7 years (701 workdays) from beginning of June 2023 to February 2026. The average daily emission rates from construction equipment used during the proposed project were determined by dividing the annual average emissions for each construction year by the number of construction days per year for each calendar year of construction (i.e., 2023 through 2026).

Air dispersion modeling using the US EPA's AERMOD program was conducted to assess the impact of emitted compounds on sensitive receptors. The model is a steady state Gaussian plume model and is an approved model by the Air District for estimating ground level impacts from point and fugitive sources in simple and complex terrain. Meteorological data obtained from CARB for the nearest representative meteorological station (San Carlos International Airport) with the five latest available years (2009 to 2013) of record were used to represent local weather conditions and prevailing winds. The health risks are calculated using the annual construction emission rates and the AERMOD output at the maximum exposed individual resident (MEIR) and maximum exposed school receptor at St. Charles Private K-8 school.

AQ-1 The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

The Air District is directly responsible for reducing emissions from area, stationary, and mobile sources in the SFBAAB to achieve national and California AAQS. The Air District's 2017 Clean Air Plan is a regional and multiagency effort to reduce air pollution in the SFBAAB. A consistency determination with the air quality management plan 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 early enough 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 the clean air goals in the 2017 Clean Air Plan.

The regional emissions inventory for the SFBAAB is compiled by the Air District. Regional population, housing, and employment projections developed by ABAG are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the 2017 Clean Air

Plan. These demographic trends are incorporated into Plan Bay Area, compiled by ABAG and the MTC to determine priority transportation projects and vehicle miles traveled in the Bay Area. The 2017 Clean Air Plan strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional inventory compiled as part of the 2017 Clean Air Plan.

As identified in impact discussion POP-1 in Chapter 4.12, *Population and Housing*, of this Draft EIR, the proposed project would provide residences, but it would not induce a substantial number of additional housing units required to accommodate population growth within the City of San Carlos. Additionally, under CEQA Guidelines Section 15206,[22] the proposed project is not considered a regionally significant project that would affect regional vehicle miles traveled and warrant intergovernmental review by ABAG and MTC. Lastly, the net increase in regional emissions generated by the proposed project would not exceed the Air District's emissions thresholds (see impact discussion AQ-2 below). These thresholds are established to identify projects that have the potential to generate a substantial amount of criteria air pollutants. Because the proposed project would not exceed these thresholds, the proposed project would not be considered by the Air District to be a substantial emitter of criteria air pollutants. Therefore, the proposed project would not conflict with or obstruct implementation of the 2017 Clean Air Plan, and impacts would be considered *less than significant*.

Significance without Mitigation: Less than significant.

AQ-2	**Without mitigation, the proposed project would 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 standards.**

The Air District has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including ROG, NO, PM_{10}, and $PM_{2.5}$. Development projects below these significant thresholds (listed in Table 4.2-6) 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.

Construction Emissions

Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from demolition and soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change. Construction activities associated with the proposed project would result in emissions of ROG, NOx, CO, PM_{10}, and

[22] Pursuant to CEQA Guidelines Section 15206, a proposed commercial office building employing more than 1,000 persons or encompassing more than 250,000 square feet of floor space would be considered a project of statewide, regional, or areawide significance.

$PM_{2.5}$. An estimate of construction emissions associated with the proposed project are shown in Table 4.2-7*, Construction-Related Criteria Air Pollutant Emissions Estimate.*

TABLE 4.2-7 CONSTRUCTION-RELATED CRITERIA AIR POLLUTANT EMISSIONS ESTIMATE

	Criteria Air Pollutants (Tons/Year)[a]					
Year	ROG	NO_x	Fugitive PM_{10}[b]	Exhaust PM_{10}	Fugitive $PM_{2.5}$[b]	Exhaust $PM_{2.5}$
2023 Construction	0.39	4.17	0.98	0.17	0.48	0.16
2024 Construction	0.24	2.27	0.07	0.10	0.02	0.09
2025 Construction	0.15	1.39	0.06	0.05	0.02	0.05
2026 Construction	0.01	0.06	0.00	0.00	0.00	0.00
	Criteria Air Pollutants (Average lbs/day)[a]					
	ROG	NO_x	Fugitive PM_{10}[b]	Exhaust PM_{10}	Fugitive $PM_{2.5}$[b]	Exhaust $PM_{2.5}$
Average 2023 Construction	5	55	12.95	2.27	6.27	2.09
Average 2024 Construction	2	17	0.50	0.75	0.14	0.71
Average 2025 Construction	1	11	0.45	0.41	0.12	0.38
Average 2026 Construction	0	4	0.11	0.16	0.03	0.15
Average Daily Construction Emissions for all Construction Phases[c]	2	22	3.17	0.93	1.46	0.86
Air District Average Daily Project-Level Threshold	54	54	Implement BMPs	82	Implement BMPs	54
Exceeds Average Daily Threshold?	No	No	NA	No	NA	No

Notes: Air quality modeling does not include emissions from the construction of the emergency access road connecting to Coronado Avenue (required under Mitigation Measure TRAN-4b). However, when considered in the context of construction emissions from the proposed project as whole, average daily emissions from construction of the emergency access road would generate nominal emissions. As a result, construction of this emergency access road would not notably affect the emissions identified in this table.
BMP = Best Management Practices; NA = not applicable; emissions may not total to 100 percent due to rounding; Shading represents the fugitive dust component of the emissions that are mitigated through the Air District's BMPs.
a. Construction phasing is based on the preliminary information provided by the project applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast Air Quality Management District of construction equipment and phasing for comparable projects.
b. Includes implementation of best management practices for fugitive dust control required by the Bay Area Air Quality Management District. Implementation of the Air District construction best management practices is considered to result in construction-related fugitive dust emissions that are acceptable. See Mitigation Measure AQ-2.
c. Average daily emissions are based on the construction emissions divided by the total number of active construction days. The total number of construction days is estimated to be 701 days.
Source: CalEEMod 2020.4.0.

Construction Exhaust Emissions

Construction emissions are based on the conservative construction schedule developed for the proposed project. Activities that would take place are demolition, hauling, site preparation, grading, building

construction, utility trenching, paving, and architectural coating. To determine potential construction-related air quality impacts, criteria air pollutants generated by project-related construction activities are compared to the Air District's significance thresholds. Average daily emissions are based on the total annual construction emissions divided by the total number of active construction days. As shown in Table 4.2-7, criteria air pollutant emissions from construction equipment exhaust would not exceed the Air District's average daily thresholds. Therefore, construction-related criteria pollutant emissions from exhaust would be *less than significant*.

Significance without Mitigation: Less than significant.

Fugitive Dust

Ground-disturbing activities during project construction could generate fugitive dust (PM_{10} and $PM_{2.5}$) that, if left uncontrolled, could expose the areas downwind of the construction site to air pollution from the construction dust. Fugitive PM_{10} is typically the most significant source of air pollution from the dust generated from construction. The amount of fugitive dust generated during construction would be highly variable and is dependent on the amount of material being demolished, the type of material, moisture content, and meteorological conditions. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. $PM_{2.5}$ 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. 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).

As described under Section 4.2.2, *Standards of Significance*, the Air District does not provide a quantitative threshold for construction-related fugitive dust emissions, and a project's fugitive dust emissions are considered to be acceptable with implementation of the Air District's best management practices. In other words, there could be a significant impact if the best management practices are not enforced. For this reason, the project's fugitive dust emissions with the incorporation of the Air District's best management practices are quantified for reference in Table 4.2-7. As described in Section 4.2.1.1, extended exposure to particulate matter can increase the risk of chronic respiratory disease, which would be a *significant* impact.

Impact AQ-2: Uncontrolled fugitive dust (PM_{10} and $PM_{2.5}$) could expose the areas that are downwind of construction sites to air pollution from construction activities without the implementation of the Air District's best management practices.

> Mitigation Measure AQ-2: The project contractor shall comply with the Bay Area Air Quality Management District's best management practices for reducing construction emissions of uncontrolled fugitive dust (coarse inhalable particulate matter [PM_{10}] and fine inhalable particulate matter [$PM_{2.5}$]):
>
> - Water all active construction areas at least twice daily or as often as needed to control dust emissions. Watering shall be sufficient to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible.

- Pave, apply water twice daily or as often as necessary to control dust, or apply (non-toxic) 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.
- Hydro-seed or apply non-toxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (e.g., dirt, sand).
- Limit vehicle traffic speeds on unpaved roads to 15 miles per hour.
- Replant vegetation in disturbed areas as quickly as possible.
- Install sandbags or other erosion control measures to prevent silt runoff from public roadways.

These measures shall be noted on grading plans prepared by the applicant submitted to the City of San Carlos. The construction contractor shall implement these measures during ground disturbing activities. The City of San Carlos Building Division shall verify compliance that these measures have been implemented during normal construction site inspections.

Significance with Mitigation: Less than significant. Mitigation Measure AQ-2 would ensure that the construction contractor complies with the Air District's best management practices to reduce fugitive dust to less-than-significant levels.

Operational Emissions

Typical long-term air pollutant emissions are generated by area sources (e.g., landscape fuel use, aerosols, architectural coatings, and asphalt pavement), energy use (natural gas), and mobile sources (i.e., on-road vehicles). As shown in Table 4.2-8, *Net Operational Criteria Air Pollutant Emissions Estimates*, the operational emissions generated by the project would not exceed the Air District daily pounds per day or annual tons per year project level threshold.[23] Therefore, the proposed project would not cumulatively contribute to the nonattainment designations of the SFBAAB. Project-related operation activities to the regional air quality would be *less than significant*.

[23] Further details are shown in Appendix C, *Air Quality and Greenhouse Gas Modeling*, of this Draft EIR.

TABLE 4.2-8 NET OPERATIONAL CRITERIA AIR POLLUTANT EMISSIONS ESTIMATES

	Criteria Air Pollutants (tons per year)[a]			
Category	ROG	NO_x	PM_{10}	$PM_{2.5}$
Area	1.60	0.01	0.00	0.00
Energy	0.00	0.00	0.00	0.00
On-Road Mobile	0.26	0.16	0.52	0.14
Total	1.86	0.17	0.59	0.14
Air District Annual Project-Level tons/yr Threshold	10	10	15	10
Exceeds Air District's tons/year Threshold?	No	No	No	No

	Criteria Air Pollutants (average pounds per day)			
Category	ROG	NO_x	PM_{10}	$PM_{2.5}$
Proposed Land Use in 2026	10	1	3	1
Air District Average Daily Project-Level lbs/day Threshold	54	54	82	54
Exceeds Air District's lbs/day Threshold?	No	No	No	No

Notes: Emissions may not total to 100 percent due to rounding; Reactive Organic Gases = ROG; Nitrogen Oxides = NO_x; Coarse Inhalable Particulate Matter = PM_{10}; Fine Inhalable Particulate Matter = $PM_{2.5}$
Source: California Emissions Estimator Model (CalEEMod), Version 2020.4.

Significance without Mitigation: Less than significant.

AQ-3 The proposed project would expose sensitive receptors to substantial pollutant concentrations.

The proposed project could expose sensitive receptors to elevated pollutant concentrations if it would cause or contribute significantly to elevated pollutant concentration levels. 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.

Construction

The proposed project would elevate concentrations of TACs and construction exhaust $PM_{2.5}$ in the vicinity of sensitive land uses (i.e., sensitive receptors) during construction activities. The nearest off-site sensitive receptors proximate to the project site include the single-family residents surrounding the project site and the St. Charles Private K-8 School to the east across Alameda de las Pulgas. Construction activities would occur near these sensitive receptor locations. Consequently, an HRA of TACs and construction exhaust $PM_{2.5}$ was prepared for the project and is included in Appendix D, *Health Risk Assessment*, of this Draft EIR.

Results of the analysis are shown in Table 4.2-9, *Construction Health Risk Assessment Results – Unmitigated*.

TABLE 4.2-9 CONSTRUCTION HEALTH RISK ASSESSMENT RESULTS – UNMITIGATED

	Project Level Risk[a, b]		
Receptor	Cancer Risk (per million)	Chronic Hazards	Construction Exhaust $PM_{2.5}$ ($\mu g/m^3$)[a]
Maximum Exposed Individual Resident (MEIR)	58.4	0.157	0.46
Maximum Exposed School Receptor - St. Charles School Student	1.0	0.025	0.073
Threshold	10	1.0	0.3 $\mu g/m^3$
Exceeds Threshold?	Yes	No	Yes

Notes: Cancer risk calculated using the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Health Risk Assessment guidance.
a. Construction phasing are based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast Air Quality Management District of construction equipment and phasing for comparable projects.
b. Average daily emissions are based on the total construction emissions divided by the total number of active construction days. The total number of construction days is estimated to be 701 workdays. Includes implementation of BMPs for fugitive dust control required by the Air District as mitigation (Mitigation Measure AQ-2), including watering disturbed areas a minimum of 2 times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, and street sweeping.
Source: PlaceWorks, 2022.

The results of the HRA are based on the maximum exposed receptor concentration over the approximately 2.7-year construction exposure period for off-site receptors, assuming 24-hour outdoor exposure, and averaged over a 70-year lifetime. Risk is based on the updated OEHHA Guidance as follows:

- Cancer risk for the maximum exposed individual resident (MEIR), which would be the single-family resident south of the site, from unmitigated construction activities related to the project were calculated to be 58.4 in a million and would exceed the 10-in-a-million significance threshold. In accordance with the latest 2015 OEHHA guidance, the calculated total cancer risk conservatively assumes that the risk for the MEIR consists of a pregnant woman in the third trimester that subsequently gives birth to an infant during the approximately 2.7-year construction period. To account for early life exposure, calculated risk values for the first 2.25 years of construction were multiplied by a factor of 10 and the remaining duration by a factor of 3, in accordance with OEHHA guidance.
- The incremental cancer risks for the maximum exposed school receptor at St. Charles K-8 Private School were calculated to be less than the 10-in-a-million significance threshold.
- For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than 1 for both the MEIR and maximum exposed school receptors from project construction. Therefore, chronic non-carcinogenic hazards do not exceed Air District thresholds.
- The highest $PM_{2.5}$ annual concentration of 0.46 $\mu g/m^3$ at the MEIR would exceed the 0.3 $\mu g/m^3$ significance threshold. However, the $PM_{2.5}$ annual concentrations at the K-8 school were calculated to be less than the 0.3 $\mu g/m^3$ significance threshold.

Consequently, prior to mitigation, cancer risk and $PM_{2.5}$ concentrations at the MEIR would be *significant* because the project would expose sensitive receptors to substantial concentrations of air pollutant emissions during construction.

Impact AQ-3: Construction activities of the project could expose sensitive receptors to substantial concentrations of TACs and $PM_{2.5}$, exceeding the applicable Air District thresholds.

Mitigation Measure AQ-3: Construction contractors shall use United States Environmental Protection Agency Tier 4 Interim equipment for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours, unless it can be demonstrated to the City of San Carlos Building Division that such equipment is not commercially available. For purposes of this mitigation measure, "commercially available" shall mean the availability of Tier 4 Interim engines similar to the availability for other large-scale construction projects in the city occurring at the same time and taking into consideration factors such as (i) potential significant delays to critical-path timing of construction and (ii) geographic proximity to the project site of Tier 4 Interim equipment. Where such equipment is not commercially available, as demonstrated by the construction contractor, Tier 3 equipment retrofitted with a California Air Resources Board's Level 3 Verified Diesel Emissions Control Strategy (VDECS) shall be used. The requirement to use Tier 4 Interim equipment for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours shall be identified in construction bids. In addition, the following shall also be completed:

- Requirements for off-road equipment:
  - Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for United States Environmental Protection Agency Tier 4 Interim or higher emissions standards for off-road, diesel-powered construction equipment with more than 50 horsepower in use over 20 hours.
  - During construction, the construction contractor shall maintain a list of all operating off-road equipment in use over 20 hours on the construction site for verification by the San Carlos Building Division.
  - The construction equipment list shall state the makes, models, Engine Identification Numbers, Engine Family Numbers, and numbers of off-road construction equipment on-site.
  - To the extent that equipment is available and cost-effective, contractors shall use electric, hybrid, or alternate-fueled off-road construction equipment.
- Contractors shall use electric construction tools, such as saws, drills, and compressors, where grid electricity is available.
- Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.
- All sub-contracts and construction documents shall identify that all non-essential idling of construction equipment is restricted to 5 minutes or less in compliance with California Air Resources Board Rule 2449. The construction contractor is responsible for ensuring that this requirement is met.

Significance with Mitigation: Less than significant. Mitigation Measure AQ-3 would reduce cancer risk impacts to the off-site residential MEIR from 58.4 in a million to 4.8 in a million. Thus, cancer risk at the MEIR would be reduced to below the Air District cancer risk threshold of 10 in a million. Additionally, Mitigation Measure AQ-3 would reduce the $PM_{2.5}$ annual concentrations at the MEIR from 0.46 µg/m^3 to 0.032 µg/m^3, and therefore below the 0.3 µg/m^3 significance threshold. The mitigated health risk values are summarized in Table 4.2-10, *Construction Health Risk Assessment Results – Mitigated*. Therefore, health risk impacts from project-related construction activities would be reduced to less-than-significant levels with incorporation of mitigation.

TABLE 4.2-10 CONSTRUCTION HEALTH RISK ASSESSMENT RESULTS – MITIGATED

	Project Level Risk[a, b, c]		
Receptor	Cancer Risk (per million)	Chronic Hazards	Construction Exhaust $PM_{2.5}$ (µg/m^3)[a]
Maximum Exposed Resident (MEIR)	4.8	0.012	0.032
Maximum Exposed School Receptor - St. Charles School Student	0.08	0.002	0.005
Threshold	10	1.0	0.3 µg/m^3
Exceeds Threshold?	No	No	No

Notes: Cancer risk calculated using the 2015 Office of Environmental Health Hazard Assessment Health Risk Assessment guidance.
a. Construction phasing are based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast Air Quality Management District of construction equipment and phasing for comparable projects.
b. Includes implementation of BMPs for fugitive dust control required by the Air District as mitigation (Mitigation Measure AQ-2), including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, and street sweeping. Also includes implementation of Mitigation Measure AQ-3, which requires use of Tier 4 Interim equipment for off-road, diesel-powered construction equipment with 50 horsepower and higher in use over 20 hours.
c. Average daily emissions are based on the total construction emissions divided by the total number of active construction days. The total number of construction days is estimated to be 701 workdays.
Source: PlaceWorks, 2022.

Operation

Health Risk

Exposure to elevated concentrations of vehicle-generated $PM_{2.5}$ and TACs at sensitive land uses have been identified by CARB, the California Air Pollution Control Officer's Association, and the Air District as a potential air quality hazard. The project would not create new major sources of TACs, which are more commonly associated with industrial manufacturing or warehousing. Therefore, operation-related health risk impacts associated with the project are considered *less than significant*.

Significance without Mitigation: Less than significant.

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 periods of time and are subject to reduced speeds.

Congestion management plans must align with *Plan Bay Area 2050*, and an overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle miles traveled and associated GHG emissions reductions under Senate Bill 375. The proposed project would cause a slight increase in residential density at the existing area and would be consistent with the overall goals of the MTC/ABAG's *Plan Bay Area 2050*. Additionally, the project would not conflict with the CMP because it would not hinder the capital improvements outlined in San Mateo County's 2021 CMP or alter regional travel patterns.[24] 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.[25] Based on the traffic analysis conducted as part of this environmental analysis, the proposed project would generate 50 peak hour trips during the AM peak hour and 59 peak hour trips during the PM peak hour and would not increase traffic volumes at affected intersections by more than the Air District's screening criteria of 44,000 vehicles per hour, or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.[26] Therefore, the project would not have the potential to substantially increase CO hotspots at intersections in the project vicinity. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

Significance without Mitigation: Less than significant.

AQ-4 The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The proposed project would accommodate additional residential growth in the existing neighborhood and would not generate substantial odors that would affect a substantial number of people. The type of facilities that are typically considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Residential uses are not associated with foul odors that constitute a public nuisance.

[24] San Mateo County Transportation Commission, 2021, 2021 Congestion Management Program Report. https://ccag.ca.gov/wp-content/uploads/2022/01/258-018-San-Mateo-CMP-Report_Final.pdf, accessed March 2, 2022.

[25] 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 March 2, 2022.

[26] CHS Consulting Group, 2022, 806 Alameda de las Pulgas Transportation Impact Analysis Final Report.

During project-related construction activities on the project site, 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. Impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

AQ-5 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to air quality.

Criteria Air Pollutants

Impact discussion AQ-2 analyzes potential cumulative impacts to air quality that could occur from construction and operation of the proposed project in combination with regional growth projections in the air basin. Mitigation Measure AQ-2 would reduce impacts from fugitive dust generated during construction activities. Additionally, regional emissions would not exceed the Air District's significance thresholds (see impact discussion AQ-2). Consequently, the proposed project would not cumulatively contribute to the nonattainment designations of the Air Basin and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Toxic Air Contaminants and $PM_{2.5}$

There are no other stationary or mobile sources of TACs within 1,000 feet of the project site. As shown in Table 4.2-10, mitigated health risks would be below the Air District's thresholds for individual projects and, therefore, the cumulative health risks from the project would be further reduced below the Air District cumulative thresholds of 100 in a million for a lifetime cancer risk, 10.0 for chronic hazards, and the $PM_{2.5}$ concentration for all emission sources of 0.8 µg/m^3. Consequently, cumulative localized impacts from TACs and $PM_{2.5}$ would be *less than significant*.

Significance without Mitigation: Less than significant.

4.3 BIOLOGICAL RESOURCES

This chapter describes existing biological resources at the project site and evaluates the potential impacts on biological resources associated with future development of the proposed project site, and potential off-site impacts.[1] A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the proposed project impacts and cumulative impacts. The information and analysis in this section is based in part on the following technical studies:

- *List of Plant Species Observed during Systemic Botanical Surveys*, prepared by Environmental Collaborative, April 2 and May 26, 2020.
- *Arborist Report, Preliminary Tree Resource Evaluation* (AR), prepared by Kurt Fouts, dated February 22, 2021.
- *Biological Resources Due Diligence Report* (BRR), prepared by FirstCarbon Solutions, dated June 21, 2016.
- *Jurisdictional Waters/Wetland Determination* (JW/WD), prepared by FirstCarbon Solutions, dated August 24, 2018.
- A *Jurisdictional Delineation* (JD), prepared by FirstCarbon Solutions, dated March 4, 2021.

A complete copy of each of these reports is included in Appendix E, *Biological Resources*, of this Draft Environmental Impact Report (EIR).

4.3.1 ENVIRONMENTAL SETTING

4.3.1.1 REGULATORY FRAMEWORK

Federal Regulations

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) is responsible for implementation of the Federal Endangered Species Act (FESA) (16 United States Code Section 1531 et seq.). The Act protects fish and wildlife species that are listed as threatened or endangered and their habitats. "Endangered" species, subspecies, or distinct population segments are those that are in danger of extinction through all or a significant portion of their range, and "threatened" species, subspecies, or distinct population segments are likely to become endangered in the near future.

[1] Mitigation Measure TRAN-4b in Chapter 4.15, *Transportation*, of this Draft EIR requires the project sponsor to construct an access road to Coronado Avenue in the event that the Vista Del Grande project is not constructed at the time of occupancy permit issuance for the proposed project. This chapter addresses the potential biological resource impacts associated with the off-site access road that would be potentially constructed under Mitigation Measure TRAN-4b. A figure showing the approximate location of the access road that would potentially be constructed under Mitigation Measure TRAN-4b is provided in Appendix O, *Emergency Access*, of this Draft EIR.

If a listed species or its habitat is found to be affected by a project, then according to Section 7 of the FESA, all federal agencies are required to consult with USFWS and NOAA Fisheries when a federal nexus exists. The purpose of consultation with USFWS and NOAA Fisheries is to ensure that the federal agencies' actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A Section 10(a) incidental take permit applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under FESA, which typically requires preparation of an agency-approved habitat conservation plan to allow for the anticipated take.

Section 9 of the FESA prohibits the take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. "Take" is defined as an action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to taking at the time of listing. Under Section 9 of the FESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and reduction to possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any State law or in the course of criminal trespass. Section 9 does not provide any protection for candidate species and species that are proposed or under petition for listing.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MTBA) (16 US Code 703 et seq.) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Moreover, the MBTA prohibits the take, possession, import, exports, transport, selling, purchase, barter—or offering for sale, purchase, or barter—any migratory bird, their eggs, parts, or nests, except as authorized under a valid permit.[2]

Federal Clean Water Act

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into "waters of the United States,"[3] including wetlands and non-wetland bodies of water that meet specific criteria. Pursuant to Section 404 of the federal Clean Water Act (CWA), a permit is required for any filling or dredging within waters of the United States. The permit review process entails an assessment of potential adverse impacts to USACE wetlands and jurisdictional waters, wherein the USACE may require mitigation measures. Where a federally listed species may be affected, a Section 7 consultation with the

[2] Code of Federal Regulations Title 50 Section 21.11.

[3] "Waters of the United States," as it applies to the jurisdictional limits of the authority of the USACE under the CWA, includes: all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; water impoundments; tributaries of waters; territorial seas; and wetlands adjacent to waters. The terminology used by Section 404 of the CWA includes "navigable waters" which is defined at Section 502(7) of the Act as "waters of the United States including the territorial seas."

USFWS may be required in instances where a federal nexus exists such as a potential impact on regulated waters. Where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the Regional Water Quality Control Board (RWQCB).

Section 401(a)(1) of the CWA specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency with certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable RWQCB must certify that the project will comply with water quality standards. Permits requiring Section 401 Certification include USACE Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the Environmental Protection Agency under Section 402 of the CWA. NPDES permits are issued by the applicable RWQCB; the City of San Carlos is within the jurisdiction of the San Francisco Bay RWQCB (Region 2).

State Regulations

California Fish and Game Code

Section 1600 of the California Fish and Game Code requires that a project proponent notify the California Department of Fish and Wildlife (CDFW) of any proposed alteration of streambeds, rivers, and lakes. The intent is to protect habitats that are important to fish and wildlife. The CDFW may review a project and place conditions on the project as part of a Streambed Alteration Agreement. The conditions are intended to address potentially significant adverse impacts within the CDFW's jurisdictional limits.

California Fish and Game Code Section 3503.5 prohibits take, possession, or destruction of any raptor (bird of prey species in the orders Falconiformes and Strigiformes), including their nests or eggs. Violations of this law include destruction of active raptor nests as a result of tree removal and disturbance to nesting pairs by nearby human activity that causes nest abandonment and reproductive failure.

In addition, the Native Plan Protection Act of 1977 prohibits the taking, possessing, or sale within the State of any plants with a state designation of rare, threatened, or dangerous in the California Fish and Game Code Section 1900, et seq. Under specific circumstances, an exception to this prohibition allows landowners to take listed plant species when the owners first notify the CDFW and allot the agency at least 10 days to retrieve the plants before they are otherwise destroyed. Project impacts to these species are not considered significant unless the species are known to have a high potential of occurring within the area of disturbance on the project site.

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the CDFW. Its intent is to prohibit take and protect State-listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, the CESA also applies the take prohibitions to species petitioned for listing (State candidates). Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, the CESA does not include listing provisions for

invertebrate species. Under certain conditions, the CESA has provisions for take through a 2081 permit or Memorandum of Understanding. In addition, some sensitive mammals and birds are protected by the State as Fully Protected Species. California Species of Special Concern (SSC) are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's California Natural Diversity Data Base (CNDDB), a database of known and recorded occurrences of sensitive species. Informally listed taxa are not protected per se but warrant consideration in the preparation of biological resources assessments.

California Porter-Cologne Water Quality Control Act

The RWQCB has regulatory authority over wetlands and waterways under both the CWA and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the U.S., through the issuance of water quality certifications under Section 401 of the CWA in conjunction with permits issued by the USACE under Section 404 of the CWA. When the RWQCB issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements for the project under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands, vernal pools, seasonal streams, intermittent streams, channels that lack a nexus to navigable waters, or stream banks above the ordinary high water mark) are regulated by the RWQCB under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of USACE jurisdiction may require the issuance of either individual or general waste discharge requirements.

Other Statutes, Codes and Policies Affording Species Protection

The CDFW maintains an administrative list of California Species of Special Concern (SSC), defined as a "species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the State, or, in the case of birds, in its primary seasonal or breeding role;
- Is listed as federally, but not State threatened or endangered;
- Meets the State definition of threatened or endangered but has not formally been listed;
- Is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for State threatened or endangered status."

The CDFW's Nongame Wildlife Program is responsible for producing and updating SSC publications for mammals, birds, and reptiles and amphibians. Section 15380 of the CEQA Guidelines clearly indicates that SSC should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein. In contrast to species listed under the federal ESA or CESA, however, SSC have no formal legal status.

The CNPS is a non-profit conservation organization dedicated to the preservation of native flora in California. The CNPS has been involved in assembling, evaluating, and distributing information on special-status plant species in the state, as listed in the *Inventory of Rare and Endangered Plants of California* (inventory). CNPS has recently updated its rating system for the rarity of special-status plants, and now includes both a California Rare Plant Rank and a Threat Rank. CEQA requires government agencies to consider environmental impacts of discretionary projects and to avoid or mitigate them where possible. Under Section 15380, CEQA provides protection for both State-listed species and for any other species which can be shown to meet the criteria for State listing. The CDFW recognizes that special-status plants with a California Rare Plant Rank of 1A (Presumed extinct in California), 1B (Rare, threatened, or endangered in California and elsewhere), and 2 (Rare and endangered in California, but are more common elsewhere) in the CNPS Inventory consist of plants that, in a majority of cases, would qualify for listing and these species should be addressed under CEQA review. In addition, the CDFW recommends, and local governments may require, protection of species which are regionally significant, such as locally rare species, disjunct populations, essential nesting and roosting habitat for more common wildlife species, or plants with a CNPS California Rare Plant Rank of 3 (Plant species for which additional data is needed – a review list) and 4 (Plant species of limited distribution- a watch list).

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to biological resources in San Carlos in the Environmental Management Element. The policies relevant to the proposed project are listed in Table 4.3-1, *City of San Carlos 2030 General Plan Policies Relevant to Biological Resources*. Figure 6-1, *Vegetation and Habitat Types*, in 2030 General Plan shows coast live oak woodlands in the upper elevations of the site and surrounding lands, consistent with the findings of the AR and biological review summarized below in Section 4.3.1.2, *Existing Conditions*. However, there are no specific polices in the 2030 General Plan calling for protection of oak woodland habitat and the only specific reference to tree preservation is in Policy EM-3.1 which calls for "…special emphasis on protection of heritage trees."

TABLE 4.3-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO BIOLOGICAL RESOURCES

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element	
Policy EM-1.1	Ensure that potential impacts to biological resources and sensitive habitat are carefully evaluated when considering development project applications.
Policy EM-1.2	Ensure that development is consistent with all federal, State and regional regulations for habitat and species protection.
Policy EM-1.5	Promote the preservation of native species, habitat and vegetation types and overall natural diversity.
Policy EM-3.1	Maintain and expand the urban canopy with special emphasis on protection of heritage trees.
Policy EM-5.1	Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).
Policy EM-5.3	Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.

TABLE 4.3-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO BIOLOGICAL RESOURCES

Policy Number	Policy Text
Policy EM-5.4	Recycled water distribution system (purple pipe) should be used for landscaping and other non-potable water uses for residential, commercial and industrial customers, where technically and financially feasible.
Policy EM-5.7	Encourage site designs that manage the quantity and quality of storm water run-off.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for the city. The Municipal Code is organized by Title, Chapter, and Section.

Chapter 18.18, *Landscaping*, of Title 18, *Zoning*, of the San Carlos Municipal Code, includes Section 18.18.070, *Trees*, which establishes regulations related to tree protection in the City of San Carlos. Section 18.18.070 requires a tree protection permit for the removal of any "protected" trees. Protected trees are any that qualify as "significant" or "heritage" trees as defined in the ordinance. The ordinance also specifies that, in granting a tree removal permit for the removal of any protected tree, replacement plantings shall be provided as deemed acceptable by the Community and Economic Development Director or their designee. Significant trees are defined as any tree that is 36 or more inches in circumference (about 11.5 inches or more in diameter), outside of bark, measured at 48 inches above natural grade. Certain non-native tree species are excluded from classification as significant trees because of their invasive characteristics and fire-fuel management concerns including eucalyptus, Monterey pine (*Pinus radiata*), and three species of acacia, among others. Heritage trees are any indigenous native species that meet certain minimum trunk sizes, based on species, when measured at 48 inches above natural grade. Heritage tree species include California buckeye (*Aesculus californica*), madrone (*Arbutus meniesii*), coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), blue oak (*Q. douglassi*), interior live oak (*Q. wislizneii*), redwood (*Sequoia sempervirens*), and California bay laurel (*Umbellularia californica*).

Chapter 12.20, *Maintenance and Removal of Private Landscaping on Public Property*, of the Municipal Code provides for implementation of the landscaping regulations in Chapter 18.18 as applied to streets, sidewalks, and public places. A permit is typically required to remove any regulated tree in a public right-of-way or property, such as the street frontage along Alameda de Las Pulgas.

In July 2021, the City Council adopted an Urgency Ordinance (#1572) that refines regulations for protected tree removals until a new ordinance is adopted. San Carlos residents and members of the City Council have expressed concern about the number of protected tree removals occurring within San Carlos, and some residents have questioned the need for removal of protected trees to allow for new development. The goal of the new ordinance is to strengthen the language within the interim ordinance, clarify and reduce the reasons for tree removal, add to current definitions, detail information on tree appraisals, and expand replacement requirements, among other considerations. While the urgency ordinance remains in place, it does not apply to the proposed project because the ordinance was adopted after the project application was determined by the City to be complete.

4.3.1.2 EXISTING CONDITIONS

This section describes the existing biological resources at the project site and the surrounding area, and provides an evaluation of the potential impacts on sensitive resources. Biological resources were identified by compiling and reviewing existing information and conducting field surveys of the project site by an independent EIR biologist. The background review provided information on general resources in the area, the extent of sensitive natural communities, jurisdictional wetlands, and the distribution and habitat requirements of special-status species that have been recorded from or are suspected to occur in the San Carlos vicinity. Detailed surveys and mapping of resources present on the project site were also prepared by consultants to the project applicant, which were peer reviewed for adequacy by the EIR biologist. These consist of the following:

- *Arborist Report, Preliminary Tree Resource Evaluation* (AR),[4] provided an inventory and assessment of trees regulated under City of San Carlos Municipal Code that could be affected by the proposed project. The AR was updated six times as project plans were refined, with the most recent updated completed on February 22, 2021. A total of 384 trees were eventually inventoried in the revised AR. A total of 233 were determined to be "protected" under the City's Municipal Code, and an additional 106 trees not protected but nevertheless evaluated in the AR, providing information on size, condition and suitability for preservation. An additional 45 trees not protected under Municipal Code were not tagged or evaluated, bringing the total number of trees in the inventory to 384. The AR includes a tree assessment chart summarizing information on each tree in the inventory (see Appendix A of AR), maps of tree trunk locations and numbers, and standard tree protection guidelines and restrictions (see Appendix F of AR).
- *Biological Resources Due Diligence Report* (BRR)[5] provides a description of existing biological conditions on the project site and an analysis of potential impacts of the proposed project. It includes the results of record searches for special-status species and a preliminary wetland assessment, based on a background information review and field reconnaissance surveys. Tables with information on special-status species reported from the San Carlos vicinity were prepared, providing information on name, status, habitat descriptions, potential for presence on the site and whether it was included in the impact analysis were included in the BRR (see Appendix A of the BRR).
- *Jurisdictional Waters/Wetland Determination* (JW/WD)[6] provides a review the regulatory framework related to regulated wetlands and waters, results of an inspection of areas identified in the BRR as containing "evidence of potential seasonal swales in the upper portion of the project site," and conclusion that no regulated waters were believed to be present on the site based on the results of the additional investigation.
- A *Jurisdictional Delineation* (JD)[7] was prepared to document the freshwater seep encountered on the site by the EIR biologist and not detected during preparation of the JW/WD in 2018. The JD provides a

[4] Fouts, Ken, 2016, *Arborist Report, Preliminary Tree Resource Evaluation*, prepared for Veev in association with Donald W. Cox.

[5] First Carbon, 2016, *Biological Resources Due Diligence Report, Black Mountain Property*.

[6] First Carbon, 2018, Jurisdictional Waters/Wetland Determination for the Black Mountain Property Project.

[7] First Carbon Solutions, 2021, *Jurisdictional Delineation, 808 Alameda de las Pulgas*.

review of regulatory framework related to State and federal wetlands and waters, methods used to document the steep, and conclusion that this feature is most likely a State-regulated wetland under the Porter-Cologne Water Quality Act but not a federally regulated waters because it is hydrologically isolated.

An initial survey of the project site was conducted by the EIR biologist and botanist on April 2, 2020. The initial field survey effort was performed to confirm existing conditions and adequacy of the surveys and mapping prepared by the applicant's consultants and to detect presence or absence of any early-flowering special-status plant species on the project site. This was followed up by a second systematic survey by the EIR botanist for possible occurrences of special-status plants and sensitive natural communities conducted on May 26, 2020. The systematic surveys by the EIR botanist were conducted in accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.[8] During the systematic surveys, all plant species encountered were identified to the degree necessary to determine rarity and a list of all species encountered species encountered. A list of all plant species observed during the systematic plant surveys is contained in Appendix E, *Biological Resources*, of this Draft EIR.

A follow-up survey was conducted on May 25, 2022 to inspect the conceptual alignment of the access road that would potentially be constructed on the adjacent Vista Del Grande project site under Mitigation Measure TRAN-4b. The survey was conducted to determine the potential for possible presence of any special-status plant species, regulated trees, or other sensitive resources that could be affected during construction of the off-site access road. The access road alignment is highly disturbed and, based on observed conditions, additional detailed surveys are not considered necessary.

During a brief roadway reconnaissance of the project site conducted on May 25, 2022, numerous native coast live oak and valley oaks were observed to be in considerable decline or to have died since the field surveys conducted in spring of 2020. This change in conditions is noted below in the discussion of existing biological resources and tree information from the AR.

Vegetation and Wildlife Habitat

Vegetation and wildlife habitat on the project site reflect a history of past disturbance associated with the previous Black Mountain Spring Water Company operations and construction of the existing residences on the property. The majority of the site has been modified by past grading and other disturbance, during construction of roadways, residences, other structures, and ornamental landscaping. Areas of intact mixed oak woodland and open grasslands occur along the southwestern upper elevations of the project site. A small wetland seep occurs in the eastern portion of the project site, but the Black Mountain Spring improvements run underground through an improved drainage system and no natural channels remain on the property. The following provides a summary of the characteristic vegetation and wildlife habitat conditions found on the project site.

[8] California Department of Fish and Wildlife, 2018, *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*.

Mixed oak woodlands occupy much of the higher elevations along the southern and western edges of the project site, dominated by native coast live oak. Other native tree species in the woodland include California buckeye, valley oak, and California bay. The understory in the woodlands varies, with some locations supporting grassland and scrub species. Where the tree cover is dense, understory species are typically sparse, consisting of poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), and bedstraw (*Galium* spp.). The highly invasive shrub French broom (*Genista monspessulana*) is spreading through much of the woodland understory and into open grasslands, forming impenetrable thickets in some locations and reducing the habitat value of the remaining natural areas on the project site.

The AR provides an inventory of the tree resources on the site regulated under the City's Municipal Code. Table 4.3-2, *Tree Resources Documented in Arborist Report*, provides a summary of the native and non-native trees evaluated as part of the AR. These include those qualifying as protected trees under the City's Municipal Code. Protected trees include native trees species with trunk sizes large enough for them to qualify as "heritage trees" and non-native tree species that qualify as a "significant tree" when their trunk is 36 or more inches in circumference (about 11.5 inches or more in diameter). As indicated in Table 4.3-2, the dominant tree species on the project site is native coast live oak, representing about 48 percent of the trees contained in the AR inventory. Native tree species collectively represent about 57 percent of the trees evaluated in the AR.

TABLE 4.3-2 TREE RESOURCES DOCUMENTED IN THE ARBORIST REPORT

		Trees Removed or Retained	
Species and Designation	**Pre-Development**	**Removed**	**Retained**
Protected Trees			
Native – "Heritage Tree"			
Coast live oak	185	135	50
Valley oak	9	8	1
California buckeye	21	4	17
California bay	4	3	1
Total Heritage Trees	*219*	*150*	*69*
Non-Native – "Significant Tree"			
Olive	4	4	0
Aleppo pine	3	2	1
American elm	1	1	0
Peruvian pepper	1	1	0
Monterey cypress	1	0	1
Pittosporum	1	1	0
Total Significant Trees	*11*	*9*	*2*
Total Protected Trees	**230**	**159**	**71**
Public Trees			
Coast live oak	2	1	1
Peruvian pepper	1	1	0
Total Public Trees	**3**	**2**	**1**

TABLE 4.3-2 TREE RESOURCES DOCUMENTED IN THE ARBORIST REPORT

	Trees Removed or Retained		
Species and Designation	**Pre-Development**	**Removed**	**Retained**
Not Protected Trees			
Silver dollar gum eucalyptus	88	60	28
Smaller Trees/Large Shrubs	45	40	5
Coast live oak (<9.5" dia)	1	1	0
Monterey pine	9	6	3
Red gum eucalyptus	3	1	2
Avocado	1	1	0
Acacia	1	1	0
Plum	1	0	1
Privet	1	0	1
Coast redwood	1	1	0
Total Not Protected Trees	**151**	**111**	**40**
TOTAL INVENTORY	**384**	**272**	**112**

Source: Kurt Fouts, 2021, *Arborist Report, Preliminary Tree Resource Evaluation*, September 2019 revisions.

Where the tree canopy is open or sparse, non-native grasses and forbs form the dominant cover over the portions of the project site not occupied by structures, roadways and ornamental landscaping. Common species include: wild oats (*Avena* spp.), bromes (*Bromus* spp.), filaree (*Erodium* spp.), Festuca (*Festuca* spp.), common vetch (*Vicia sativa* ssp. *sativa*), thistles (*Sonchus* spp.), clovers (*Trifoium* spp.), and dock (*Rumex* spp.), among others. Native grasses and forbs are scattered through the grasslands, such as purple needle grass (*Stipa pulchra*), miner's lettuce (*Claytonia parviflora*), California poppy (*Eschscholzia californica*), Douglas iris (*Iris douglasiana*), miniature lupine (*Lupinus bicolor*), and bule-eyed grass (*Sisyrinchium bellum*), among others. However, the native component in the grasslands is not high enough or cover an area large enough to be considered a sensitive natural community type recognized by the CDFW. Invasive non-native species are also spreading through some areas of the grassland cover, including thickets of French broom, cotoneaster (*Cotoneaster* spp.), shortpod mustard (*Hirschfeldia incana*), and sweet fennel (*Foeniculum vulgare*). French broom is particularly problematic throughout the San Carlos hills, spreading through grasslands and woodland understory, contributing to fire fuel loads and replacing native cover.

The woodlands and open grasslands provide denning, nesting and foraging opportunities for numerous species of small mammals, reptiles, and birds. Mammals and reptiles found in the project site vicinity likely include: deer mouse, California vole, Botta's pocket gopher, stripped skunk, racoon, blue-bellied lizard, western skink, newts, ensatina, ring-necked snake, and gopher snake, among others. Larger mammals such as black-tailed deer and predatory species such as grey fox, red fox, coyote, and occasionally mountain lion most likely forage throughout the woodlands and grasslands in the site vicinity. Cyclone fencing along the southern edge of much of the project site currently limits movement opportunities for larger terrestrial species, as does the intensity of residential development in the surrounding area. The trees provide nesting cavities, perching and foraging opportunities, and nesting

substrate for numerous species of birds, including: jays, woodpeckers, kinglets, and bushtits. Although no large stick nests were observed during the site surveys, several species of raptors likely utilize the mature trees for roosting and possibly nesting with foraging in the understory and areas of open grassland. These include: red-tailed hawk, Cooper's hawk, white-tailed kite, turkey vulture, great-horned owl, and barn owl.

The developed portions of the site contain structures and ornamental landscaping that is utilized by wildlife common to suburban and urban habitats. Non-native tree species planted on the project site include silver dollar eucalyptus (*Eucalyptus polyanthemos*), silver gum (*Eucalyptus cremulata*), river red gum (*Eucalyptus camaldulensis*), Monterey pine (*Pinus radiata*), and Aleppo pine (*Pinus halepenis*), among others. As indicated in Table 4.3-2, *Tree Resources Documented in Arborist Report*, silver gum is the most abundant ornamental tree species on the project site, comprising over 23 percent of the trees evaluated in the AR. Silver gum, other eucalyptus tree species, and Monterey pine are not considered a "protected tree" under the City's Municipal Code regardless of their size because of their invasive characteristics and tendency to contribute to fire fuels. Smaller fruit trees, ornamental shrubs, groundcovers, and turf surround portions of the existing residences on the project site. The mature trees and other ornamental landscaping provide foraging, roosting, and possibly nesting locations for birds associated with the native woodlands and grasslands. They also provide suitable habitat for species commonly associated with suburban habitats, such as American robin, northern mockingbird, mourning dove, and brown towhee, among others. The developed areas also likely support common non-native pest species such as house mouse, Norway rat, and opossum.

Special-Status Species

Special-status species[9] are plants and animals that are legally protected under CESA and/or FESA or other regulations, as well as other 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 denning locations, communal roosts, and other essential habitat. Species protected by the CESA and FESA often represent major constraints to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"[10] of these species.

[9] Special-status species include:

- Officially designated (rare, threatened, or endangered) and candidate species for listing identified by the CDFW;
- Officially designated (threatened or endangered) and candidate species for listing identified by the USFWS;
- Species considered to be rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those with a rank of 1 or 2 in the *Inventory of Rare and Endangered Plants of California* maintained by the California Native Plant Society (CNPS); and
- Possibly other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those with a rank of 3 and 4 in the CNPS *Inventory* or identified as animal "Species of Special Concern" (SSC) by the CDFW which have no legal protective status under CESA but are of concern to the CDFW because of severe decline in breeding populations in California.

[10] "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFW also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA.

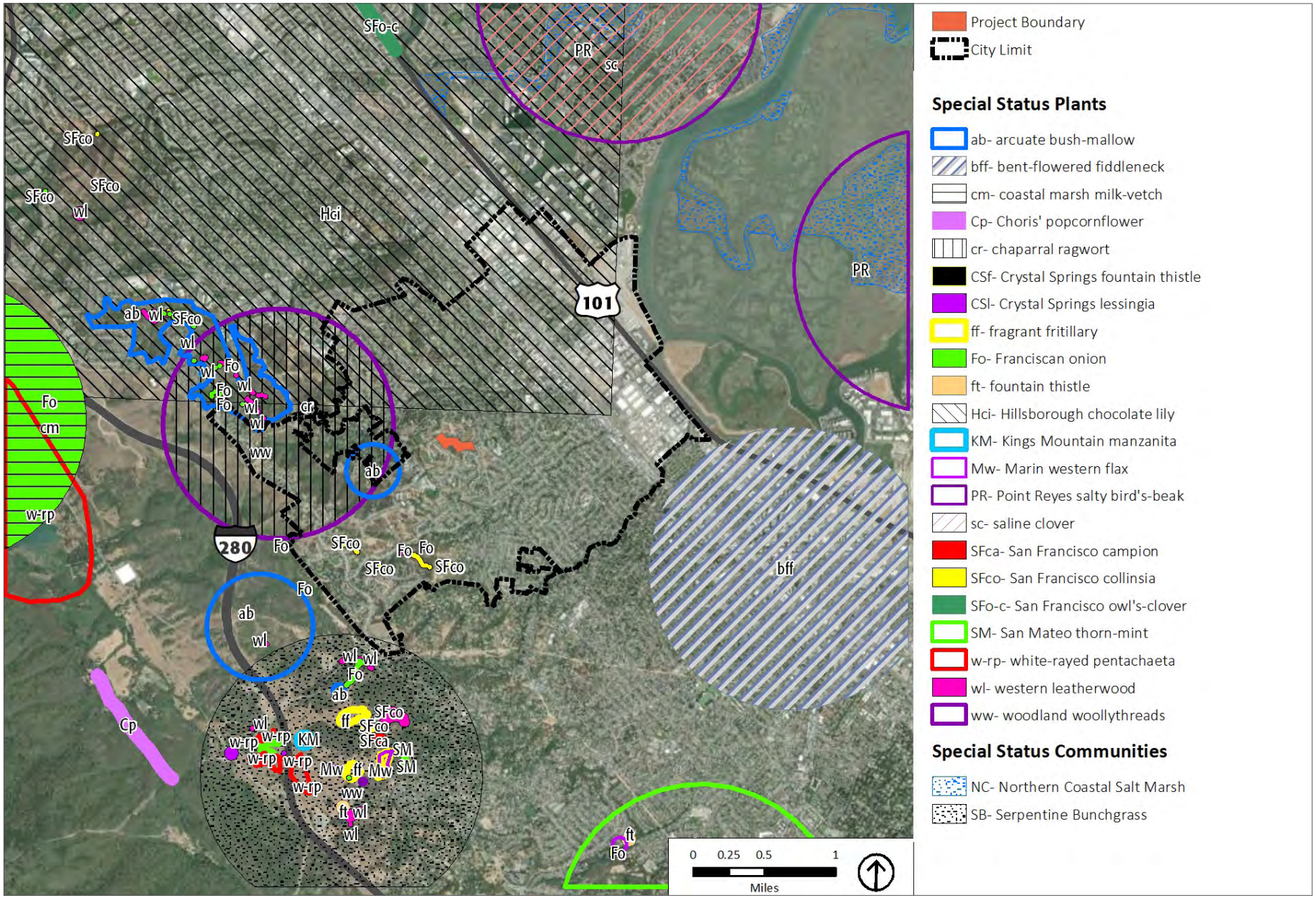
Based on data from the CNDDB and other information sources, numerous special-status species are known or suspected to occur in the open water and marshlands of San Francisco Bay, riparian corridors along streams and creeks, and undeveloped uplands of the San Mateo Peninsula. Figure 4.3-1, *Special-Status Plant Species,* and Figure 4.3-2, *Special-Status Animal Species*, show the known occurrences of special-status plant and animal species respectively in the San Carlos area based on the CNDDB inventory, which indicates that there are no known occurrences from the project site or immediate vicinity. Very broad occurrences for three species—woodland woollythreads (*Monolopia gracilens*), Alameda song sparrow (*Melospiza melodia pusillula*) and pallid bat (*Antrozous pallidus*)—extend over portions of northern San Carlos, over half a mile to the north of the project site, but these are occurrences based on very general records. Occurrence of any special-status species on the project site is considered unlikely, given the extent of past development and limited habitat suitability, as summarized below.

Some of the more well-known special-status species known from the San Mateo Peninsula are associated with the open water and coastal salt marsh habitat of San Francisco Bay not found on the project site. These include the state-listed threatened California black rail (*Laterallus jamaicensis coturniculus*) and the state and federally listed endangered California Ridgway's rail (*Rallus longirostris obsoletus*) and salt-marsh harvest mouse (*Reithrodontomys raviventris*), and Alameda song sparrow, which has no formal listing under FESA or CESA but is considered a California SSC by the CDFW.

Perennial stream corridors were once used by the federally listed threatened steelhead (*Oncorhynchus mykiss*) for migration and spawning, but stream corridors are absent on the project site and vicinity. Similarly, suitable dispersal habitat for the federally listed threatened California red-legged frog (*Rana aurora draytonii*), the state and federally listed endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and western pond turtle (*Actinemys marmorata*) is absent on the project site and vicinity. Western pond turtle has no formal listing under FESA and CESA but is considered a California SSC by the CDFW.

Finally, a number of invertebrate species known from the San Mateo Peninsula are not suspected to occur in the site vicinity due to lack of suitable natural habitat or larval host plant species. These include monarch butterfly (*Danaus plexippus*), bay checkerspot butterfly (*Euphydryas editha bayensis*), and Ricksecker's water scavenger beetle (*Hydrochara ricksecker*i), among others.

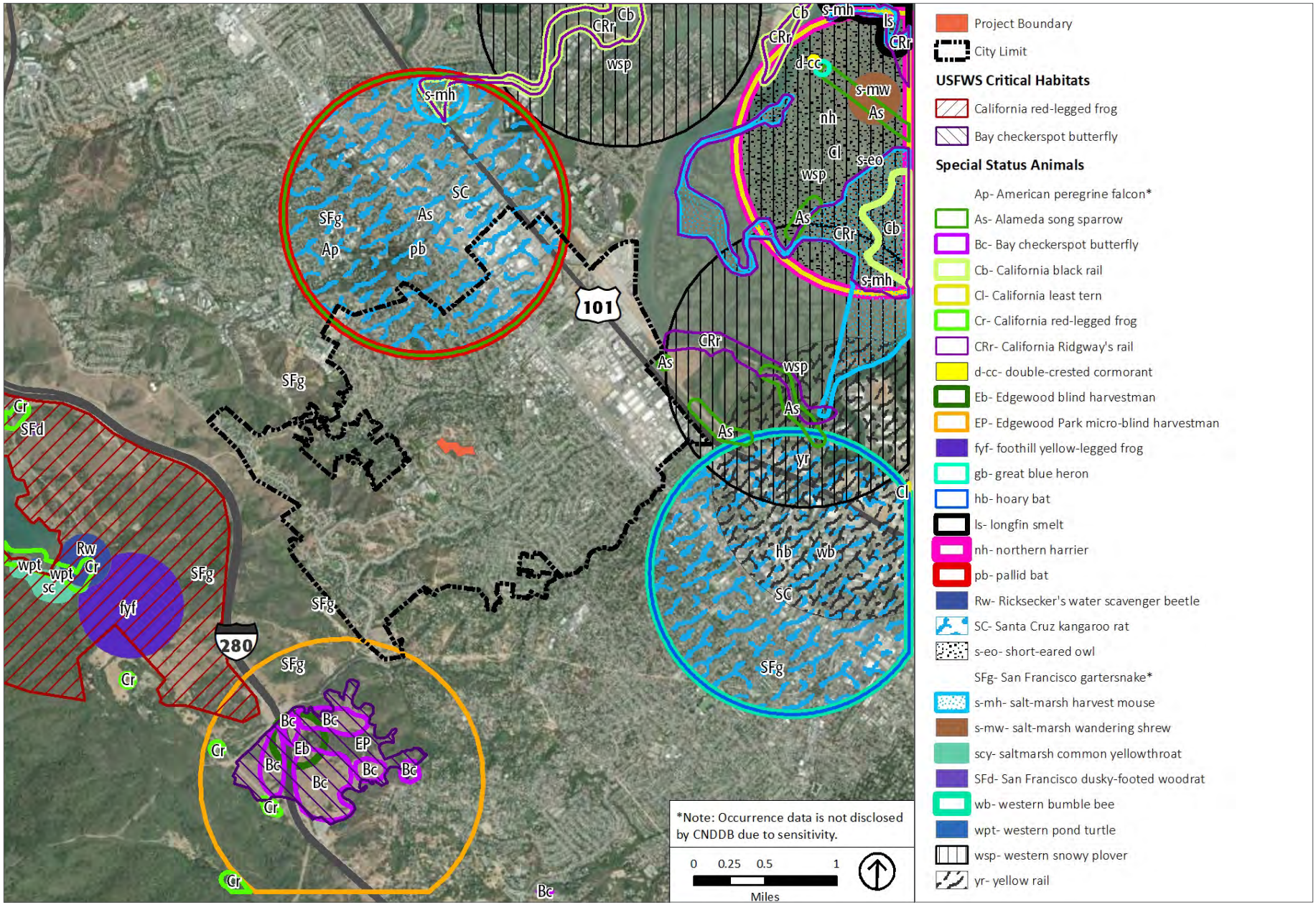
The BRR provides a review of the potential for occurrence of special-status species on the project site and includes detailed tables summarizing information on special-status species reported from the San Carlos vicinity providing their name, status, habitat descriptions, and conclusion regarding presence or absence on the project site (see Appendix A of the BRR). The BRR concludes that suitable habitat for most special-status species in the San Carlos vicinity is absent on the project site with the possible exception of nesting raptors and other native birds protected under the Migratory Bird Treaty Act and State Fish and Game Code, roosting bat species, and possibly two special-status plant species. These are discussed below, together with information on two special-status mammal species not identified in the BRR but were considered to have a remote potential to occur on the project site – San Francisco dusky-footed woodrat (*Neotoma fuscipes*) and mountain lion (*Puma concolor*).



Source: ESRI, 2022; California Department of Fish and Wildlife, 2022; PlaceWorks, 2022.

Figure 4.3-1
Special-Status Plant Species

BIOLOGICAL RESOURCES



Source: ESRI, 2022; California Department of Fish and Wildlife, 2022; PlaceWorks, 2022.

Figure 4.3-2
Special-Status Animal Species

Special-Status Plants. The two special-status plant species identified in the BRR as possibly occurring on the project site are arcuate bush-mallow (*Malacothamnus arcuatus*) and woodland woollythreads (*Monolopia gracilens*). Both of these species are found in woodland, chaparral, and grassland habitats and have been reported from occurrences within one mile of the project site. Both have a California Rare Plant Rank of 1B.2[11] in the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants*. The BRR recommended that focus surveys for these two species be conducted to confirm their presence or absence on the project site. No occurrences of these or other special-status plant species were detected during systematic surveys conducted in spring of 2020 and no special-status plant species are believed to occur on the project site. Similarly, based on the field survey conducted in May 2022, the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b on the adjacent Vista Del Grande project site has been extensively disturbed by past grading and other ground disturbing activity, and no special-status plant species are suspected to occur along this off-site alignment.

Raptors and other Native Birds. As indicated in the BRR, there is a possibility that one more species of birds protected under the federal Migratory Bird Treaty Act and State Fish and Game Code could nest in the trees, dense vegetation, and structures on the project site. As noted above, no evidence of any nesting by raptors was observed during the field surveys. However, there is a possibility that new bird nests could be established in advance of construction. Preconstruction surveys are typically conducted in advance of vegetation removal and construction during the nesting season (generally from February through August) to identify any active nests and ensure avoidance while occupied.

Roosting Bats. Trees and structures on the project site could provide roosting habitat for a number of special-status bat species, including: pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Placates townsendi townsendi*), and hoary bat (*Lasiurus cinereus*). As indicated in Figure 4.3-2, an occurrence of pallid bat has been reported from the San Carlos vicinity by the CNDDB and other bat species such as hoary bat are known from the coast range. Pallid and Townsend's western big-eared bat are considered California SSC by the CDFW. Roost locations of hoary bat and other bat species on the *Special Animals List*[12] maintained by the CDFW are infrequently monitored by the CNDDB. Suitable habitat varies for each species, but roosting locations can include trees, tree cavities, abandoned or little used buildings, caves, mines, and cliff faces. No bats or evidence of bat occupation were observed during field surveys of the project site, but individuals could occupy cavities in some of the larger trees or could establish roosts in advance of construction.

San Francisco Dusky-footed Woodrat. San Francisco dusky-footed woodrat is considered a California SSC by the CDFW. It is a year-round resident in the San Francisco Bay area, preferring scrub and wooded areas, and feeds primarily on nuts, fruits, fungi, foliage, and forbs. It builds large terrestrial stick nests that range from 2 to 5 feet in height and can be up to 8 feet in basal diameter. These nests are typically placed on the ground or against a log or tree and are often within dense brush. No occurrences of San Francisco dusky-footed woodrat have been reported by the CNDDB in the vicinity of the project site (see Figure 4.3-2), but suitable habitat is present in the native woodlands. No stick nests of this species were observed during

[11] Plants with a California Rare Plant Rank of 1B in the CNPS Inventory are considered rare throughout their range with the majority of them endemic to California.

[12] California Department of Fish and Wildlife, California Natural Diversity Data Base, 2022, *Special Animals List*.

the field surveys of the project site and the possible presence of this species was not considered in the BRR, but there remains a possibility that nests were present in areas of dense cover or that new nests could be established in the future in advance of construction.

Mountain Lion. Mountain lion is fully protected under State Fish and Game code and the evolutionarily significant unit (ESU) encompassing Southern California and the central coast is currently designated as a candidate species by the CDFW. The Fish and Game Commission is currently conducting a status review of mountain lions within the proposed ESU. At the end of the review, CDFW will make its recommendation on listing to the Commission. Under CESA, species classified as a candidate species are afforded the same protection as listed species. Mountain lions have large home ranges that may include heterogenous habitats including riparian, chaparral, oak woodlands, coniferous forests, grasslands, and occasionally rocky desert uplands. Individuals are known to forage and disperse through the open space and undeveloped lands to the west of San Carlos. They may occasionally move through residential areas at the western edge of the City Limits, but it is unlikely individuals disperse as far west as the project site on any regular basis, given the absence of undeveloped lands, creek corridors or other natural areas that would serve as a movement corridor. The project site and adjacent undeveloped land lack suitable denning locations for this species and are not considered essential habitat for mountain lions given the intensity of existing development that completely surrounds the area.

Sensitive Natural Communities

Sensitive natural communities are community types recognized by CDFW and other agencies because of their rarity. In the San Carlos vicinity, sensitive natural community types include coastal salt marsh, brackish water, freshwater marshlands, and native grasslands, among other community types. Figure 4.3-1 shows the distribution of known occurrences of serpentine bunchgrass and northern coastal salt marsh reported by the CNDDB in the surrounding area of San Carlos, none of which have been mapped on or near the project site.

Based on the findings of the BRR and field surveys of the EIR biologist, sensitive natural community types are absent on the project site. While the grassland cover on the project site includes native grasses and forbs, such as purple needle grass, these do not occur in high enough densities or aerial extent to be considered a sensitive natural community type. The oak woodlands, while considered important for their wildlife habitat value, are dominated by coast live oak which is a widespread and common species. Areas disturbed by past development activity are dominated by non-native ruderal species and ornamental landscaping. These same conditions apply to the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b on the adjacent Vista Del Grande project site.

Jurisdictional Waters

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. The CDFW, Corps, and RWQCB have jurisdiction over

modifications to riverbanks, lakes, stream channels and other wetland features as discussed above under Section 4.1.1.1, *Regulatory Framework*.

A preliminary wetland assessment of the project site was conducted by the EIR biologist during the field reconnaissance on April 2, 2020. The original JW/WD prepared for the applicant biologist in 2018[13] concluded that no State or federally regulated waters were present on the project site. However, a seep area was observed by the EIR biologist in an otherwise upland area occupying about 485 SF (0.01 acre) in an open grassland area at the eastern edge of the project site, about 200 feet south of the Alameda de Las Pulgas frontage. The subsequent review in the JD by the applicant's biologist confirmed that a seep area is present on the project site (see Figure 3-11, *Natural State Area*, of this Draft EIR) and is likely a regulated State Waters under the Porter-Cologne Water Quality Act.

No water features were observed at the alignment of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b on the adjacent Vista Del Grande project site.

Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by impassible barriers, large bodies of water, distinct changes in cover, and intensive human activity, among other factors. Urbanization and the resulting fragmentation of undeveloped open space areas can create isolated "islands" of wildlife habitat, separating populations that can lead to genetic isolation and sometimes extirpation. Corridors act as an effective link between populations, allowing for genetic exchange and recruitment of dispersing individual animals where the local carrying capacity, competition and other influences allow.

The project site is part of an approximately 25 acres area in the central hills of San Carlos that remain largely undeveloped. However, the extent of urbanization in the surrounding area limits opportunities for wildlife movement across a broader area through this part of San Carlos. Cyclone fencing along the southern edge of the project site currently limits movement by some species of wildlife, as does security fencing around the existing main residence on the property. Deer, grey fox, coyote and other terrestrial species currently have relatively unrestricted access to the undeveloped properties to the north and south. The absence of any active creeks on the project site preclude movement by fish and other aquatic-dependent wildlife.

Habitat Conservation Plans

The project site is not located within the planning area of an adopted Natural Community Conservation Plan or Habitat Conservation Plan and none are located in the surrounding area of San Carlos. The proposed project would therefore not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

[13] First Carbon Solutions, 2018, *Jurisdictional Waters/Wetland Determination for the Black Mountain Property Project*, letter report to Dafna Akiva, Dragonfly Investment Group from Brian Mayerle, Senior Biologist, August 24.

4.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to biological resources 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 plans, policies, or regulations, or by the California Department of Fish and Wildlife or US 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 US Fish and Wildlife Service.
3. Have a substantial or 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. In combination with past, present, or reasonably foreseeable projects, result in cumulative biological resource impacts.

4.3.3 IMPACT DISCUSSION

BIO-1	**The proposed project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.**

In general, the proposed project is not expected to have any substantial adverse impacts on special-status species. The systematic field surveys conducted in spring of 2020 confirmed absence of any special-status plant species on the project site and no adverse impacts are therefore anticipated. The habitat suitability analysis conducted as part of the field surveys by the EIR biologist and the results of the BRR determined that suitable habitat for most special-status animal species is absent from the project site. There is a possibility that tree removal, building demolition, and other disturbances could affect suitable habitat for San Francisco dusky-footed woodrat, roosting habitat for several special-status bats, and active bird nests protected under federal and State regulations, if present on the project site during construction. The following provides an assessment of the potential impacts on these special-status species, together with recommended measures where potentially significant impacts could occur.

Nesting Raptors and other Native Birds

Grading and other construction activities would require the removal of over 269 trees, other vegetation, and existing structures which provide suitable nesting habitat for numerous species of raptors and well as more common native bird species. Destruction of an active nest would be a violation of the Migratory Bird Treaty Act and State Fish and Game Code, and appropriate avoidance measures would be required to ensure compliance with these regulations. Vegetation removal and other construction activities in close proximity of nests in active use could lead to nest abandonment, unless appropriate seasonal restrictions are implemented. Destruction of bird nests in active use or activities that could lead to nest abandonment would also be a violation of the federal and State regulations.

A standard method to address the potential for nesting birds is either to initiate construction during the non-nesting season, which in San Carlos is typically from September 1 to January 31, or to conduct a nesting survey within 7 days prior to initial tree removal and construction to determine whether any active nests are present that must be protected until any young have fledged and are no longer dependent on the nest. Protection of the nest(s), if present, would require that construction setbacks be provided during the nesting and fledging period, with the setback depending on the type of bird species, degree to which the individuals have already acclimated to other ongoing disturbance, and other factors. Without these controls, vegetation removal and other construction activities associated with the proposed project could adversely affect nesting birds which would be a potentially *significant* effect.

Impact BIO-1.1: Removal of vegetative cover during project construction (including potential construction under Mitigation Measure TRAN-4b of an access road) may result in the inadvertent destruction of active nests of raptors and other native birds unless appropriate precautions are followed.

Mitigation Measure BIO-1.1: Adequate measures shall be taken to avoid inadvertent take of bird nests of native species protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps:

- If tree removal and initial construction is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of tree and vegetation removal in order to identify any active nests on the site and surrounding area within 100 feet of proposed construction. The project site, and the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, shall be resurveyed to confirm that no new nests have been established if vegetation removal and demolition has not been completed or if construction has been delayed or curtailed for more than 7 days during the nesting season.
- If no active nests are identified during the construction survey period, or development is initiated during the non-breeding season (September 1 to January 31), tree and vegetation removal, building demolition, and project construction may proceed with no restrictions.
- If bird nests are found, an adequate setback shall be established around the nest location and vegetation removal, grading, and other construction activities restricted within this no-disturbance zone until the qualified biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW, and may vary depending on nest location,

species, and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated on the remainder of the project site.

- A report of findings shall be prepared by the qualified biologist and submitted for review and approval by the City prior to initiation of vegetation removal, building demolition, grading and other construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. Following approval by the City, tree removal, building demolition, and construction within the nest buffer zone may proceed. No report of findings is required if vegetation removal and other construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.

Significance with Mitigation: Less than significant.

Roosting Bats

Tree removal and construction disturbance as part of grading and construction in the immediate vicinity of an active bat roost could affect special-status bats and other more common bats, if present. Direct impacts on bats could occur if construction activities resulted in direct mortality or the disruption or abandonment of an active bat roost(s). While no evidence of any active bat roots was observed during the field surveys of the project site, the oak woodlands, dense ornamental tree plantings, and existing structures provide suitable roosting habitat.

A standard method to address the potential for roosting bats is to conduct a roosting survey within 7 days prior to initial tree removal and construction to determine whether any active roosts are present that must be protected until any young have fledged and are no longer dependent on the roost. Protection of the roost, if present, would require that construction setbacks be provided, with the setback depending on the type of bat species, degree to which the individuals have acclimated to ongoing disturbance, and other factors. Without these controls, the tree removal, building demolition, and other construction activities could adversely affect roosting bats would be a potentially *significant* impact.

Impact BIO-1.2: Removal of trees and existing structures during project construction may result in the inadvertent destruction of active bat roosts unless appropriate precautions are followed. This impact does not pertain to the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, due to the lack of mature trees and absence of potential bat roosting habitat along the access road alignment.

Mitigation Measure BIO-1.2: Adequate measures shall be taken to avoid inadvertent take of special-status bat species if present in trees on the project site. This shall be accomplished by taking the following steps.

- A qualified biologist shall visually inspect trees to be removed and buildings to be demolished for bat roosts within 7 days prior to their removal. The biologist shall look for signs of bats including sightings of live or dead bats, bat calls or squeaking, the smell of bats, bat droppings, grease stains

or urine stains around openings in trees, or flies around such openings. Trees with multiple hollows, crevices, forked branches, woodpecker holes, or loose and flaking bark have the highest chance of occupation and shall be inspected the most carefully.

- If signs of bats are detected, confirmation on presence or absence shall be determined by the qualified biologist, which may include night emergency or acoustic surveys.
- Due to restrictions of the California Health Department, direct contact by workers with any bat is not allowed. The qualified bat biologist shall be contacted immediately if a bat roost is discovered during project construction.
- If an active maternity roost is encountered during the maternity season (April 15 to August 31), the CDFW shall be contacted for direction on how to proceed and an appropriate exclusion zone established around the occupied tree or structure until young bats are old enough to leave the roost without jeopardy. The size of the buffer would take into account:
  - Proximity and noise level of project activities;
  - Distance and amount of vegetation or screening between the roost and construction activities; and
  - Species-specific needs, if known, such as sensitivity to disturbance.

Significance with Mitigation: Less than significant.

San Francisco Dusky-footed Woodrat

The woodland and areas of scrub vegetation provide suitable habitat for San Francisco dusky-footed woodrat on the project site and adjacent undeveloped lands, although no evidence of this species presence was observed during the field surveys in 2020. If nests are present, they could be inadvertently destroyed as a result of vegetation clearing and grading, resulting in a loss of active nests and individual woodrats. Preconstruction surveys would be necessary to confirm no previously undetected or new nests have been built by woodrats in advance of initial vegetation removal and construction. Without these controls, this would be a potentially *significant* impact on San Francisco dusky-footed woodrat.

Impact BIO-1.3: Removal of trees and dense vegetative cover during project construction may result in the inadvertent destruction of active nests of San Francisco dusky-footed woodrat unless appropriate precautions are followed. This impact does not pertain to the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, due to the lack of suitable nesting habitat for dusky-footed woodrat along the access road alignment.

Mitigation Measure BIO-1.3: Adequate measures shall be taken to avoid inadvertent take of San Francisco dusky-footed woodrats on the project site. This shall be accomplished by taking the following steps:

- A qualified biologist shall be retained to conduct a preconstruction survey for San Francisco dusky-footed woodrats, to determine whether any stick nests are present in the vicinity of proposed vegetation removal and development. The survey shall be performed within 30 days prior to initiation of vegetation removal and grading.

- If any nests are encountered within the limits of proposed grading and development, a trapping and relocation effort shall be conducted outside the breeding season (March 1 through August 31) to ensure any young are not inadvertently lost due to the destruction of the protective nest.
- Any nests within the construction zone shall be relocated to locations retained as undeveloped open space and individual woodrats released into their relocated nests. The trapping and relocation effort shall preferably be conducted within 7 days prior to grubbing and vegetation removal to prevent individual woodrats from moving back into the construction zone.

Significance with Mitigation: Less than significant.

BIO-2	**The proposed project would not 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 US Fish and Wildlife Service.**

The proposed project would not have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. No riparian habitat, native grasslands or other sensitive natural communities are present on the project site or the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, and *no impacts* are therefore anticipated, and no mitigation is considered necessary.

Significance without Mitigation: No impact.

BIO-3	**The proposed project would have a substantial or 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.**

No federally regulated wetlands are present on the project site or the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b, but the small seep area to be retained and enhanced as part of the project is likely a regulated State waters. Development would be restricted away from this feature (see Figure 3-11, *Natural State Area*, of this Draft EIR) and the surrounding area enhanced with suitable perennial wetland-dependent species, as indicated Figure 3-13, *Overall Landscape Site Plan*, of this Draft EIR. However, unless construction restriction fencing is installed around this feature it could be inadvertently damaged during grading and other activities, which would result in a *significant* impact. Given the proposed grading, installation of enhancement plantings, and other disturbance proposed near this feature, the applicant would likely be required to submit a Notice of Intent (NOI) with the RWQCB have to enroll under and comply with the terms of Water Quality Order No. 2004-004 DWQ.

Appropriate controls would be implemented during construction to avoid any degradation to downgradient waters, as discussed in Chapter 4.9, *Hydrology and Water Quality*. Given implementation of

the required BMPs to control erosion and sedimentation, no direct or indirect impacts to off-site wetlands and waters are anticipated as part of project implementation.

Impact BIO-3: Grading and other project activities could result in inadvertent disturbance to the wetland seep on the project site unless appropriate precautions are followed.

Mitigation Measure BIO-3: Appropriate measures shall be taken to avoid inadvertent damage to the wetland seep on the project site and secure appropriate authorization from the RWQCB for proposed modifications in the vicinity of this feature, if required. This shall consist of the following:

- Authorization for modifications to the wetland seep shall be obtained from the RWQCB in accordance with applicable regulations. This may include enrolling in and complying with the terms of Water Quality Order No. 2004-004 DWQ, if required by the RWQCB.
- Temporary construction exclusion fencing shall be installed a minimum of 20-feet around the perimeter of the wetland seep in advance of any grading or other project construction, and all construction equipment shall be restricted from this no-disturbance zone. The temporary exclusion fencing may be removed in advance of installation of native enhancement plantings and seeding to be accomplished as part of the proposed habitat enhancement around this feature.
- Permanent signage shall be installed at a minimum 100-foot interval a minimum of 20-feet around the perimeter of the wetland seep, indicating the feature is "Sensitive Wetland Habitat" to reduce the risk of inadvertent damage in the future.

Significance with Mitigation: Less than significant.

BIO-4	**The proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.**

The proposed project would not have any significant adverse impacts on wildlife movement opportunities or adversely affect native wildlife nursery sites. During construction, smaller, less mobile wildlife species could be lost as a result of vegetation grubbing and grading, and larger, more mobile wildlife would be displaced to surrounding areas. Grading and construction would temporarily disrupt wildlife use of the immediate vicinity, but this would be a relatively short-term effect on common wildlife species which could continue to use the surrounding undeveloped hillside areas for foraging and other activities. The construction-related disturbance would affect common wildlife species, and protective measures would be taken to avoid inadvertent take of nesting birds, roosting bats, and San Francisco dusky-footed woodrat, as discussed above under impact discussion BIO-1.

The new development would remain permeable to wildlife once construction is completed, and replacement tree plantings and other landscaping would eventually provide habitat that could be used for dispersal, foraging, roosting, and nesting by common wildlife species associated with the project site. No fencing would be installed around the perimeter or internally within the project site, or the location of the off-site access road that would potentially be constructed under Mitigation Measure TRAN-4b. Terrestrial

species would be able to continue to move between clusters of buildings and across the internal roadways across the project site. No substantial disruption of movement corridors or access to native wildlife nursery sites is anticipated. Potential impacts on wildlife movement opportunities would be *less than significant* and no mitigation is required.

Significance without Mitigation: Less than significant.

BIO-5 The proposed project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The extent of proposed development and its effect on tree resources would conflict with policies in the Environmental Management Element of the General Plan and the San Carlos Municipal Code provisions related to tree protection. Goal EM-1 in the Environmental Management Element calls for protection of natural habitat and other biological resources. Section 18.18.070 of the landscape provisions of the Municipal Code include regulations related to the removal or pruning of any trees that qualify as "protected," "significant," and "heritage" based on species and trunk size. In granting a tree removal permit for the removal of any protected tree, the City's Municipal Code requires that replacement plantings be provided as deemed acceptable by the Community and Economic Development Director or their designee. While mitigation measures recommended under Impact BIO-1 and BIO-3 would serve to address the potential impacts on special-status species and wetlands, the proposed project would have a substantial impact on the existing tree resources on the project site, as discussed further below. Proposed grading and development would convert the existing habitats on the project site to a relatively dense residential use, consistent with current land use and zoning regulations, but would require the removal of a considerable number of protected trees and could create conditions that could contribute to the spread of invasive species or unsuccessful replacement plantings if areas to be retained as open space are not well managed. The project, as currently proposed, would conflict with General Plan policies related to tree preservation.

The tree evaluation in the AR prepared by the applicant's arborist indicates that an estimated 272 trees of the 384 included in the inventory would be removed to accommodate proposed development (see Table 4.3-2). This represents roughly 71 percent of the trees evaluated in the AR on the project site and adjacent lands. Of these trees proposed for removal, a total of 150 or roughly 55 percent are native species. These consist of 135 coast live oak, 9 valley oak, 4 California buckeye, and 3 California bay, all but one of which qualify as heritage trees under the City's Municipal Code. Loss of oak woodland habitat, although not addressed by regulation, is also of concern to the CDFW although this was not specifically raised as an issue in the CDFW's response to the NOP on the project.[14]

A thorough review of the AR and proposed Tree Removal Plan was performed by the EIR biologist to evaluate their adequacy and feasibility of further refinement to provide for additional preservation of protected trees. The purpose of the AR was to inventory and evaluate tree health and suitability for

[14] California Department of Fish and Wildlife, 2021, *808 Alameda de las Pulgas Townhome Development, Notice of Preparation, SCH No 2019029088*, letter to Ms. Lisa Costa Sanders, City of San Carlos, from Greg Erickson.

preservation, and to determine whether trees would be retained or removed under the proposed project. The AR has been revised six times to address revisions to the proposed project over the past five years since it was first issued in July 2016. The AR was last revised in February 2021 and, while it provides a thorough inventory of trees on the project site and includes standards to protect trees to be retained, some inconsistencies were noted in the status and recommendations for some trees. Some inconsistencies exist between designations in the AR and the proposed Tree Removal Plan (Sheet C2.2) and Tree Proposal Plan (Sheet L1.2D). However, these are due to refinements to the proposed project plans, limits of grading and disturbance, and other revisions that were made after the February 2021 version of the AR was completed. In addition, numerous native trees that were still alive in February 2021 have since died or are in severe decline, based on the roadway reconnaissance conducted by the EIR biologist in May 2022. Further refinement of the AR and various project plans is warranted to accurately characterize the intended treatment of individual trees, reflect whether any trees have died or are in serious decline, and maximize preservation of protected trees that are in good health.

The estimates for tree loss assume that trees located on the edge of proposed grading would be preserved through adjustments in the limits of grading and implementation of preservation guidelines. The AR includes Tree Preservation Guidelines and Restriction (see Appendix F of the AR) which would be used to minimize damage and loss of trees to be retained during construction. These include protection methods to be used during construction such as installation of temporary fencing and establishment of Tree Protection Zones (TPZs)[15] around trees to be retained, defining duties and inspection schedule of the project arborist, monitoring of any trenching or other construction that could damage the root zone of trees to be retained, procedures for pruning roots over two inches in diameter that cannot be avoided, standards and qualifications for performing any work on trees to be retained, and use of health care measures to be implemented to provide optimum conditions for tree to be retained.

The Tree Preservation Guidelines and Restrictions in the AR are standard provisions that should be effective in minimizing inadvertent damage and loss of trees to be retained if successfully implemented. However, there is a possibility that additional tree removal may be required to accommodate proposed improvements, particularly where grading would extend within the TPZ of trees to be retained. The proposed "Grading Limit" extends within the TPZ of at least 25 trees identified as qualifying for heritage or significant tree status and in excellent or good condition, together with other non-protected trees proposed to be retained as part of the Tree Removal Plan. In addition, trees not directly removed by grading or other improvements may be damaged or adversely affected during construction or as a result of long-term changes to drainage patterns, irrigation, exposure and other factors. Mature oaks and other trees are sensitive to changes in canopy structure, drainage patterns, soil compaction, trenching, landscape irrigation, and other modifications within the root zone. Considerable care is necessary to protect trees in the vicinity of grading, building and roadway construction, and landscape improvements. Wounding of trunks and major roots during construction is a common problem that can result in the invasion of harmful organisms and contribute to structural instability and decay of the tree. Root loss and a reduction in potential rooting area, often contributes to long-term tree decline. In general, any disturbance within the TPZ should be avoided to prevent adverse changes that may affect the long-term

[15] The Tree Protection Zone is the area around the base of a tree to be retained where construction activities are prohibited or restricted to prevent or minimize potential injury to the tree and roots during construction.

health and condition of trees to be preserved. Monitoring by a certified arborist would serve to ensure that vulnerable trees are treated appropriately during construction.

The proposed tree replacement provided as part of the project would be inadequate to address the loss of native trees or regulated size on the site. As currently proposed in the Tree Proposal Plan (Sheet L1.2D), a total of 124 new trees would be planted as part of the project. This represents less than a 1:1 ratio for the 160 protected trees proposed for removal, of which an estimated 150 qualify as native heritage trees. In addition, the Overall Landscape Planting Plan (Sheet L4.0) indicates that only 31 of these would be native species indigenous to the San Carlos area, consisting of 18 California buckeye (*Aesculus californica*), 1 big-leaf maple (*Acer macrophyllum*), 3 madrone (*Arbutus menziesii*), 3 coast live oak (*Quercus agrifolia*), and 6 black oak (*Quercus kelloggii*). Only two of those species (coast live oak and California buckeye) are actually indigenous to the project site. Collectively, the native tree plantings represent only 25 percent of the proposed new tree plantings. The majority are red-bud (*Cercis occidentalis*) and Catalina ironwood *(Lyonothamnus floribundus*), which are not indigenous to San Carlos or San Mateo County. Even when mature, these non-indigenous species would not replicate the size and habitat value of the 150 heritage trees proposed for removal as part of the project. Given that over 3.6 acres of the project site would be retained as undeveloped open space or Natural State Area, there appears to be no basis for not restricting the majority of the tree plantings to native species indigenous to San Carlos and providing at least a 1:1 ratio for replacement tree plantings.

Given the magnitude of anticipated tree loss associated with the proposed project, potential impacts are considered *significant*. Policy EM-1.5 of the San Carlos 2030 General Plan calls for promoting the preservation of native species, habitat, and vegetation types and overall natural diversity, and Policy EM-3.1 calls for maintaining and expanding the urban canopy with special emphasis on protection of heritage trees; the project, as currently proposed, would conflict with these General Plan policies. Similarly, the proposed project would conflict with Section 18.18.070 of the landscape provisions of the San Carlos Municipal Code, including regulations related to the removal of trees which qualify as "protected," "significant," and "heritage" and would therefore need to provide adequate replacement plantings, which would be insufficient as described above.

The feasibility of adjusting the limits of grading and development was considered by the EIR biologist in an effort to evaluate the possibility of preserving additional noteworthy heritage trees. Protected trees that are proposed for removal near the limits of grading or in areas where preservation may be feasible were evaluated based on larger size and fair to good health ranking in the AR. A total of 20 native trees were identified by the EIR biologist as warranting further consideration for preservation through adjustments in the limits of grading and development. These are all heritage trees with trunk diameters ranging from 12 to 42 inches, and most are noteworthy specimen-sized trees. These trees are located along: 1) the southern edge of the project site along the edge of the proposed open space area (Trees #22, 23, 24, 26, 34, 35, 36, and 69); 2) along the proposed pathway to Dundee Lane in the upper elevations of the site (Trees #1, 2, 3, 4, and 5); and 3) near the limits of grading along the edge of roadway and building footprints (Trees 86, 228, 328, 332, 333, 334, and 335). Where feasible, preservation of these additional protected trees would require adjustments to the limits of grading and the footprint of at least one unit (near Trees #22, 23, 24 and 26) and parking bays along the main road (near Tree #328), as well as pathways and other improvements. Further consideration is warranted based on their noteworthy size and proximity to areas to be retained as open space. Preservation of these additional 20 protected trees

would represent only about 13 percent of the 150 heritage trees to be removed as currently proposed, or about 12 percent of the protected trees to be removed under the proposed project.

Impact BIO-5: Proposed tree removal and replacement would conflict with local plans and policies unless further refinement of the proposed project is provided.

Mitigation Measure BIO-5a: A detailed Landscape and Vegetation Management Program (LVMP) shall be prepared by a qualified landscape architect in consultation with a qualified biologist or plant ecologist experienced with native species. The LVMP shall: 1) provide for re-establishment of grassland and oak woodland cover on graded slopes in open space areas; 2) incorporate mitigation requirements to replace native trees removed as part of the project; 3) identify unsuitable species that should not be used in landscaping; 4) prevent the establishment and spread of introduced broom and other invasive species ; and 5) specify long-term management provisions to ensure re-establishment of native and ornamental landscape improvements. Aspects of the LVMP shall include the following:

- Graded slopes to remain as Natural State Areas shall be reseeded with a mixture of compatible native perennial and annual grassland species to increase the diversity of the grassland cover. Suitable species to be used in the seed mix include: California brome (*Bromus carinatus*), purple needlegrass (*Stipa pulchra*), creeping wildrye (*Leymus tritichoides*), California poppy (*Escscholtzia californica*), among others. Invasive non-native annuals typically used for erosion control alone shall not be used. Seeds shall be procured from weed-free suppliers, and the labels shall be inspected by the project biologist prior to planting.
- Landscaping and revegetation shall emphasize the use of native plant species along the fringe of proposed development, and plantings in open space areas should be restricted to native species. Suitable plant species for use in open space areas include: valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), California rose (*Rosa californica*), creeping wildrye (*Elymus triticoides*), and purple needlegrass (*Stipa pulchra*), among other species.
- Vehicles and motorcycles shall not be allowed to travel off designated roadways to minimize future disturbance to grassland cover and other vegetation, and unauthorized access to the surrounding undeveloped lands and open space.
- Use of non-native, invasive species that may spread into adjacent undeveloped open space areas shall be prohibited in landscaping plans. Unsuitable species include but may not be limited to: eucalyptus (*Eucalyptus* spp.), acacia (*Acacia* spp.), pampas grass (*Cortaderia selloana*), broom (*Cytisus* spp.), gorse (*Ulex europaeus*), bamboo (*Bambusa* spp.), cotoneaster (*Cotoneaster* spp.), giant reed (*Arundo donax*), periwinkle (*Vinca* spp.), English ivy (*Hedera helix*), and German ivy (*Senecio milanioides*), among others
- Graded slopes and areas disturbed as part of the project shall be monitored to prevent reestablishment and spread of introduced broom species (*Cytisus* spp and *Genista monspesullana*). The removal and monitoring program shall include annual late winter removal of any rooted plants when soils are saturated and cutting back of any remaining flowering plants in the spring before seed begins to set in late April.

- Provisions for maintenance of landscaping and revegetation of graded slopes shall be specified as part of the LVMP, with replacement plantings and seeding provided as necessary to ensure re-establishment of cover. Tree replacement shall be at ratios consistent with Mitigation Measure BIO-5d. Maintenance and monitoring of landscape improvements in open space areas shall be provided for a minimum of five years.

Mitigation Measure BIO-5b: Trees near the limits of grading shall be preserved and protected to the greatest extent possible where feasible from an engineering and geotechnical standpoint and warranted based on their fair to good health and structure. At minimum, these shall include consideration of preservation of heritage trees #1, 2, 3, 4, 5, 22, 23, 24, 26, 34, 35, 36, 69, 86, 228, 328, 332, 333, 334, and 335 identified in the applicant's Arborist Report. Where it is determined that preservation is feasible, the project applicant shall revise project grading and development plans to reflect adjustments to the limits of grading and improvements, use of retaining walls, short over-steepened slopes, and other methods. The feasibility of additional tree preservation shall be evaluated by both the applicant's and the City's arborist prior to the issuance of tree removal permits and/or grading permits, or the start of any construction activities (whichever comes first), and additional trees considered suitable for preservation shall be identified. During this evaluation, the project applicant's arborist shall conduct a follow-up survey of the site to identify additional trees that have died or are in decline since the Arborist Report was last updated in 2021. Following this survey, the applicant's arborist shall update the Arborist Report or prepare a separate memorandum containing an update to the Tree Assessment Chart contained in Appendix A of the Arborist Report in order to accurately reflect current tree status, update the number of trees to be retained and preserved, and update specific recommendations for preservation. The number of trees protected through further refinement of project plans shall be quantified, and the updated Arborist Report or memo with the Tree Assessment Chart summarizing final estimates for tree removal and preservation shall be submitted to the City for review and approval.

Mitigation Measure BIO-5c: Following the refinement of tree removal and preservation estimates recommended in Mitigation Measure BIO-5b, the Tree Protection Guidelines and Restrictions (TPGR) in Appendix F of the project applicant's Arborist Report shall be updated and refined into a Tree Preservation Plan by a certified arborist to minimize possible damage to trees to be preserved during and after construction. The Grading Plan and Landscape Plan shall include the mapped location of all trunks for trees to be retained within 50 feet of proposed grading, show the recommended Tree Protection Zones, and identify locations of construction-restriction fencing, among other controls specified in the updated TPGR.

Mitigation Measure BIO-5d: A Tree Replacement Program shall be prepared as part of the LVMP to provide for replacement of oak woodlands and individual native trees removed by proposed development. The Tree Replacement Program shall provide for replacement of individual native heritage trees at a minimum 1:1 ratio and shall preferably be accomplished on-site in areas to be retained as undeveloped open space. The Tree Replacement Program shall include the following provisions:

- Species composition of native replacement plantings shall generally be consistent with the percentage of each tree species removed.

- Replacement plantings shall be irrigated a minimum of two years during initial establishment and then artificial water cut back over the course of the next two to three years until artificial irrigation is completely curtailed.
- Tree plantings shall be monitored and maintained for a minimum of 5 years. Any plantings lost within this monitoring period shall be replaced at a 1:1 ratio on an annual basis and monitoring shall continue for at least two years past any loss of a replacement planting.
- Where on-site replacement plantings cannot be accommodated completely on-site because of insufficient suitable planting areas or due to wildfire prevention strategies, the Tree Replacement Program shall specify details for how the 1:1 mitigation ratio would be achieved at an off-site location or through payment of an in-lieu fee to the City. All details of any off-site tree replacement mitigation or payment of an in-lieu fee must be reviewed by the City's arborist and approved by the City.

Significance with Mitigation: Less than significant.

BIO-6 The proposed project would not 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 proposed project would not conflict with any approved habitat conservation plans as none encompass the project site or surrounding area. *No impacts* are anticipated, and no mitigation is necessary.

Significance without Mitigation: No impact.

BIO-7 The proposed project, in combination with past, present, or reasonably foreseeable projects, would not have a cumulative significant impact in regard to biological resources.

Implementation of the proposed project in conjunction with the projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande project, as discussed in Chapter 4.0, *Environmental Analysis*, of this Draft EIR, would result in continued development in the City of San Carlos and surrounding area. The potential impacts of proposed development on biological resources tends to be site specific, and the overall cumulative effect would be dependent on the degree to which significant vegetation and wildlife resources are protected on each property. This includes preservation of regulated trees, well-developed native vegetation (native grasslands, riparian woodland, and mature oaks), populations of special-status plant or wildlife species, and wetland features (including seasonal wetlands and stream channels). Further environmental review of specific development proposals in the vicinity of the project site would serve to ensure that important biological resources are identified, protected and properly managed, and to prevent any significant adverse development-related impacts. This would include the adjacent Vista Del Grande project and the access road that would potentially be constructed

across that property under Mitigation Measure TRAN-4b. No significant adverse impacts associated with the off-site access road are anticipated based on the survey of the conceptual access road alignment conducted in May 2022, where the disturbed conditions along the alignment precluded the possible presence of special-status species or other sensitive resources. Implementation of Mitigation Measure BIO-1.1 would ensure that any new bird nests established on the project site or along the off-site access road alignment would be avoided, serving to address this potential adverse impact.

To some degree, cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance would be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. Additional development may also contribute to degradation of the aquatic habitat in creeks in the area. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development would reduce water quality. Preparation of a Stormwater Pollution Prevention Plan required for development sites encompassing more than an acre would serve to reduce potential indirect impacts on the quality of surface water and sensitive wetland and riparian areas. Recommendations to control erosion and sedimentation after grading should serve to minimize the potential for water quality degradation associated with the proposed development of the project site and would adequately address any possible cumulative contribution to water quality degradation.

With regard to development of the project site and its relationship to surrounding habitat, the proposed project would contribute to a cumulative loss of open grasslands and oak woodlands in the central San Carlos vicinity. Future development of the adjacent would contribute to further conversion of the remaining grassland and woodland habitat in this portion of San Carlos. However, this area is surrounded by existing roadways and suburban development, is not an important linkage for wildlife movement, does not appear to contain major wetlands or natural drainages, and has limited suitability as essential habitat for special-status species. Mitigation Measures BIO-1.1 through BIO-1.3 would serve to address the potential for nesting birds, roosting bats, and possible nests for San Francisco dusky-footed woodrat on the project site and would ensure that any new nests or roots are adequately avoided while in active use. Given the limited potential for the presence of special-status species or other highly sensitive biological resources, and the measures recommended to avoid nests and roots in active use, the proposed project's contribution to cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

4.4 CULTURAL RESOURCES

This chapter describes existing cultural resources relevant to the project site and evaluates the potential cultural resource impacts associated with future development of the proposed project. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the proposed project impacts and cumulative impacts.

The information and analysis in this section is based primarily on the following technical documents:

> *Historical Resource Evaluation for the Alameda de las Pulgas Townhomes Project at 804, 806, and 808 Alameda de las Pulgas, San Carlos, San Mateo County, California* and *Results of an Archaeological Study for the Proposed Alameda de las Pulgas Townhomes Project, at 804, 806 and 808 Alameda de las Pulgas, San Carlos, San Mateo County, California*, prepared by Evans and De Shazo, Inc., dated July 2021. See Appendix G, *Cultural Resource Reports*, of this Draft Environmental Impact Report (EIR).

4.4.1 ENVIRONMENTAL SETTING

This section describes the policies and regulations that apply to cultural resources in San Carlos.

4.4.1.1 REGULATORY FRAMEWORK

Federal Regulations

The National Historic Preservation Act 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. For a property to be eligible for listing in the National Register, it must be significant in American history, architecture, archaeology, engineering, or culture, and must retain integrity in terms of location, design, setting, materials, workmanship, feeling and association. Resources less than 50 years in age, unless of exceptional importance, are not eligible for the National Register. Though a listing in the National Register does not prohibit demolition or alteration of a property, the California Environmental Quality Act (CEQA) requires the evaluation of project effects on properties that are listed in the National Register.

State Regulations

California Environmental Quality Act

Section 15064.5 of the CEQA Guidelines 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. The CEQA Guidelines define four ways that a property can qualify as a significant historical resource for purposes of CEQA compliance:

- The resource is listed in or determined eligible for listing in the California Register of Historical Resources, as determined by the State Historical Resources Commission.

- The resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- The lead agency determines the resource to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, as supported by substantial evidence in light of the whole record.
- The lead agency determines that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1 (CEQA Guidelines Section 15064.5) which means, in part, that it may be eligible for the California Register.

In addition, Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines specify lead agency responsibilities to determine whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project would damage a unique archaeological resource, the lead agency may require reasonable efforts for the resources to be preserved in place or left in an undisturbed state. Preservation in place is the preferred approach to mitigation. The Public Resources Code also details required mitigation if unique archaeological resources are not preserved in place.

Section 15064.5 of the CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These requirements and other elements of State law protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to identify the most likely descendant and mediate any disputes regarding disposition of such remains.

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 (Public Resources Code Section 5024.1). The State Office of Historic Preservation (OHP) has determined that buildings, structures, and objects 45 years or older may be of historical value. A historical resource may be listed in the California Register if it meets any of the following criteria.

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- It is associated with the lives of persons important in California's past.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- It 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 resources that may be eligible for the California Register, and which require nomination and approval for listing by the State Historic Resources Commission, include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic surveys conducted in accordance with OHP procedures, historic resources or districts designated under a local ordinance consistent with the procedures of the State Historic Resources Commission, and local landmarks or historic properties designated under local ordinance.

California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC.

California Public Resources Code

Archaeological resources are protected pursuant to a wide variety of state policies and regulations enumerated under the California Public Resources Code (PRC). In addition, cultural resources are recognized as a nonrenewable resource and therefore receive protection under the California PRC and CEQA.

PRC Sections 5097.9 through 5097.991 provide protection to Native American historical and cultural resources, and sacred sites and identifies the powers and duties of the NAHC. It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.

State Laws Pertaining to Human Remains

Any human remains encountered during ground-disturbing activities are required to be treated in accordance with California Code of Regulations Section 15064.5(e) (CEQA), PRC Section 5097.98, and the California Health and Safety Code Section 7050.5. California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Specifically, Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are determined to be of Native American origin, the county coroner must contact the California NAHC within 24 hours of this identification. An NAHC representative will then identify a Native

American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. In addition, CEQA Guidelines Section 15064.5 specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Local Regulations

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to cultural resources in San Carlos in the Land Use Element. The policies relevant to the proposed project are listed in Table 4.4-1, *City of San Carlos 2030 General Plan Policies Relevant to Cultural Resources*.

TABLE 4.4-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO CULTURAL RESOURCES

Policy Number	Policy Text
Chapter 3, Land Use (LU) Element	
Policy LU-12.1	Evaluate historical and cultural resources in the development review process through consultation with interested parties.
Policy LU-12.2	Foster the preservation, restoration, and compatible reuse of architecturally and/ or significant structures and sites.
Policy LU-12.3	Ensure that modifications to identified historic resources are consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.
Policy LU-12.5	Treat with respect and dignity any human remains discovered during implementation of public and private projects within the city and fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

4.4.1.2 EXISTING CONDITIONS

This section provides an overview of the history of San Carlos and resources of cultural or historical significance that may be affected by the proposed project.

Project Site History

According to aerial photographs and topographic maps, the project site was vacant in 1940, with an intermittent stream running west to east.[1] The surrounding vicinity had improved roads and residential areas. In 1946, a small residential structure and a commercial building was located on the project site. The commercial building is most likely to be the Black Mountain Spring Water bottling plant building, located in the easternmost portion of the project site. By 1948, there was an unpaved driveway/access road running west from Alameda de las Pulgas winding northward through the project site, connecting with a road located north of the site. Eventually, another residential structure was added in 1953 and one more in 1961. Improved roads and residential areas were developed to the north and St Charles School to the east. Former San Carlos High School was located to the south and west in 1961 but was demolished and replaced by a residential subdivision by 1993. The water bottling plant building was expanded by 1956

[1] FirstCarbon Solutions, 2016, *Phase I Environmental Site Assessment (Final): Black Mountain*.

and once more by 1994. However, by 2005, the plant is no longer located on-site and the area appears as an area covered with grasses and shrubs.

Historic Resources

The National and California Register contain two properties of historic significance in the City of San Carlos: the Nathanial Brittan Party House and the Southern Pacific Depot, neither of which are located within the project site.[2,3]

A records search was completed by the Northwest Information Center (NWIC) on November 30, 2020, and supplemented by cultural resource information available at the Evans and De Shazo office and digital library. According to the information on file at NWIC and Evans and De Shazo, the project site was the subject of a cultural resources study in 2016 and there have been three other previous cultural resource studies completed within a quarter mile of the project site. There are no previously recorded resources within the project site or within a quarter mile of the site. The 2016 cultural resources due diligence survey was completed by First Carbon Solutions and included the entire project site. Methods for the survey included a record search at NWIC, background search, and a field survey. The results of the study indicated a low probability of undiscovered prehistoric cultural resources.

Although the project site is composed of four parcels, the Historical Resource Evaluation conducted by Evans and De Shazo only evaluated three parcels, as the fourth one (Assessor's Parcel Number [APN] 049-360-060 at 800 Alameda de las Pulgas) is vacant. The study evaluated 804 Alameda de las Pulgas (APN 050-220-020), which contains a circa 1958 house and associated landscape; 806 Alameda de las Pulgas (APN-050-220-170), which contains a circa 1958 house, circa 1960 octagonal structure, and associated landscape; and 808 Alameda de las Pulgas (APN 050-220-160), which contains a circa 1954 house, circa 1965 ancillary building, circa 1954 in-ground pool, and associated landscape.

Evans and De Shazo evaluated the built environment resources within the project site to determine individual eligibility for listing on the California Register. The house at 804 Alameda de las Pulgas was evaluated for its association with the Ranch architecture within a period of significance of circa 1958; the house at 806 Alameda de las Pulgas was evaluated for its association with Ranch architecture with elements of Spanish Colonial Revival design within a period of significance of circa 1958; and the house at 808 Alameda de las Pulgas was evaluated for its association with the Mid-Century Modern architecture with a period of significance of circa 1954. The other elements on the project site—i.e., the landscape at 808 Alameda de las Pulgas; the octagonal structure and associated landscape at 806 Alameda de las Pulgas; and the ancillary building, in-ground pool, and associated landscape at 808 Alameda de las Pulgas—are not associated within a known architectural style or architectural landscape design. The evaluated structures at 804 to 808 Alameda de las Pulgas were determined not to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage or the lives of persons important in our past. The three parcels do not embody the distinctive

[2] U.S. Department of the Interior, National Park Service, last updated September 2020. National Register of Historic Places, https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466, accessed on February 2, 2022.

[3] Office of Historical Preservation, 2022. California Register of Historic Resources, https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=41, accessed on February 2, 2022.

characteristics of type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values. The parcels also have not yielded or are not likely to yield information important in prehistory or history. Therefore, the built environment resources within these three parcels do not meet the listing criteria and are not individually eligible for listing in the California Register.

Archaeological Resources

The 2016 cultural resources due diligence survey completed by First Carbon Solutions concluded that no archaeological resources were identified within the project site. Evans and De Shazo assessed the potential for the project site to contain buried archaeological resources that could be encountered during project-related ground disturbing activities. It was determined that the project site has low potential/sensitivity for buried prehistoric resources, and a high potential to contain buried historic-period archaeological resources.

Evans and De Shazo also completed a pedestrian field survey on December 10, 2020. Three historic-period features and two historic-period artifacts that represent general use of the project site during the twentieth century were identified but were not considered potentially significant archaeological resources. Eighteen historic-period artifacts and 11 historic-period features were identified to be remnants of the Black Mountain Spring Water Company and were evaluated to determine eligibility for listing on the California Register. It was determined that the resources appear to qualify under California Register criteria 1 and 2, which require association with events that have made a significant contribution to the broad patterns of California's history and cultural heritage and lives of persons important in our past, but do not retain enough historic character or appearance to be recognizable as historical resources and convey the reasons for significance. Therefore, the resources are not eligible for listing on the California Register.

The 18 historic-period artifacts and 11 historic-period features were also considered for unique archaeological resource eligibility. A unique archaeological resource is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that it: (1) contains information needed to answer important scientific research questions and that there is demonstrable public interest on the that information; (2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person. The resources did not meet any of the criteria and are therefore not considered to be unique archaeological resources.

4.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant cultural resources impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the CEQA Guidelines.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines.
3. Disturb any human remains, including those interred outside of dedicated cemeteries.
4. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to cultural resources.

4.4.3 IMPACT DISCUSSION

CULT-1	The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the CEQA Guidelines.

There were no historical resources listed on the National or California Register within the project site. Additionally, the surveys conducted by Evans and De Shazo concluded that the existing structures on the project site are not eligible for listing in the California Register. Therefore, the proposed project would not cause a change in significance of a historical resource and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

CULT-2	The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines.

As described in in Section 4.4.1.2, *Existing Conditions*, the 2016 cultural resources due diligence survey completed by First Carbon Solutions concluded that no archaeological resources were identified within the project site. Evans and De Shazo also determined that the project site has low potential/sensitivity for buried prehistoric resources, and a high potential to contain buried historic-period archaeological resources.

Although no known archaeological resources have been recorded at the project site, ground-disturbing construction activities (e.g., site preparation, grading, excavation, and trenching for utilities) associated with the proposed project may result in unanticipated discoveries of cultural resources or the damage or destruction of previously undiscovered resources. Therefore, earth-disturbing activities conducted for the proposed project would have the potential to expose previously undiscovered subsurface archaeological resources, and the impact to archaeological resources has potential to be *significant*.

Impact CULT-2: Implementation of the proposed project would have the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Mitigation Measure CULT-2: Project supervisors, contractors, and equipment operators shall participate in an Archaeological Resource Awareness Training, conducted by a Secretary of Interior-qualified archaeologist, to become familiar with the type of artifacts and features that could be encountered during project-related ground disturbing activities, as well as the procedures to follow if archaeological resources are unearthed during construction. If archaeological resources are encountered during excavation or construction, construction personnel shall immediately suspend all activity within 50 feet of the suspected resources and the City and a licensed archaeologist shall be contacted to evaluate the situation. A licensed archaeologist shall be retained to inspect the discovery and determine the significance of the find and the appropriate mitigation. If the deposits are determined to be potentially significant, the resources shall be avoided if feasible. If avoidance is not feasible, project impacts shall be mitigated in accordance with the recommendations of the archeologist, in coordination with the City, local tribe, and the CEQA Guidelines Section 15126.4 (b)(3)(C), which requires implementation of a data recovery plan. Once the recovery plan has been reviewed and approved by the City, implemented, and any appropriate resource recovery completed, project construction activity within the area of the find may resume.

Significance with Mitigation: Less than significant.

CULT-3 The proposed project could disturb human remains, including those interred outside of dedicated cemeteries.

Previously undiscovered human remains associated with pre-contact archaeological deposits may exist within the project site, as ground-disturbing activities sometimes uncover such previously unrecorded remains. As discussed under impact discussion CULT-2, ground-disturbing activities and excavation for the project would have the potential to uncover buried resources. It is possible that human remains may be present on the project site. Descendant communities may ascribe religious or cultural significance to such remains, making the potential for any such disturbances a *significant* impact.

Impact CULT-3: Construction activities may result in unanticipated discovery of human remains interred outside of dedicated cemeteries.

Mitigation Measure CULT-3: In the event a human burial or skeletal element is identified during excavation or construction, all work must stop within 100 feet of the discovery area and the area shall be secured to prevent further disturbance. The City and the San Mateo County Coroner's office shall be notified immediately. If deemed prehistoric, the Coroner's office would notify the Native American Heritage Commission within 24 hours. The Native American Heritage Commission would identify a "Most Likely Descendant (MLD)." The archaeological consultant and MLD, in conjunction with the project sponsor, shall formulate an appropriate treatment plan for the find, which might include, but not be limited to, respectful scientific recording and removal, being left in place, removal and reburial on site, or elsewhere. Associated grave goods are to be treated in the same manner.

Significance with Mitigation: Less than significant.

CULT-4	The proposed project would not result in significant cumulative impacts to cultural resources in combination with past, present, and reasonably foreseeable projects.

Cumulative cultural resource 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.

The project site does not contain any designated historic resources. As there are no significant historic structures and no known archaeological resources, paleontological resources, or human remains on the project site, development of the proposed project would not create or contribute to a cumulative impact to cultural resources. Mitigation Measure CULT-2 would ensure that any buried archaeological resources, if encountered, would be properly handled. Mitigation Measure CULT-3 would ensure that any potential human remains encountered during site excavation would be properly handled. Additionally, the existing federal, State, and local regulations and policies described throughout this chapter serve to protect any as-yet-undiscovered cultural resources. Continued compliance with these regulations and implementation of existing policies and requirements would preclude cumulative impacts to the maximum extent practicable.

Therefore, in combination with past, present, and reasonably foreseeable projects, the proposed project would result in a *less-than-significant* cumulative impact with respect to all cultural resources.

Significance without Mitigation: Less than significant.

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4.5 ENERGY

To ensure that energy implications are considered in project decisions, Appendix F, *Energy Conservation*, of the California Environmental Quality Act (CEQA) Guidelines, requires that environmental impact reports (EIRs) include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. As of April 2019, there are two specific thresholds of significance for potential energy impacts in the CEQA Guidelines. This chapter provides a general description of the regulatory setting addressing existing electric and natural gas services and infrastructure, and supply and demand in the City of San Carlos and the project site, and impact analysis from Appendix F and Appendix G of the CEQA Guidelines. The proposed project would be all electric; thus, natural gas usage is not addressed in this section. However, this section does address transportation fuels such as gasoline and diesel fuel; emissions impacts regarding such fuels are addressed in Chapter 4.7, *Greenhouse Gas Emissions*.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, and regional regulations related to energy use and conservation.

Federal Regulations

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (MPG) for model year 2025. However, on March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles.[1]

[1] Federal Register, 2020, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks: Final Rule, Vol. 85 Federal Register, No. 84.

On January 20, 2021, President Biden issued Executive Order 13990 (EO 13990), which directs the USEPA to reconsider SAFE for the purpose of rescinding the rule. The reconsideration process is ongoing with a planned public hearing occurring on June 2, 2021, which also started the public comment period that ended July 6, 2021. On August 5, 2021, the National Highway Traffic Safety Administration announced new proposed fuel standards in response to EO 13990. Fuel efficiency under the standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 MPG for model year 2026 relative to model year 2021.[2]

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.[3]

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.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation 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

[2] National Highway Traffic Safety Administration, 2021, USDOT Proposes Improved Fuel Economy Standards for MY 2024-2026 Passenger Cars and Light Trucks, https://www.nhtsa.gov/press-releases/fuel-economy-standards-2024-2026-proposal, accessed March 2, 2022.

[3] United States Environmental Protection Agency, 2019, Summary of the Energy Independence and Security Act Public Law 110-140, https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act, accessed March 2, 2022.

Administration within the Department of Transportation develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State Regulations

California Energy Commission

The California Energy Commission (CEC) was created in 1974 under the Warren-Alquist Act as the State's principal energy planning organization in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs.
- License power plants to meet those needs.
- Promote energy conservation and efficiency measures.
- Develop renewable energy resources and alternative energy technologies.
- Promote research, development and demonstration.
- Plan for and direct the state's response to energy emergencies.

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. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that 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 State's electricity and gas use.

The CPUC and CEC have adopted the following goals to achieve zero net energy (ZNE) 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.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewables Portfolio Standard

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

The California Renewables Portfolio Standard (RPS) Program was established in 2002 under Senate Bill (SB) 1078 (Sher) and 107 (Simitian). The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. Initially under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). The CPUC is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the State. For year 2020, the three largest retail energy utilities provided an average of 43 percent of its supplies from renewable energy sources. Community choice aggregators provided an average of 41 percent of their supplies from renewable sources.[4]

Senate Bill 350

Governor Jerry Brown signed SB 350 on October 7, 2015, establishing tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 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. The bill 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.

[4] California Public Utilities Commission, 2021, 2021 Padilla Report: Costs and Savings for the RPS Program (Public Utilities Code Section 913.3), https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/documents/energy/rps/2021-padilla-report_final.pdf, accessed March 2, 2022.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which replaces the SB 350 requirements. Under SB 100, the RPS for public owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill also establishes an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.[5]

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (California Code of Regulations Title 24, Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.[6] Under the 2019 standards, nonresidential buildings are generally 30 percent more energy efficient compared to the 2016 standards, and single-family homes are generally 7 percent more energy efficient.[7] When accounting for the electricity generated by the solar photovoltaic

[5] California Energy Commission, 2017, 2016 Appliance Efficiency Regulations, https://pdf4pro.com/cdn/2016-appliance-efficiency-regulations-5104f7.pdf, accessed February 20, 2022.

[6] California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

[7] California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[8]

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.[9]

Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2016. The 2016 Standards became effective on January 1, 2017. On October 3, 2018, the CEC adopted the voluntary standards of the 2019 CALGreen, which became effective January 1, 2020.

Overall, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.[10]

Title 13

Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9 was adopted on May 2, 2008 that limits non-essential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled

[8] California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

[9] California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

[10] California Building Standards Commission, 2019, 2019 California Code of Regulations Title 24, Part 11, https://codes.iccsafe.org/content/CAGBSC2019/cover, accessed February 18, 2022.

off-road engine, unless a waiver provides sufficient justification that such idling is necessary. The airborne toxic control measure helps reduce public exposure to oxides of nitrogen (NOx), diesel particulate matter (PM), and other criteria pollutant emissions from off-road diesel-fueled vehicles.

Green Building Executive Order S-20-04

In 2004, Executive Order (EO) S-20-04 was signed by the Governor, committing the State to take aggressive action to reduce State building electricity usage by retrofitting, building, and operating the most energy- and resource-efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded, or leased by the State and to encourage cities, counties, and schools to do the same. It also calls for State agencies, departments, and other entities under the direct executive authority of the Governor to cooperate in taking measures to reduce grid-based energy purchases for State-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. These measures should include, but are not limited to:

- Designing, constructing and operating all new and renovated State-owned facilities paid for with State funds as "LEED Silver" or higher certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a U.S. Environmental Protection Agency (USEPA) Energy Star rating; and
- Purchasing or operating Energy Star electrical equipment whenever cost-effective.

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 vehicle miles traveled (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 Association of Bay Area Governments (ABAG) is the MPO for the Bay Area region, which includes the city of San Carlos. 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.

Regional Regulations

MTC and ABAG adopted *Plan Bay Area 2050* on October 21, 2021.[11] *Plan Bay Area 2050* provides transportation and environmental strategies to continue to meet the regional transportation-related GHG

[11] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf, accessed August 27, 2021.

reduction goals of SB 375. Under the *Plan Bay Area 2050* strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19-percent reduction in per-capita emissions by 2035 — but only if all strategies are implemented.[12]

To achieve MTC's/ABAG's sustainable vision for the Bay Area, the *Plan Bay Area* land use concept plan for the region concentrates the majority of new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions. The proposed project is not within an identified PDA. There is one PDA in San Carlos, centered along the Caltrain corridor.[13]

Local Regulations

San Carlos Municipal Code

Green Building Standards Code

The City of San Carlos incorporates CALGreen by reference in Municipal Code Section 15.04.125. The types of residential projects in which the municipal code applies include new single and multi-family residences, alterations and additions that increase the size of a residential building, and residential reconstruction.

Construction Waste Diversion and Recycling

The City Municipal Code includes construction waste diversion and recycling requirements through Municipal Code Chapter 8.05, *Recycling and Diversion of Construction and Demolition Debris*. The ordinance requires the following:

- Covered projects generating waste comprised of at least 95 percent inert materials, including dirt, concrete asphalt, brick, and/or cinderblock, shall be required to divert at least 60 percent of all generated tonnage.

[12] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf, accessed August 27, 2021.

[13] San Mateo County City/County Association of Governments, 2017, *San Mateo County Priority Development Area (PDA) Investment & Growth Strategy,* http://ccag.ca.gov/wp-content/uploads/2014/05/Final-Draft_PDA_IGS_5_11_17-Meeting.pdf, accessed January 24, 2022.

- Covered projects generating waste comprised of mixed debris, both structural debris (e.g., wood, metal, wallboard) and inert materials (dirt, asphalt, brick, and/or cinderblock) shall be required to divert at least 60 percent of all generated tonnage. However, at least 25 percent of diverted material shall come from generated tonnage that excludes dirt, concrete, asphalt, brick and/or cinderblock should equal at least 24 tons (25 percent) and the remainder, 35 tons (35 percent) can be obtained through diversion of inert materials such as dirt, concrete, asphalt, brick, and/or cinderblock.
- Covered projects generating waste that does not include inert materials (dirt, concrete, asphalt, brick, cinderblock) shall be required to achieve at least 60 percent diversion of total generated waste.

A covered project under the ordinance is defined as a project where total development costs equal $50,000 or more or where 5 or more tons of construction and demolition debris will be generated.

San Carlos Climate Mitigation and Adaptation Plan

The City of San Carlos adopted its Climate Mitigation and Adaptation Plan (CMAP) on September 27, 2021, as an update to the San Carlos 2009 Climate Action Plan.[14] The CMAP sets forth 23 measures to guide the City in meeting reduction goals in energy use, transportation, off-road equipment, water, wastewater, land use, and solid waste. In addition, the City's CMAP identifies the following GHG reduction targets for the City:

- Reduce emissions to 49 percent below 2005 levels by 2030.
- Reduce emissions by 83 percent below 2005 levels by 2050.

CMAP strategies and actions for energy use reduction are listed below in Table 4.5-1, *Climate Mitigation and Adaptation Plan Strategies for Reducing Energy Use*.

TABLE 4.5-1 CLIMATE MITIGATION AND ADAPTATION PLAN STRATEGIES FOR REDUCING ENERGY USE

Strategy	Component
1. Regional Energy Conservation and Efficiency Programs	1.1 Encourage single-family homeowners to improve energy efficiency and resiliency in their homes by promoting Property Assessed Clean Energy programs, the BayREN Home+ program, BayREN Earth Day Workshops, Green House Calls, Home Energy Score evaluations, and appliance and electrification rebates.
	1.2 Assess energy efficiency in single-family homes by partnering with San Mateo County, PCE, and other partners to promote the BayREN Green Labeling Home Energy Score program.
	1.3 Provide incentives for installation of all-electric appliances in new residential construction and remodels by partnering with PCE and BayREN.
4. Electrification	4.1 Encourage electrification retrofits in residential and commercial development by promoting financing programs through local organizations and agencies.
	4.2 Promote building electrification and retrofitting by working with local organizations and agencies to increase community awareness
	4.3 Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances.
5. Building Codes	5.1 Partner with local industry organizations, community-based organizations, and regional partners to inform and educate community members about the 2021 All-Electric Reach Code requirements and community benefits

[14] City of San Carlos, 2021, City of San Carlos Climate Mitigation and Adaptation Plan, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 10, 2022.

TABLE 4.5-1 CLIMATE MITIGATION AND ADAPTATION PLAN STRATEGIES FOR REDUCING ENERGY USE

Strategy	Component
	5.2 Evaluate, update, and re-adopt as needed an all-electric reach code upon each update to the California Building Code.
	5.3 Explore and adopt, as feasible, local building code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates
6. Rooftop Solar	6.1 Continue to participate in the SunShares program to increase rooftop and onsite solar energy systems in the community and at City facilities.
7. Peninsula Clean Energy	7.1 Encourage residents and businesses, especially large energy users, to opt into PCE's ECO100 (100 percent renewable energy) program.
	7.2 Encourage those not purchasing energy from PCE to do so.
	7.3 Partner with PCE on programs it develops in the future that benefit the San Carlos community.
8. Battery Storage	8.1 Work with PG&E on its efforts to prepare the community for power outages through battery storage programs and incentives, including the Self-Generation Incentive Program and related energy resilience efforts.
18. Electric vehicles	18.1 Work closely with owners of multi-family dwelling units to install electric vehicle charging stations.
23. Clean-fuel construction and landscaping	23.1 Supply incentives for battery-operated or electric-powered landscaping equipment by collaborating with regional partners, such as the BAAQMD and PCE.
	23.2 Continually track technological advances in clean-fuel construction and landscaping equipment.
	23.3 Consider requirements for use of hybrid or clean-fuel construction equipment in new development when feasible.

Source: City of San Carlos, 2021. Climate Mitigation and Adaptation Plan, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 14, 2022.

4.5.1.2 EXISTING CONDITIONS

This section presents information on energy provision and supply in the study area. The study area for this section includes the project site, as well as the jurisdiction of the City of San Carlos, and the service areas of energy providers.

Energy Provider

Peninsula Clean Energy

In 2016, San Mateo County and the City of San Carlos shifted to local Community Choice Energy (CCE) program Peninsula Clean Energy (PCE). PCE was formed as a Joint Power Authority (JPA) by San Mateo County and 20 of its cities and operates as a not-for-profit public agency. PCE offers two program options; the ECOplus, which provides 51.7-percent renewable and 100-percent GHG-free; and the ECO100 program, which provides 100-percent renewable and GHG-free service from solar and wind sources.[15] The electric energy provided by PCE is conveyed to customers through Pacific Gas and Electric Company's (PG&E) existing infrastructure. PG&E continues to maintain the grid, repair lines, and conduct customer

[15] Peninsula Clean Energy, 2021, Power Mix, https://www.peninsulacleanenergy.com/power-mix/, accessed January 24, 2022.

billing within the PCE service area. Participation in PCE is consistent with policies established in the City of San Carlos' CMAP, to transition to a City-wide environmentally sustainable community.

Pacific Gas and Electric Company

PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. Its service territory is 70,000 square miles in area, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada range to the Pacific Ocean. The electricity distribution system of PG&E consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.[16] PG&E owns and maintains above and below ground networks of electric and gas transmission and distribution facilities throughout the city. As stated, it still delivers electricity and natural gas services to the City, although the City recently shifted to energy provider PCE. Both gas and electrical service is available at the project site.

PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines, linked to power plants within the PG&E system. The distribution system, comprised 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 gas transmission pipeline systems serve approximately 4.5 million gas customers in northern and central California.[17] 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.

Existing Energy Use

The project site contains three single-family residences (804, 806, and 808 Alameda de las Pulgas). The site currently contains PG&E gas and electric easements as well as a series of public and private utility easements.

The existing three residential homes are assumed to be vacant and would not generate any energy-related emissions.

[16] Pacific Gas and Electric Company, 2022, *Company profile.* https://www.pge.com/en_US/about-pge/company-information/profile/profile.page, accessed January 24, 2022.

[17] Pacific Gas and Electric Company, 2022. *Company profile.* https://www.pge.com/en_US/about-pge/company-information/profile/profile.page, accessed January 24, 2022.

4.5.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to energy resources if it would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use 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. In combination with past, present, and reasonably foreseeable projects, result in cumulative energy impacts in the area.

4.5.3 IMPACT DISCUSSION

Methodology

Based on CEQA Guidelines Appendix F, to ensure energy implications are considered in project decisions, EIRs include a discussion of the potential impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources. Environmental effects may include the proposed project's energy requirements and its energy use efficiencies by amount and fuel type during construction and operation; the effects of the proposed project on peak- and base-period demands for electricity and other forms of energy; the degree to which the proposed project complies with existing energy standards; the effects of the proposed project on energy resources; and the proposed project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if applicable. The provided energy and fuel usage information provided in this section are based on the following criteria.

- Energy: New buildings would be 100-percent electric and no natural gas would be used on-site. The additional electricity use from fuel switching is accounted for by applying the rates identified in the Sacramento Metropolitan Air Quality Management District's justification report for GHG Emissions Thresholds For Sacramento County.[18] Sacramento Metropolitan Air Quality Management District data is used because it is the only air district in California to document the model changes in CalEEMod from a 100-percent electric product.
- On-Road Vehicle Fuel Usage: Fuel usage associated with operation-related vehicle trips are based on fuel usage data obtained from EMFAC2021, Version 1.0.1, and on vehicle trip generation and VMT data provided by CHS Consulting Group (see Appendix L, *Transportation Impact Analysis*, of this Draft EIR).

[18] Sacramento Air Quality Management District, GHG Emissions Thresholds for Sacramento County, https://www.airquality.org/LandUseTransportation/Documents/SMAQMDGHGThresholds2020-03-04v2.pdf, accessed March 2, 2022.

ENE-1	Project construction and operation would not cause wasteful, inefficient, or unnecessary energy use.

Short-Term Construction Impacts

Construction of the proposed project, which would include both on- and off-site improvements (see Chapter 3, *Project Description*), and construction of an emergency access road (as required in Mitigation Measure TRAN-4b) would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electrical Energy

Construction of the proposed project would not require electricity to power most construction equipment. Electricity use during construction would vary during different phases of construction. The majority of construction equipment during demolition and grading would be gas- or diesel-powered, and the later construction phases would primarily require electric-powered equipment for interior construction and architectural coatings. It is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Overall, the use of electricity would be temporary and would fluctuate according to the phase of construction, and would not represent wasteful or unnecessary use of electricity.

Natural Gas Energy

It is not anticipated that construction equipment used for the proposed project would be powered by natural gas; therefore, no natural gas demand is anticipated during construction.

Liquid Fuels and Transportation Energy

Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that the majority of off-road construction equipment, such as those used during grading, would be gas- or diesel-powered.

Use of construction equipment would cease upon completion of the project. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9. Construction trips would also not result in unnecessary use of energy since the project site is centrally located and is served by numerous regional roadways (e.g., Interstate 280 and US Highway 101) that provide direct routes from various areas of the region. Moreover, electrical energy would be available for use during construction from existing power lines and

connections, either precluding or minimizing the use of less efficient liquid fueled generators. Thus, energy use during construction of the project would not be considered inefficient, wasteful, or unnecessary.

Long-Term Operation Impacts

Operation of the proposed project would create additional demands for electricity compared to existing conditions and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of on-site equipment and appliances; and indoor, outdoor, and parking lot lighting.

Electrical Energy

The proposed project would tie into the surrounding PCE electricity system that currently serves the existing adjacent developed area. PCE provides a minimum of 50 percent renewable and 100 percent carbon-free power service to its customers.

The new townhomes would adhere to the 2019 Building Energy Efficiency Standards, resulting in buildings that meet modern standards. New buildings are assumed to comply with the 2019 Building Energy Efficiency Standards of the California Public Resources Code, Title 24, Part 6, which applies to any project that is proposed to begin construction on or after January 2020. Buildings built under 2019 standards could lead to 53 percent or more energy efficiency for residential buildings, and 30 percent or more energy efficiency for non-residential buildings, when compared to the homes built under the 2016 standards.[19] Therefore, compliance with these standards would contribute to energy efficiency and conservation.

The operation of the proposed 87 townhomes, which would result in 398,578 square feet of new building space, would consume electricity for various purposes. As shown in Table 4.5-2, *Net Project Annual Electricity Consumption*, electricity use at the project site would be 2,051,553 kilowatt hours per year.

TABLE 4.5-2 NET PROJECT ANNUAL ELECTRICITY CONSUMPTION

Use Type	Electricity (kWh/yr)
Condo/Townhouse High Rise[a]	615,186
Parking Lot	2,218
Total	**2,051,553**

[a] The proposed project is 100 percent electricity and Peninsula Clean Energy CCA utilizes carbon intensity factors of 0.
Source: PlaceWorks, 2022.

[19] California Energy Commission, 2018, 2019 Building Energy Efficiency Standards, https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf, accessed January 24, 2022.

The proposed project would increase energy demand at the site compared to existing conditions, but it would be required to comply with the current Building Energy Efficiency Standards and CALGreen. The Building Energy Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and nonresidential buildings by 2030. New buildings constructed in accordance with these efficiency standards would not result in wasteful, inefficient, or unnecessary consumption of energy resources. In addition, the proposed project entails installation of green roofs and/or planters in each townhouse to reduce heat island effect and to provide natural insulation for the buildings. All townhomes would also include EV charging outlets and infrastructure required for future installation of EV fast chargers to generate more renewable electricity. Therefore, operation of the proposed project would result in inefficient or wasteful electricity use during operation.

Natural Gas Energy

Development pursuant to the proposed project would result in no new natural gas demand because the proposed project would be 100-percent electric.

Transportation Energy

The proposed project would consume transportation energy during operations from the use of motor vehicles. The efficiency, such as the average miles per gallon, of these motor vehicles is unknown. Estimates of transportation energy use are based on overall VMT and its associated transportation energy use. The project-related VMT would primarily come from the residents living in the new housing units. As seen in Table 4.5-3, *Project Annual Operation-Related Fuel Usage*, the annual VMT for the proposed project is estimated to be 1,434,149 miles. The proposed project is expected to generate 638 daily vehicle trips on a typical weekday, including 50 vehicle trips during the AM peak hour and 59 vehicle trips during the PM peak hour.[20] In addition, the required Transportation Demand Management (TDM) Plan would lead to a reduction of 9.1 percent (equivalent to a VMT reduction of 15.5 percent).[21] Thus, it is expected that operation-related fuel usage associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than similar development projects.

TABLE 4.5-3 PROJECT ANNUAL OPERATION-RELATED FUEL USAGE

	Gasoline		Diesel		CNG		Electricity	
Proposed Project	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual kWh
Passenger Vehicles	1,323,848	46,329	10,294	749	89	11	99,918	36,849

Source: EMFAC2021 v. 1.0.1. Annual VMT for existing conditions and project operations are based information found in Appendix C, *Air Quality and Greenhouse Gas Modeling*.

[20] CHS Consulting Group, 2022, 806 Alameda de las Pulgas Transportation Impact Analysis Final Report.
[21] CHS Consulting Group. 2022, 806 Alameda de las Pulgas Transportation Impact Analysis Final Report.

Summary

As described previously, natural gas use would not be required during construction or operation of the proposed project. Electricity and liquid fuels use during construction and operation of the proposed project would not be considered inefficient, wasteful, or unnecessary. Therefore, impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-2	Project development would not conflict with a State or local plan for renewable energy or energy efficiency.

California Renewable Portfolio Standard Program

Electrical needs to the project site would be provided by PCE. The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as PCE, whose compliance RPS requirements would contribute to the state objective of transitioning to renewable energy. The PCE obtains electricity from conventional and renewable sources throughout California. In 2021, 50.5 percent of PCE's electricity was projected to be generated from renewable energy sources; and 49.5 percent from large hydroelectric generators.[22] The project would be required to adhere to applicable energy efficiency code requirements, and may include photovoltaic solar panels. The net increase in power demand associated with the proposed project is anticipated to be within the service capabilities of PCE and would not impede PCE's ability to implement California's renewable energy goals. Therefore, the proposed project would not obstruct implementation of the California RPS Program.

San Carlos CMAP

A consistency analysis with the proposed project to the relevant policies in the CMAP is shown in Table 4.5-4, *Consistency with the City of San Carlos Mitigation and Adaptation Strategy.* As identified in the table below, the proposed project would be consistent with the strategies in the City of San Carlos CMAP. The proposed project would minimize energy-related impacts from the residential building sector by utilizing PCE as a 100 percent electric product, implementing a TDM plan to reduce trip generation, and other strategies listed below.

[22] Peninsula Clean Energy, 2021. Power Mix, https://www.peninsulacleanenergy.com/power-mix/, accessed January 24, 2022.

TABLE 4.5-4 CONSISTENCY WITH THE CITY OF SAN CARLOS CLIMATE MITIGATION AND ADAPTATION STRATEGIES

Applicable Strategies	Consistency with Applicable Strategies
Energy Use	
5. Advance electrification through local amendments to the California Building Code.	**Consistent:** The proposed project would be built to meet the latest Building Energy Efficiency Standards and CALGreen. The current CALGreen is included by reference in Municipal Code Section 15.04.125.
6. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.	**Consistent:** The proposed project entails installation of green roofs and/or planters installed in each townhouse to reduce heat and absorb rainwater for treatment.
7. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free, renewable energy by 2025.	**Consistent:** The proposed project will utilize PCE for all electrical needs. The proposed project is 100 percent electric and would be consistent with the City's vision for carbon neutral energy.
Transportation and Land Use	
12. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan.	**Consistent:** Bicycle facilities including Class I bike trails, Class II bike lanes, and Class Ill bike paths are presented in the vicinity of the project site, which provide accessibility from the project to major attractions like Downtown San Carlos and the San Carlos Caltrain Station. The proposed project would provide 18 short-term bicycle parking spaces at the entrance of the proposed project and would include a parking garage for each townhome where all residents would have private storage for bicycles.
15. Support improvements to public transit routes, services, and facilities to facilitate longer distance travel.	**Consistent:** The proposed project is located approximately one mile southwest from the San Carlos Caltrain Station. San Mateo County Transit District (SamTrans) Route 61 bus also services Alameda De Las Pulgas adjacent to the site. The project would also construct one northbound and one southbound transit stop near the project entrance where Route 61 can stop during the AM and PM school peak periods.
17. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.	**Consistent:** The City of San Carlos requires development projects to implement a TDM Plan to reduce project trip generation. The proposed project TDM plan provides a reduction of 9.1 percent (equivalent to a VMT reduction of 15.5 percent).[23] The proposed project is located approximately one mile southwest from the San Carlos Caltrain Station. San Mateo County Transit District (SamTrans) Route 61 bus also services Alameda De Las Pulgas adjacent to the site. The proposed project would construct a new southbound bus stop with a shelter immediately south of the project entrance along Alameda de las Pulgas, and a new northbound bus stop on the opposite side of Alameda de las Pulgas. Based on the impact assessment in Chapter 4.15, *Transportation*, the proposed project's VMT would be below the City of San Carlos SB 743 VMT threshold.
Solid Waste	
23. Encourage hybrid and clean-fuel construction and landscaping equipment citywide.	**Consistent:** The proposed project would be required to install outside electric outlets in accordance with the CBC to ensure that homeowners can utilize electric landscaping equipment.

Source: City of San Carlos, 2021, Climate Mitigation and Adaptation Plan.

[23] CHS Consulting Group. 2021, November 17. *806 Alameda de las Pulgas Transportation Impact Assessment*.

As described previously and in Table 4.5-4, the proposed project would not conflict with California RPS Program or City of San Carlos CMAP. Therefore, the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-3 The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy conservation and renewable energy.

The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of PCE and PG&E. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande housing development, which would be similarly designed with 89 residential units, located adjacent to the north side of the project site. The Vista Del Grande project, as well as other cumulative development projects within the PCE and PG&E service areas, would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources. As mentioned in impact discussion ENE-1, construction- and operation-related energy impacts caused by the proposed project would be less than significant and would not be considered inefficient, wasteful, or unnecessary. The proposed project would therefore not contribute to any cumulative energy impacts when considered together with cumulative development projects. Therefore, cumulative impacts would be *less than significant*, and project impacts would not be cumulatively considerable.

Significance without Mitigation: Less than significant.

4.6 GEOLOGY AND SOILS

This chapter describes existing geological conditions and hazards on the project site and evaluates geologic hazards to people and structures that would result from the proposed project. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the proposed project impacts and cumulative impacts. The information and analysis in this section is based in part on the following technical study (herein referred to as the "Project Geotechnical Report"):

> *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California*, prepared by Cornerstone Earth Group, dated November 1, 2017. A complete copy of this report is included as Appendix H, *Geotechnical and Geologic Study*, of this Draft Environmental Impact Report (EIR).

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

Federal Regulations

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 other researchers. The Paleontological Resources Preservation Act incorporates key findings of a report, Fossils on Federal Land and Indian Lands, issued by the Secretary of Interior in 2000, which 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 the traces of active faults. It was passed into law in the wake of the February 1971 magnitude (M_w) 6.5 San Fernando (Sylmar) Earthquake that resulted in over 500 million dollars in property damage and 65 deaths.[3] Although this act addresses the

[1] U.S. Department of the Interior, 2000, *Fossils on Federal & Indian Lands*, https://www.blm.gov/sites/blm.gov/files/programs_paleontology_quick%20links_Assessment%20of%20Fossil%20Management%20on%20Federal%20&%20Indian%20Lands,%20May%202000.pdf, accessed February 7, 2022.

[2] Originally titled the Alquist-Priolo Special Studies Zones Act until renamed in 1993, California Public Resources Code, Division 2, Chapter 7.5, Section 2621, The entire Act can be found at California Public Resources Code Section 2690 et seq.

[3] Southern California Earthquake Data Center, 2022, San Fernando Earthquake https://scedc.caltech.edu/earthquake/sanfernando1971.html, accessed on February 11, 2022.

hazards associated with surface fault rupture, it does not address other earthquake-related hazards, such as seismically induced ground shaking, liquefaction, or landslides.

This act requires the State Geologist to establish regulatory zones (formerly known as Special Studies Zones, now referred to as Earthquake Fault Zones) around the surface traces of mapped active faults, and to publish appropriate maps that depict these zones.[4] The maps are made publicly available and distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. In general, the law prohibits construction within 50 feet of an active fault trace.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act,[5] which was passed by the California legislature in 1990, addresses earthquake hazards related to liquefaction and seismically induced landslides. Under the Act, seismic hazard zones are mapped by the State Geologist in order to assist local governments in land use planning. The Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety."[6] Section 2697(a) of the act states that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."[7]

California Building Code

The California Building Code (CBC), known as the California Building Standards Code, is found in Title 24 of the California Code of Regulations. The CBC incorporates the International Building Code, a model building code adopted in jurisdictions across the United States. Current State law requires every local agency enforcing building regulations, such as cities and counties, to adopt the provisions of the CBC within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission. The CBC is updated every three years, and the current 2019 version took effect January 1, 2020.

Local Regulations

San Carlos 2030 General Plan

The Community Safety and Services Element of the San Carlos 2030 General Plan provides information about risks in San Carlos from natural and human-made hazards and contains and goals, policies, and actions designed to protect the community and its property from these hazards.

[4] California Geological Survey, Alquist-Priolo Earthquake Fault Zones, 2019, https://www.conservation.ca.gov/cgs/alquist-priolo#:~:text=Alquist%2DPriolo%20earthquake%20fault%20zones%20are%20regulatory%20zones%20surrounding%20the,earth's%20surface%20defining%20a%20fault.)&text=An%20active%20fault%2C%20for%20the,in%20the%20last%2011%2C000%20years, accessed February 11, 2022.

[5] California Public Resources Code, Division 2, Chapter 7.8, Section 2690 et seq.

[6] California Public Resources Code, Division 2, Chapter 7.8, Section 2691(c).

[7] California Public Resources Code, Division 2, Chapter 7.8, Section 2697(a).

The San Carlos 2030 General Plan policies relevant to geology and seismic hazards are listed in Table 4.6-1, *City of San Carlos 2030 General Plan Policies Relevant to Geology and Soils*.

TABLE 4.6-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO GEOLOGY AND SOILS

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-1.1	The City Building Official shall verify geotechnical and soils reports for development in areas where potentially- serious geologic risks exist. These reports shall address the degree of hazard, design parameters for the project based on the hazard and appropriate mitigation measures. Based on the findings of these reports, the City shall require that new structures are designed and built to withstand the effects of seismically-induced ground failure.
Policy CSS-1.2	Prohibit structural development in known areas where seismic and geological hazards cannot be mitigated.
Policy CSS-1.3	Continue to monitor and enforce mitigation measures to reduce risk for projects where geological and seismic hazards can be mitigated.
Policy CSS-1.4	Enforce requirements of the Alquist-Priolo Special Studies Zones Act should any fault traces in San Carlos be discovered and prove to be active or potentially active.
Policy CSS-1.5	Continue to incorporate seismic risk analysis into the City's ongoing building inspection program through thorough review of projects by plan check and field inspections.

Source: City of San Carlos, 2009, *2030 General Plan.*

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for the city. The Municipal Code is organized by Title, Chapter, and Section.

Chapter 15.04, *Technical Building Code*, of Title 15, *Buildings and Construction*, adopts the CBC by reference with specified modifications. Chapter 15.04 recognizes that the city is located in a seismically active area very close to the San Andreas Fault, one of the most significant earthquake fault zones in the State of California. This chapter also recognizes that there is the moderate potential for erosion and slope instability/landslides in approximately fifty percent of the city and that expansive soils or bedrock varies in significance in over two-thirds of the entire city.

Chapter 12.08, *Grading and Excavations*, of Title 12, *Streets, Sidewalks, and Public Places*, provides the minimum standards to protect property, preserve natural beauty and enhance water quality, and control erosion, sedimentation, increases in surface runoff and related environmental damage caused by construction-related activities, by regulating and controlling the design, construction, quality of materials, use, location and maintenance of grading, excavating and fill, land disturbances, land fill and soil storage in connection with the clearing and grading of land for construction, within the city.

Chapter 18.12, *Hillside (H) Overlay District*. The purpose of this chapter is to protect the health, safety, and welfare of residents of the City by establishing regulations for managing the development of hillside areas. The chapter includes measures to minimize hazards due to soil erosion associated with development on hillsides.

For a complete discussion on soil erosion prevention as it relates to water quality, see Chapter 4.9, *Hydrology and Water Quality*, of this Draft EIR.

4.6.1.2 EXISTING CONDITIONS

Regional Setting

The City of San Carlos is within the Coast Ranges geomorphic province, which consists of northwest-trending mountain ranges and valleys, and extends from Ventura County in southern California to the Oregon border. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay.[8] The San Francisco Peninsula at the northern end of the Santa Cruz Mountains, separating the Pacific Ocean from the San Francisco Bay, represents one mountain range within this province. Within the San Francisco Bay Area, most of the Coast Ranges province developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (70 to 200 million years old) rocks of the Franciscan Complex. These subsurface rocks are overlain by younger sedimentary and volcanic rocks that reflect geologic conditions for the last million years. Due to the lateral and vertical movement on the splays of the San Andreas Fault system and other secondary faults, the Coast Ranges exhibit a dominant northwest-oriented structural and topographic trend. This trend reflects the boundary between the North American plate to the east and the Pacific plate to the west. Nearly spanning the length of California, the San Andreas Fault is the dominant structure in the regional fault system and can produce the highest magnitude earthquakes, although many sub-parallel or branch faults are equally active and are capable of generating large earthquakes. These faults are dominated by right-lateral movement, but an increasingly large amount of thrust faulting resulting from compression across the system has been identified.[9]

Site Geology

Locally, the project site is within an area dominated by bedrock units of the Cretaceous and/or Jurassic Franciscan Complex and underlain by sandstone. This Franciscan Complex of sandstone is the only unit mapped at the project site and forms an extensive outcrop across the immediate area. The sedimentary rock bedding generally trends northwest-southeast; however, dips are variable and slope to the northeast and southwest which is characteristic of tightly folded sedimentary rock. The Project Geotechnical Report describes Cretaceous and Jurassic Franciscan Complex – Sandstone as "Greenish-gray to buff, fine to coarse-grained sandstone (greywacke), with interbedded siltstone and shale. In many places, shearing has obscured bedding relations; rock in which shale has been sheared to gouge constitutes about 10 percent of unit."

The Project Geotechnical Report identifies the site as being located on the northeast flank of Pulgas Ridge, a knob of resistant bedrock rising approximately 600 hundred feet above the surrounding terrain. Generally, this area is characterized by rolling terrain and northwest trending drainages and ridges on the peninsula segment of the Santa Cruz Mountains with the project site encompassing a "Y" shaped moderately sloped drainage that drains towards the east. The upper one-third portion of the site consists of a gently sloping, long ridge with moderate, planar side-slopes, with gradients of approximately 1.5:1 to

[8] California Geological Survey, 2002, *Note 36: California Geomorphic Provinces*, https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf, accessed February 11, 2022.

[9] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

3:1 (horizontal to vertical). Hard sandstone is exposed at a shallow depth due to minor grading at the top of the ridge and the general area is vegetated with oak trees and grasses. The two valleys that flank the ridge includes vegetation indicative of possible ephemeral springs and the valley floors are planar and may be underlain by colluvium. The northern valley and a small portion of the southern valley are occupied by a minor fill wedge and to the southwest and northwest, residential development abuts this area. A single drainage occupies the lower two-thirds of the project site and this area has experienced extensive grading through cuts, fills, and imported fills with fill depths on the order of 10 to 15 feet and natural side-slopes are moderate with approximate gradients of 2:1. It is assumed that the spring flows into an approximately 6-foot-high tunnel, although there are no maps or plans indicating the length and direction.[10]

Seismic Hazards

Faults

The San Francisco Bay Area is one of the most seismically active areas in the United States, and the U.S. Geological Survey's (USGS) Working Group on California Earthquake Probabilities 2007 estimates that there is a 63-percent chance of at least one magnitude 6.7 or greater earthquake in the region between 2007 and 2036. Historically, as documented by the damage that occurred in San Francisco and Oakland during the 1989 Loma Prieta earthquake that had an epicenter approximately 50 miles south of San Francisco, even earthquakes at considerable distances away can cause significant damage.

The project site is approximately 2.5 miles northeast of the San Andreas Fault where the fault trends northwesterly through the Crystal Springs Reservoir. Distances to other faults are identified in Table 4.6-2, *Approximate Fault Distances*. Faults that are capable of generating significant earthquakes are typically associated with well-defined areas of crustal movement, which trend northwesterly.[11]

Additionally, as shown on Figure 8-2, *San Carlos Area Faults*, in Chapter 8, *Community Safety and Services Element*, of the San Carlos 2030 General Plan, there are no faults on the project site.[12] According to the Alquist-Priolo Special Studies Zones Act of 1972 (revised 1994), active faults are those that have been shown to display surface rupture during the last 11,000 years (i.e., Holocene time). According to the California Department of Conservation Division of Mines and Geology, the project site is not currently situated within a mapped Earthquake Fault Zone.

[10] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[11] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[12] City of San Carlos, 2009, *San Carlos 2030 General Plan*, Chapter 8, *Community Safety and Services Element*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

TABLE 4.6-2 APPROXIMATE FAULT DISTANCES

Fault Name	Distance from the Project Site (miles)
San Andreas (1906)	2.5
Monte Vista-Shannon	8.4
San Gregorio	10.7

Source: Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

As shown in Table 4.6-2, several significant faults are within approximately 10 miles of the project site. As stated previously, the site is not located within a State-designated Alquist Priolo Earthquake Fault Zone. Furthermore, the Project Geotechnical Report states that no known surface expression of fault traces exist within the site boundaries; therefore, fault rupture is not known to be a significant geologic hazard at the site.[13]

Ground Shaking

The energy released by an earthquake is measured as moment magnitude (Mw). The Mw scale is logarithmic; therefore, each one-point increase in magnitude represents a ten-fold increase in amplitude of the waves as measured at a specific location and a 32-fold increase in energy. That is, a magnitude 7 earthquake produces 100 times (10 x 10) the ground motion amplitude of a magnitude 5 earthquake. The site is subject to a Maximum Magnitude Event – that is, the maximum earthquake that appears capable of occurring based on current geological understanding of the region – of 7.9 Magnitude along the San Andreas Fault.

Earthquakes of Mw 6.7+ magnitude can create ground accelerations in bedrock and in stiff unconsolidated sediments severe enough to cause major damage to structures and foundations that are not designed specifically with earthquake reinforcements and to underground utility lines without sufficient flexibility, to accommodate seismic ground motion.

Notable historic earthquakes on the active faults within 30 miles of the project site include the following:[14]

- San Andreas Fault
  - San Francisco, 1906, magnitude 8.25
  - Loma Prieta (near Santa Cruz), 1989, magnitude 7.1
- Calaveras Fault
  - Morgan Hill (Santa Clara County), 1911, magnitude 6.5
  - Morgan Hill, 1984, magnitude 6.1

[13] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[14] San Joaquin Valley Geology, 2021, Historic Earthquakes of California, http://www.sjvgeology.org/geology/earthquakes.html, accessed February 11, 2022.

- San Jose, 2007, magnitude 5.6

According to the Project Geotechnical Report, the project site, as is the case for most sites within the Bay Area, is at risk of moderate to severe (design-level) earthquakes that can cause strong ground shaking.

Liquefaction

Liquefaction generally occurs as a result of strong ground shaking during earthquakes in areas where granular sediment or fill material occur with high moisture content in or immediately below it. The ground shaking transforms the material from a solid state to a temporary liquid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. Liquefaction is most often triggered by seismic ground shaking, but can also be due to improper grading, landslides, or other factors.

Liquefaction potential within San Carlos ranges from very low to very high. Liquefaction potential in the western hill areas is low, while the flatlands and Bay margins area have high liquefaction potential. As shown on Figure 8-3, *Liquefaction Potential*, in Chapter 8, *Community Safety and Services Element* of the San Carlos General Plan 2030, the project site is in an area of the city with a very low liquefaction potential.[15]

According to the Project Geotechnical Report, the project site is not currently mapped by the State of California, but it is located within a zone mapped as having a very low to low liquefaction potential by the Association of Bay Area Governments (ABAG). Based on previous geotechnical investigations in the vicinity of the project site, the Project Geotechnical Report states that the site is underlain by shallow Franciscan Complex Sandstone bedrock and that groundwater is anticipated to be below potentially liquefiable residual soils. Based on this information, the Project Geotechnical Report concludes that the site is at a low potential for liquefaction, and this conclusion is in conformity with local mapping for the site by ABAG.[16]

Lateral Spreading

Lateral spreading is the horizontal or lateral ground movement of relatively flat-lying soil deposits towards an open area such as an excavation, channel, or open body of water. Typically, lateral spreading is associated with liquefaction of one or more subsurface layers towards the bottom of the exposed slope. It is difficult to analyze and estimate where the first tension crack will form, as failure tends to propagate as block failures.

According to the Project Geotechnical Report, the site has very low potential for lateral spreading as the site is underlain be shallow bedrock and is in an area of low liquefaction potential.[17]

[15] City of San Carlos, 2009, *San Carlos 2030 General Plan*, Chapter 8, *Community Safety and Services Element*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

[16] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[17] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

Landslides

Landslides are the downslope movement of geologic materials. Slope failures in the form of landslides are common during strong seismic shaking in areas of steep hills. According to the Project Geotechnical Report, the regional landslide map for San Mateo County does not identify any landslides within the immediate vicinity of the project site. Additionally, the "County Landslide Map" and the ABAG map shows that the site is within an area of "few landslides" and "very few landslides," respectively.

During the field reconnaissance survey, no evidence of large-seated disturbance, such as springs, ground cracks, large grabens, etc., was observed. Additionally, it was noted that the slopes of the project site do not have a morphology indicative of deep-seated landsliding and the subject ridge line is continuous and the slopes lack diverging contours. Therefore, the results of the field survey concluded that the site is not underlain by a deep-seated landslide.[18]

The San Mateo County debris flow source area map identifies a very small source area adjacent to the southern property line of the project site. Typical source areas consist of steep swales, with other potential source areas based on hillslope steepness and curvature. The base map used for the debris flow analysis was a digital elevation model with a 30-meter grid spacing. [19] The site reconnaissance survey confirmed the findings of the debris flow map, that the identified slope does not concentrate runoff and is relatively planar. Additionally, the slope is relatively short and runoff from the top of the slope is directed to storm drainages along Glasgow Lane. Therefore, there is a low potential for the identified slope to generate debris flows.[20]

Other Geologic Hazards

Ground Subsidence

Land subsidence refers to the lowering of the ground surface due to extraction or lowering of water levels or other stored fluids within the subsurface soil pores, or due to seismic activity that can cause alluvial sediments to compact.

Known current and historical instances of land subsidence in California have been recorded by the USGS.[21] The project site is not included in the USGS' areas of known land subsidence. In addition, the project site is in a populous area where local water districts regularly monitor groundwater levels, and because of this, the project site is not likely to be subject to significant groundwater changes that can lead to subsidence.

[18] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[19] United States Geological Survey, Map Showing Principal Debris-Flow Source Areas in San Mateo County, California, https://pubs.usgs.gov/of/1997/of97-745/sanmateo.html?__ncforminfo=mh-UEiUII_ALDItE0OSGBNoMxuMRqbZPhBNg8_YyKgMz-IpfQJXHFZ575jj8ytBg3Hh21qpInCGz_lDCh3Oitw%3D%3D, accessed February 11, 2022.

[20] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[21] United States Geological Survey, Areas of Land Subsidence in California, https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html, accessed February 11, 2022.

Collapsible Soils

Collapsible soils shrink upon being wetted and/or being subject to a load. Cohesionless soils, such as sand and gravel, are susceptible to collapse. The Project Geotechnical Report indicates that the residual soils on-site have a Plasticity Index (PI) as high as 42, indicating highly to very highly expansive potential. Expansive soils undergo large volume changes with changes in moisture content, shrinking and hardening when dried and expanding and softening when wetted. Therefore, rather than experiencing collapse when wet, the soils on-site would expand; expansive soils are typical of soils composed of clay, of which the soils are composed of on-site. Encountering collapsible soils on-site is not expected.

Expansive Soils

Expansive soils shrink and harden or swell and soften as the moisture content decreases or increases; the shrinking or swelling can shift, crack, or otherwise cause minor to severe damage to structures built on such soils. Additionally, these soils are subject to slope creep when they are located on hillslopes. When structures are underlain by expansive soils, it is important that foundation systems are capable of resisting or tolerating any potentially damaging soil movements.

As described in the Project Geotechnical Report, previous investigations at the project site identified that the residual soils may have a Plasticity Index as high as 42, which indicates highly to very highly expansive potential.

Paleontological Resources

Paleontological resources (fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and wood are found in the geologic deposits (rock formations) in which they were originally buried. Paleontological resources represent a limited, non-renewable, sensitive scientific and educational resource.

The potential for fossil remains at a location can be predicted through previous correlations that have been established between the fossil occurrence and the geologic formations within which they are buried. For this reason, knowledge of the geology of a particular area and the paleontological resource sensitivity of rock formations makes it possible to predict where fossils will or will not be encountered.

To identify any known paleontological resources within or in the vicinity of the project site, a record search of the online database maintained by the University of California Museum of Paleontology (UCMP), was conducted on February 1, 2021. The UCMP online locality user records search did not indicate the presence of paleontological resources based on the geological features located at the project site.[22] The nearest known paleontological sites are located to the west near Crystal Springs Reservoir.[23]

[22] University of California Museum of Paleontology, 2022, Specimen Search, https://ucmpdb.berkeley.edu/, accessed March 7, 2022.

[23] Redwood City, May 2010. *Redwood City New General Plan Draft EIR*, https://www.redwoodcity.org/home/showpublisheddocument?id=5027, accessed February 11, 2022.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to geology, soils, and/or seismicity if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   - 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.
   - Strong seismic ground shaking.
   - Seismic-related ground failure, including liquefaction.
   - Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
4. Be located on expansive soil, as defined in Section 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. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to geology and soils.

4.6.3 IMPACT DISCUSSION

GEO-1	**The proposed project would not directly or indirectly cause potential substantial adverse effects from rupture of a known earthquake fault, seismic-related ground failure, or landslides. The proposed project would cause potential substantial adverse effects from strong seismic ground shaking.**

Fault Rupture

As described previously, the project site is not on top of an earthquake fault, nor within a mapped Earthquake Fault Zone per the California Department of Conservation Division of Mines and Geology. Additionally, the site is not within a State-designated Alquist-Priolo Earthquake Fault Zone. Furthermore, the Project Geotechnical Report states that no known surface expression of fault traces exist within the

site boundaries.[24] Therefore, fault rupture is not known to be a significant geologic hazard at the site and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

Seismic Ground Shaking

The project site is within the San Francisco Bay region, which experiences frequent earthquakes. Though the project is not on an earthquake fault or in an earthquake fault zone, the likelihood of the project site experiencing ground shaking due to nearby faults is high, as throughout much of the region. However, construction of the project would be required to adhere to modern safety standards established in the CBC and Title V of the California Code of Regulations to minimize the shaking effects experienced during earthquakes. However, in accordance with the Project Geotechnical Report, implementation of an appropriate level of soil engineering and building design would be necessary to minimize ground-shaking hazards. Although the proposed project would not exacerbate seismic ground shaking itself, the placement of new residences on the project site without adherence to appropriate seismic recommendations would exacerbate the risks associated with earthquake events. Therefore, impacts from strong seismic ground shaking would be *significant* and would require the implementation of mitigation.

Impact GEO-1: The proposed project would result in the placement of new buildings in areas susceptible to ground shaking, potentially resulting in significant loss, injury, or death.

> Mitigation Measure GEO-1: Project construction shall adhere to the recommendations of the November 1, 2017, Cornerstone Earth Group *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California* (or an updated project geotechnical report reviewed and approved by the City), which provides preliminary recommendations for conceptual planning and preliminary design, including those for the presence of undocumented fills, the presence of moderately to highly expansive soils and soil creep, presence of a tunnel, potential difficult excavation within bedrock, springs, and differential movement at an on-grade to on-structure transitions. As recommended in the project geotechnical report, a licensed geotechnical engineer or their representative shall be present to provide geotechnical observation and testing during earthwork and foundation construction.
>
> Significance with Mitigation: Less than significant.

Liquefaction

As described in Section 4.6.1.1, *Regulatory Framework*, the site is at a low potential for liquefaction, and this conclusion is in conformity with local mapping for the site by ABAG.[25] Therefore, there would be *less-than-significant* impacts from liquefaction.

[24] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[25] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

Significance without Mitigation: Less than significant.

Landslides

The regional landslide map for San Mateo County does not identify any landslides within the immediate vicinity of the project site. Additionally, the "County Landslide Map" and the ABAG map shows that the site is within an area of "few landslides" and "very few landslides," respectively. Furthermore, the results of the field survey concluded that the site is not underlain by a deep-seated landslide.[26]

Additionally, the site reconnaissance survey described within Project Geotechnical Report concluded that there is a low potential for the identified slope to generate debris flows, concurring with the San Mateo debris flow source area map that stated that the identified slope does not concentrate runoff and is relatively planar.[27,28]

Therefore, impacts from landslides would be *less than significant*.

Significance without Mitigation: Less than significant.

GEO-2 The proposed project would not result in substantial soil erosion or the loss of topsoil.

Construction

Project activities such as grading, trenching, paving, tree and plant removal, and other soil disturbances can increase the potential for soil erosion on-site. Construction of the proposed project would result in impervious surface for the new roadways, townhomes, and other associated project components. The addition of impervious surfaces would increase the stormwater runoff volume and rate compared to existing conditions. The increased stormwater runoff could in turn accelerate loss of topsoil and soil erosion. However, as described in Chapter 4.9, *Hydrology and Water Quality*, development of the proposed project would require compliance with the Construction General Permit Water Quality Order 2009-0009-DWQ (as amended by Order No. 2010-0014-DWQ and 2012-006-DWQ), because the project would disturb one or more acres of land during construction. This requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and the incorporation of best management practices (BMPs) to control sediment and erosion during construction, which includes the following:

- Minimize disturbed areas of the site

[26] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[27] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[28] United States Geological Survey, Map Showing Principal Debris-Flow Source Areas in San Mateo County, California, https://pubs.usgs.gov/of/1997/of97-745/sanmateo.html?__ncforminfo=mh-UEiUII_ALDItE0OSGBNoMxuMRqbZPhBNg8_YyKgMz-IpfQJXHFZ575jj8ytBg3Hh21qpInCGz_lDCh3Oitw%3D%3D, accessed February 11, 2022.

- Install on-site sediment basins to prevent off-site migration of erodible materials
- Implement dust-control measures, such as silt fences and regular watering of open areas
- Stabilize construction entrances/exits
- Install storm drain inlet protection measures
- Install sediment control measures around the site, including silt fences or gravel bag barriers.

In addition, the City of San Carlos requires that an erosion and sediment control plan be submitted prior to grading plan approval and the issuance of a grading permit. Implementation of the erosion control plan would address any potential erosion issues associated with the proposed grading and site preparation activities. Also, the Hillside Overlay District requirements in Chapter 18.12 of the San Carlos Municipal Code set forth erosion control measures to be adopted on steep slopes. This would further reduce the potential for erosion during the construction phase.

Operation

For the operational phase, the San Francisco Bay Regional Water Quality Control Board (RWQCB) MS4 permit mandates the preparation of a preliminary Stormwater Management Plan (SWMP) and a final SWMP, which also contain source control and stormwater treatment measures to minimize the potential for erosion and siltation to occur. The proposed project would incorporate four bioretention areas and one flow-through planter area to collect runoff from the five drainage areas at the site. This would collect stormwater runoff and treat it prior to discharge into the City's storm drain system in Alameda de las Pulgas. Treatment would include the capture of sediment and minimize the potential for downstream erosion. In addition, each townhome cluster would have a flow-through planter which would also filter and capture sediment while treating stormwater prior to discharge into the storm drain system.

Collectively, implementation of the BMPs outlined in the SWPPP, the erosion and sediment control plan, and the SWMP would address the anticipated and expected erosion and siltation impacts during the construction and operational phases of the proposed project. Therefore, potential erosion impacts during construction and operation impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

GEO-3	**The proposed project would not 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.**

As described under Section 4.6.1.2, *Existing Conditions*, the field reconnaissance survey and review of the San Mateo County debris flow map found that the site is not underlain by a deep-seated landslide and there is a low potential for the identified slope to generate debris flow. Additionally, the Project Geotechnical Report concludes that the site at a low potential for liquefaction or lateral spreading due to

the site being underlain by shallow bedrock, as indicated on the local mapping for the site by ABAG. Because the site is underlain by shallow bedrock, subsidence or collapse at the project site are unlikely.[29]

The tunnel associated with the artesian spring would be permanently abandoned while maintaining discharge of the existing spring to the ground surface. The tunnel would be structurally backfilled, and the existing portal would be excavated during mass grading work.[30] A discharge pipe would be installed and any collected runoff would either be used for future landscape irrigation or directed into the storm drain system (see also Chapter 4.9, *Hydrology and Water Quality*). However, due to the presence of a tunnel, during the design-level geological and geotechnical investigation, it is recommended that the tunnel or tunnels be mapped and measured by a surveyor to ensure safety, and that consultations be conducted with a tunnel consultant to ensure future performance and reduce the potential for collapse. Therefore, impacts associated with potential collapse would considered be *significant* and would require the implementation of mitigation.

Impact GEO-3: The proposed project would require mitigation to ensure safety regarding the potential for collapse associated with the on-site tunnel associated with the former bottling facility.

Mitigation Measure GEO-3: Implement Mitigation Measure GEO-1.

Significance with Mitigation: Less than significant.

GEO-4	The proposed project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

As described in Section 4.6.1.2, *Existing Conditions*, as well as the Project Geotechnical Report, residual soils located on the project site may have highly to very highly expansive potential.[31] If the soil underlain the structures are expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. Additionally, moisture changes in the surficial soils should be limited by using positive drainage away from buildings as well as limiting landscaping watering. The Project Geotechnical Report recommends that residential structures be supports on drilled piers to mitigate the effects of highly expansive soils and soil creep. Moisture changes in the surficial soils should be limited through the use of positive drainage away from buildings and through limited landscape watering.[32]

The potential risks to life or property from the presence of potentially expansive soils are therefore considered a *significant* impact and would require mitigation.

[29] Cornerstone Earth Group, November 1, 2017. *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[30] Condor Earth, 2018. *Spring Tunnel Mitigation Plan*.

[31] Cornerstone Earth Group, November 1, 2017. *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[32] Cornerstone Earth Group, November 1, 2017. *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

Impact GEO-4: The proposed project would be placed on soil that is potentially susceptible to expansion, resulting in direct or indirect risks to life or property.

Mitigation Measure GEO-4: Implement Mitigation Measure GEO-1.

Significance with Mitigation: Less than significant.

GEO-5	The proposed project would not 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.

The proposed project would not require the use of septic tanks or alternative wastewater disposal systems. Wastewater facilities would be connected to and discharged into the existing public sanitary sewer system for the City of San Carlos, which is serviced by the Silicon Valley Water District. As such, there would be *no impact* from implementation of the proposed project at sites where soils might otherwise not be capable of supporting the use of septic tanks or alternative wastewater disposal systems.

Significance without Mitigation: No impact.

GEO-6	The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Although paleontological resources have not been identified on the project site, because the proposed project requires ground disturbing activities, there could be fossils of potential scientific significance and other unique geologic features that are not recorded. Such ground-disturbing construction associated with development permitted under the proposed project could cause damage to, or destruction of, paleontological resources or unique geologic features. This represents a potentially *significant* impact.

Impact GEO-6: The proposed project could cause damage to, or destruction of, unknown paleontological resources or unique geologic features due to ground-disturbing construction.

Mitigation Measure GEO-6: In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery, as needed, in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in California Environmental Quality Act (CEQA) Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project based on the qualities that make the resource important. The plan shall be submitted to the City of San Carlos for review and approval prior to implementation.

Significance with Mitigation: Less than significant.

GEO-7	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to geology and soils.

Risk from fault rupture, landslides, and liquefaction are considered less than significant. Risks from ground shaking, soil erosion, expansive soils, paleontological resources, and unique geological features would be mitigated with implementation of Mitigation Measures GEO-1, GEO-3, GEO-4, and GEO-6. The proposed project would also be required to comply with regulations set forth in the CBC and, with mitigation, the Project Geotechnical Report pertaining to structural safety and the minimizing of geologic hazards to the extent feasible. In addition, geologic hazards described above are specific to the project site. As landslides do not pose a significant impact, movements of soils on-site would not be expected to impact the project site and/or immediate area. Thus, it would not contribute to a cumulative impact regarding geologic hazards when taken into consideration with other projects. Therefore, cumulative impacts associated with the proposed project would be considered *less than significant*.

Significance without Mitigation: Less than significant.

4.7 GREENHOUSE GAS EMISSIONS

This chapter evaluates the potential for the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough individually to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis. This chapter is based on the methodology proposed by the Bay Area Air Quality Management District (Air District) for project-level review. Transportation sector emissions are based on trip generation provided by CHS Consulting Group (see Appendix L, *Transportation Impact Analysis)*. GHG emissions modeling is included in Appendix C, *Air Quality and Greenhouse Gas Modeling*, of this Draft Environmental Impact Report (EIR).

Terminology

The following are definitions for terms used throughout this section.

- Greenhouse gases (GHG). Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- Global warming potential (GWP). Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (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.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the

IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2,3]

The major GHGs are briefly described below.

- **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 (i.e., sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock, and other agricultural practices, and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

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 4.7-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for methane (CH_4), a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.[4]

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. According to the California Air Resources Board, 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 . However, State and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

[3] Intergovernmental Panel on Climate Change, Third Assessment Report: Climate Change 2001*,* New York: Cambridge University Press.

[4] CO_2-equivalence 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 global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

TABLE 4.7-1 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: GWP values identified in AR4 are used by the Air District to maintain consistency in statewide GHG emissions modeling.
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.

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 20th 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.[5] 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.[6] In the past, gradual changes in the earth's temperature changed the distribution of species, availability of 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 within a human lifetime.[7]

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.

[5] Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007*, New York: Cambridge University Press.

[6] California Climate Action Team, 2006, Climate Action Team Report to Governor Schwarzenegger and the Legislature.

[7] Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007*, New York: Cambridge University Press.

- 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.
- 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.[8] The years from 2014 through 2016 have shown unprecedented temperatures with 2014 being the warmest.[9] By 2050, California is projected to warm by approximately 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 to 8.6°F, depending on emissions levels.[10]

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.[11] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and 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.[12]

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—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 4.7-1), 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

[8] California Climate Change Center, 2012, Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

[9] 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.

[10] California Climate Change Center, 2012, Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California.

[11] California Climate Action Team, 2006, Climate Action Team Report to Governor Schwarzenegger and the Legislature.

[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 April 3, 2019.

climate change risks to California are described below and shown in Table 4.7-2, *Summary of GHG Emissions Risk to California*.

TABLE 4.7-2 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 Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species

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.

- **Water Resources 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.[13]
- **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

[13] 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.

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.[14]

- 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 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. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.[15]
- 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 percent 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.[16]

4.7.1.2 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, and City regulations and programs related to GHG emissions resulting from the proposed project.

Federal Regulations

The United States Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 United States. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the USEPA to

[14] 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.

[15] 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.

[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.

finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[17]

To regulate GHGs from passenger vehicles, the USEPA was required to issue an endangerment finding.[18] The finding identifies emissions of six key GHGs: CO_2, CH_4, N_2O, HCFCs, PFCs, and SF_6. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per Air District guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

- US Mandatory Report Rule for Greenhouse Gases (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 $MTCO_2e$ per year are required to submit an annual report.
- Update to Corporate Average Fuel Economy Standards (2017 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 USEPA finalized an 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 to 2026. On December 21, 2021, under direction of Executive Order 13990 issued by President Biden, the National Highway Traffic Safety Administration (NHTSA) repealed SAFE Vehicles Rule Part One, which had preempted State and local laws related to fuel economy standards. In addition, on August 5, 2021, the NHTSA announced new proposed fuel standards in response to Executive Order 13990. Fuel efficiency under the standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 relative to model year 2021.[19]
- 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 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 rule, which was crafted under the direction of President Trump's Energy Independence EO and became effective August 19, 2019. It officially rescinded the Clean Power Plan rule issued during the Obama Administration and sets emissions guidelines for states in developing plans to limit CO_2 emissions from coal-fired power plants. However, the Affordable Clean Energy rule was vacated by the United States Court of Appeals for the District of

[17] US Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html, accessed November 21, 2019.

[18] US Environmental Protection Agency, 2009, EPA: Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, https://www.epa.gov/climate-change/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a, accessed February 15, 2022.

[19] National Highway Traffic Safety Administration, 2021, USDOT Proposes Improved Fuel Economy Standards for MY 2024-2026 Passenger Cars and Light Trucks. https://www.nhtsa.gov/press-releases/fuel-economy-standards-2024-2026-proposal, accessed February 15, 2022.

Columbia Circuit on January 19, 2021. The Biden Administration is currently assessing options on potential future regulations.

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Executive Order B-55-18, Assembly Bill (AB) 32, Senate Bill (SB) 32 and SB 375:

- 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.
- AB 32. Also known as the Global Warming Solutions Act (2006), AB 32 was signed August 31, 2006 in order 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, California Air Resources Board (CARB) prepared the *2008 Climate Change Scoping Plan*, the *2014 Climate Change Scoping Plan,* and the *2017 Climate Change Scoping Plan,* which is discussed below.
  - CARB 2008 Scoping Plan. The 2008 Scoping Plan, adopted by CARB on December 11, 2008, identified that GHG emissions in California are anticipated to be 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. To effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.
  - First Update to the Scoping Plan. CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted May 22, 2014, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goal defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$.[20] As identified in the Update to the Scoping Plan, California is on track to meet the goals of AB 32. The update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the State to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is

[20] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed February 15, 2022.

consistent with or exceeds the trajectory created by statewide goals.[21] CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[22]

- Executive Order B-30-15. Executive Order B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directed 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, in order to ensure climate change is accounted for in state planning and investment decisions.
- SB 32 and AB 197. In September 2016, Governor Brown signed SB 32 and AB 197 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 the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.
  - 2017 Climate Change Scoping Plan Update. 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 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[23]

    California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the

[21] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed February 15, 2022.

[22] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed February 15, 2022.

[23] 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 November 21, 2019.

local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the State's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 4.7-3, *2017 Climate Change Scoping Plan Emissions Reductions Gap to Achieve the 2030 GHG Target*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" Low Carbon Fuel Standard (LCFS), and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known

commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

TABLE 4.7-3 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP TO ACHIEVE THE 2030 GHG TARGET

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target with Known Commitments	**60**

Source: 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 February 28, 2020.

Table 4.7-4, *2017 Climate Change Scoping Plan Emissions by Sector to Achieve the 2030 GHG Target*, provides GHG emissions by sector, for 1990, and the range of GHG emissions for each sector estimated for 2030, and the percent change compared to 1990 levels.

TABLE 4.7-4 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[a]	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	**431**	**260**	**-40%**

Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.
a. Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.
Source: 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 February 28, 2020.

- Renewable Portfolio/Carbon Neutrality Regulations – Executive Order B-55-18. Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.
- SB 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 (MPO). 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.
  - 2017 Update to the SB 375 Targets. CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018.[24] The updated targets become effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies, and any potential future state strategies, such as statewide road user pricing.

    The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. For next SCS update, CARB's updated targets for the MTC/ABAG region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent). CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies.[25]

[24] California Air Resources Board, 2018, Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets.

[25] California Air Resources Board, 2018, Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets.

- Transportation Sector Regulations – AB 1493. California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.[26]
- Transportation Sector Regulations – Executive Order S-01-07. On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and uses market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.
- Transportation Sector Regulations – Executive Order B-16-2012. On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.
- Transportation Sector Regulations – Executive Order N-79-20. On September 23, 2020, Governor Newsom signed Executive Order N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The Executive Order's goal for the State is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

[26] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08. A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the State's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bill 350. Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.
- Renewable Portfolio/Carbon Neutrality Regulations – Executive Order B-55-18. Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.
- Energy Efficiency Regulations – California Building Code: Building Energy Efficiency Standards. Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and

multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.[27] Under the 2019 standards, nonresidential buildings are generally 30 percent more energy efficient compared to the 2016 standards, and single-family homes are generally 7 percent more energy efficient.[28] When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[29] The 2022 Building Energy Efficiency Standards were adopted in August 2021 with an effective date of January 1, 2023.

- Energy Efficiency Regulations – California Building Code: CALGreen. On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[30] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020.
- Energy Efficiency Regulations – 2006 Appliance Efficiency Regulations. The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. 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.
- Solid Waste Regulations – AB 939. California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.
- Solid Waste Regulations – AB 341. AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of

[27] California Energy Commission., 2018., News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation., https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first, accessed March 2, 2022.

[28] California Energy Commission., 2018., 2019 Building Energy and Efficiency Standards Frequently Asked Questions. https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf, accessed March 2, 2022.

[29] California Energy Commission. 2018, 2019 Building Energy and Efficiency Standards Frequently Asked Questions. https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf, accessed March 2, 2022.

[30] The green building standards became mandatory in the 2010 edition of the code.

the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

- Solid Waste Regulations – AB 1327. The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.
- Solid Waste Regulations – AB 1826. In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.
- Water Efficiency Regulations – SBX7-7. The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.
- Water Efficiency Regulations – AB 1881. The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.
- Short-Lived Climate Pollutants – SB 1383. On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels

of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use.[31] In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Regional Plans and Regulations

Plan Bay Area: Strategy for a Sustainable Region

MTC and ABAG adopted *Plan Bay Area 2050* on October 21, 2021.[32] *Plan Bay Area 2050* provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375. Under the *Plan Bay Area 2050* strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19-percent reduction in per-capita emissions by 2035 — but only if all strategies are implemented.[33]

To achieve MTC's/ABAG's sustainable vision for the Bay Area, the *Plan Bay Area* land use concept plan for the region concentrates the majority of new population and employment growth in the region in Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas within existing communities. An overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions. The proposed project is not within an identified PDA.

Bay Area Clean Air Plan

The Air District adopted the 2017 *Clean Air Plan, Spare the Air, Cool the Climate* 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.

[31] 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 March 2, 2022.

[32] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed on February 15, 2022.

[33] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed on February 15, 2022.

- 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.[34]

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, toxic air contaminants, and GHG from a full range of emission sources. These control measures cover 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 Air District are required to register and offer commuter benefits to employees. In partnership with the Air District 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 Carlos Climate Mitigation and Adaptation Plan

The City of San Carlos adopted its Climate Mitigation and Adaptation Plan (CMAP) on September 27, 2021, as an update to the San Carlos 2009 CAP.[35] The CMAP sets forth 23 measures to guide the City in meeting

[34] 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 July 18, 2018.

[35] City of San Carlos, 2021, City of San Carlos Climate Mitigation and Adaptation Plan, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 10, 2022.

reduction goals in energy use, transportation, off-road equipment, water, wastewater, land use, and solid waste. In addition, the City's CMAP identifies the following GHG reduction targets for the City:

- Reduce emissions to 49 percent below 2005 levels by 2030.
- Reduce emissions by 83 percent below 2005 levels by 2050.

San Carlos Municipal Code

Green Building Standards Code

The City of San Carlos incorporates the Title 24, Part 11, the California Green Building Standards (CALGreen), the 2019 edition, by reference in Municipal Code Section 15.04.125. The types of residential projects to which the municipal code applies include new single and multifamily residences, alterations and additions that increase the size of a residential building, and residential reconstruction.

Recycling and Diversion of Construction and Demolition Debris Ordinance

The City Municipal Code includes construction waste diversion and recycling requirements through Municipal Code Chapter 8.05, *Recycling and Diversion of Construction and Demolition Debris*. The Municipal Code Section 8.05.040, *Diversion requirements*, states the following:

- Covered projects generating waste comprised of at least 95 percent inert materials, including dirt, concrete asphalt, brick, and/or cinderblock, shall be required to divert at least 60 percent of all generated tonnage.
- Covered projects generating waste comprised of mixed debris, both structural debris (e.g., wood, metal, wallboard) and inert materials (dirt, asphalt, brick, and/or cinderblock) shall be required to divert at least 60 percent of all generated tonnage. However, at least 25 percent of diverted material shall come from generated tonnage that excludes dirt, concrete, asphalt, brick and/or cinderblock should equal at least 24 tons (25 percent) and the remainder, 35 tons (35 percent) can be obtained through diversion of inert materials such as dirt, concrete, asphalt, brick, and/or cinderblock.
- Covered projects generating waste that does not include inert materials (dirt, concrete, asphalt, brick, cinderblock) shall be required to achieve at least 60 percent diversion of total generated waste.
- A covered project under the ordinance is defined as a project where total development costs equal $50,000 or more or where 5 or more tons of construction and demolition debris will be generated.

4.7.1.3 EXISTING CONDITIONS

California's GHG Sources and Relative Contribution

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's Fourth Assessment Report (AR4).[36] Based on these GWPs, California produced 418.2 $MMTCO_2e$ GHG emissions in 2019. California's transportation sector was the single largest generator of GHG

[36] Intergovernmental Panel on Climate Change, 2013, Fifth Assessment Report: Climate Change 2013, New York: Cambridge University Press.

emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent).[37]

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 $MMTCO_2e$ and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 $MMTCO_2e$ lower than the AB 32 target for year 2020. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 $MTCO_2e$ per person to 10.5 $MTCO_2e$ per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases comprised 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. 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) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period.[38]

Project Site

The existing three residential homes on the project site are assumed to be vacant and would not generate GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for residents, and visitors; and area sources such as landscaping and consumer cleaning products.

4.7.2 STANDARDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would result in a significant GHG emissions impact 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 adopted for the purpose of reducing the emissions of GHG.

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Impacts under impact discussion GHG-1 are not project-specific impacts to global warming, but are rather

[37] California Air Resources Board, 2021, California Greenhouse Gas 2000-2019 Emissions Trends and Indicators Report, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf, accessed March 2, 2022.

[38] California Air Resources Board, 2021, California Greenhouse Gas 2000-2019 Emissions Trends and Indicators Report. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf, accessed March 2, 2022.

the proposed project's contribution to cumulative impacts. Therefore, the impact discussion below does not contain a separate standard of significance regarding cumulative impacts.

4.7.2.1 AIR DISTRICT JUSTIFICATION REPORT

The Air District adopted the Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans on April 20, 2022.[39] This report provides thresholds of significance to determine whether a proposed project would have a significant cumulative impact on climate change (CEQA Guidelines Section 15064[h] and 15064.4[b]).

To reach California's GHG emissions target under SB 32 and long-term goal of carbon neutrality by 2045, the Air District is proposing the performance-based metrics to evaluate new land use development projects:

- Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Or, if no local GHG reduction strategy is applicable to a proposed project, all of the following performance-based metrics apply:

- The project would not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
- The project would not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
- Achieve compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.
- Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA.

4.7.2.2 SAN CARLOS CLIMATE MITIGATION AND ADAPTATION PLAN

CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of Greenhouse Gas Emissions, allows for lead agencies to analyze and mitigate the significant effects of GHG emissions at a programmatic level. Pursuant to CEQA Guidelines Section 15183.5, later project specific environmental documents may tier from and/or incorporate by reference the GHG reduction plan so long as it includes the following plan elements:

[39] Bay Area Air Quality Management District, April 2022. *CEQA Thresholds Justification Report*, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en, accessed June 10, 2022.

- Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
- Be adopted in a public process following environmental review.

The San Carlos CMAP is an update to the City's 2009 Climate Action Plan.[40] The CMAP was adopted in a public process following environmental review on September 27, 2021. The CMAP revised the existing community-wide (2005 and 2010 to 2017) GHG inventories based on the latest community protocols and GWPs. The CMAP provided emissions forecasts for 2030 and 2050 and established GHG emissions targets for years 2030 and 2050 consistent with SB 32 and Executive Order S-03-05. The CMAP identified State and local measures to reduce GHG emissions and quantified GHG reductions associated with these measures. The CMAP identified that with implementation of the GHG reduction measures, the CMAP provides a flexible path to reduce the community's GHG emissions to 107,920 $MTCO_2e$ by 2030 (49 percent below 2005 levels) and 36,060 $MTCO_2e$ by 2050 (83 percent below 2005 levels).

Consequently, the CMAP is a qualified GHG reduction plan. The proposed townhome development is consistent with the RS-6 Zoning District and, therefore, emissions associated with the project development are included in GHG forecast in the CMAP. Thus, the proposed project's GHG emissions impacts are evaluated based on consistency with the CMAP in accordance with CEQA Guidelines Section 15183.5.

4.7.3 IMPACT DISCUSSION

Methodology

This GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant greenhouse gas impacts are likely to occur as a result of the proposed project. The Air District has published the CEQA Air Quality Guidelines that provides local governments with guidance for analyzing and mitigating GHG emissions impacts and was used in this analysis. The project GHG emissions forecast includes the following sectors:

[40] City of San Carlos, 2021, City of San Carlos Climate Mitigation and Adaptation Plan, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 10, 2022.

- On-Road Transportation. Transportation emissions are based on the trip generation and an average trip length of 6.18 miles provided by CHS Consulting Group (see Appendix L, *Transportation Impact Analysis*, of this Draft EIR). The fleet mix in CalEEMod was adjusted to reflect a higher proportion of passenger vehicles associated with residential developments.
- Area Sources. Area sources generated from use of consumer products and cleaning supplies are based on California Emissions Estimator Model (CalEEMod), Version 2020.4.0 default emission rates.
- Energy. New buildings would be 100 percent electric and no natural gas would be utilized on-site. The additional electricity use from fuel switching is accounted for in CalEEMod by applying the rates identified in the Sacramento Metropolitan Air Quality Management District's justification report for GHG Emissions Thresholds for Sacramento County.[41] In San Mateo, electricity is provided by the Peninsula Clean Energy (PCE). PCE provides carbon neutral electricity for residents and business and their current carbon intensity for electricity is zero based on their 2020 Power Content Label.[42] Since existing homes are assumed to be vacant and less efficient than the proposed buildings, the net emissions were based on the proposed building square footage. Therefore, emissions from energy use are conservative.
- Solid Waste Disposal. Indirect emissions from waste generation are based on the American Trash Management's draft waste management plan for the proposed project based on the increase in residents in the area. As discussed under Chapter 4.17, *Utilities and Service Systems*, of this Draft EIR, the American Trash Management's draft waste management plan for the proposed project would generate solid waste at a rate lower than the current disposal rate for San Carlos residents.
- Water/Wastewater. GHG emissions from this sector are associated with the embodied energy used to supply water, treat water, distribute water, and then treat wastewater and fugitive GHG emissions from wastewater treatment. As discussed under Chapter 4.17, *Utilities and Service Systems*, of this Draft EIR, the proposed 87 townhomes would comply with the latest CALGreen code requirements, which typically results in a 20-percent reduction in water use. Indoor and outdoor water usage was based on the 2020 Urban Water Management Plan of 68 gallons per capita per day associated with the net increase of 220 residents on-site.[43]

[41] Sacramento Air Quality Management District, GHG Emissions Thresholds for Sacramento County, https://www.airquality.org/LandUseTransportation/Documents/SMAQMDGHGThresholds2020-03-04v2.pdf

[42] Peninsula Clean Energy Authority, 2020 Power Content Label,https://www.peninsulacleanenergy.com/wp-content/uploads/2021/09/2020-Power-Content-Label-pdf.pdf, accessed March 2, 2022.

[43] California Water Service, 2021, 2020 Urban Water Management Plan, Mid-Peninsula District.

Life-cycle emissions are not included in this analysis because not enough information is available for the proposed project. Therefore, lifecycle GHG emissions would be speculative.[44] Additionally, black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the State's AB 32/SB 32 inventory and treats this short-lived climate pollutant separately.[45]

GHG-1 The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Implementation of a development project could contribute to global climate change through direct emissions of GHGs from on-site area sources and vehicle trips generated by the project, and indirectly through off-site energy production required for on-site activities, water use, and waste disposal. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. As identified above in Section 4.7.2.2, *San Carlos Climate Mitigation and Adaptation Plan*, the City of San Carlos's CMAP is a qualified GHG reduction plan. Therefore, the proposed project's GHG emissions impacts are evaluated below based on consistency with the CMAP in accordance with CEQA Guidelines Section 15183.5.

Net Increase in GHG Emissions

Implementation of the proposed project would result in 87 townhomes on the project site. The proposed project would generate 638 daily weekday vehicle trips. Furthermore, operation of the proposed project would result in a net increase in water demand, wastewater and solid waste generation, area sources (e.g., consumer cleaning products), energy usage (i.e., electricity), and vehicle trips from operations of the proposed project. The total and net increase of GHG emissions that are associated with the proposed project are shown in Table 4.7-5, *Project-Related Net Operational GHG Emissions*. BAAQMD does not identify thresholds of significance for construction related GHG emissions, which are one-time, short-term

[44] Life-cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction phases of individual development projects is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted. (Governor's Office of Planning and Research, 2008, CEQA and Climate Change: Addressing Climate Change through CEQA Review. Technical Advisory. http://opr.ca.gov/docs/june08-ceqa.pdf, accessed November 21, 2019.)

[45] Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years. (California Air Resources Board, 2017. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/shortlived.htm, accessed November 21, 2019.)

emissions and therefore would not significantly contribute to the long-term cumulative GHG emissions impacts of the proposed project.[46]

TABLE 4.7-5 PROJECT-RELATED NET OPERATIONAL GHG EMISSIONS

	GHG Emissions	
	$MTCO_2e$ Per Year	Percent Proportion
Area Sources	1	0.2%
Energy Use[a]	0	0%
Mobile Sources	378	86.6%
Waste Generation	55	12.5%
Water/Wastewater[b]	3	0.6%
Total	**437**	**100%**

Notes: Totals may not equal 100 percent due to rounding.
[a] Energy -related emissions reflects the power mix in the Peninsula Clean Energy CCA Power Content Label 2020, which has carbon intensity of zero.
[b] Water/wastewater-related emissions reflects net increase in water demands associated with 220 residents and based on the Cal Water UWMP 2020 water use rate for residents.
Source: CalEEMod, Version 2020.4

Consistency with the San Carlos CMAP

The San Carlos CMAP is an update to the City's 2009 Climate Action Plan and was adopted on September 27, 2021.[47] The CMAP provided emissions forecasts for 2030 and 2050, and established GHG emissions targets for years 2030 and 2050 consistent with SB 32 and Executive Order S-03-05. The CMAP identified state and local measures to reduce GHG emissions and quantified GHG reductions associated with these measures. A consistency analysis with the proposed project to the applicable policies in the CMAP is shown in Table 4.7-6, *Consistency with the City of San Carlos Mitigation and Adaptation Strategy.* As identified in the table below, the proposed project would be consistent with the strategies in the City of San Carlos CMAP. The proposed project would minimize GHG emissions from the residential building sector by committing to a 100 percent electric product. In addition, PCE provides 100-percent carbon neutral power to residents in San Carlos.

[46] BAAQMD. 2022, April 20. The Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en.

[47] City of San Carlos, 2021, *City of San Carlos Climate Mitigation and Adaptation Plan*, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 10, 2022.

TABLE 4.7-6 CONSISTENCY WITH THE CITY OF SAN CARLOS CLIMATE MITIGATION AND ADAPTATION STRATEGY

Applicable Strategies	Consistency with Applicable Strategies
Energy Use	
5. Advance electrification through local amendments to the California Building Code.	**Consistent:** The proposed project would be built to meet the latest Building Energy Efficiency Standards and CALGreen. The current CALGreen is included by reference in Municipal Code Section 15.04.125.
6. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.	**Consistent:** The proposed project entails installation of green roofs and/or planters installed in each townhouse to reduce heat and absorb rainwater for treatment.
7. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free, renewable energy by 2025.	**Consistent:** The proposed project will utilize PCE CCA for all electrical needs. The proposed project is 100 percent electric and would be consistent with the City's vision for carbon neutral energy.
Transportation and Land Use	
11. Transit-Oriented Development. Encourage development of mixed-use projects, higher-density housing, and job growth within the General Plan's recognized Transit-Oriented Development (TOD) corridor (Planning Areas 1, 2, and 3) while being mindful of surrounding uses.	**Not Applicable:** The proposed project is located approximately one mile southwest from the San Carlos Caltrain Station. San Mateo County Transit District (SamTrans) Route 61 bus also services Alameda De Las Pulgas adjacent to the site. The proposed project would construct a new southbound bus stop with a shelter immediately south of the project entrance along Alameda de las Pulgas, and a new northbound bus stop on the opposite side of Alameda de las Pulgas. The project site is not located in a TOD corridor, but would accommodate the expected population growth in the City of San Carlos and increase higher-density housing than currently exists in the project site vicinity.
12. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan.	**Consistent:** Bicycle facilities including Class I bike trails, Class II bike lanes, and Class Ill bike paths are presented in the vicinity of the project site, which provide accessibility from the project to major attractions like Downtown San Carlos and the San Carlos Caltrain Station. The proposed project would provide 18 short-term bicycle parking spaces at the entrance of the proposed project and would include a parking garage for each townhome where all residents would have private storage for bicycles.
15. Support improvements to public transit routes, services, and facilities to facilitate longer distance travel.	**Consistent:** As stated above, the proposed project is located approximately one mile southwest from the San Carlos Caltrain Station, and SamTrans Route 61 services Alameda De Las Pulgas adjacent to the site. The project would also construct one northbound and one southbound transit stop near the project entrance where Route 61 can stop during the AM and PM school peak periods.
17. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.	**Consistent:** The City of San Carlos requires development projects to implement a Transportation Demand Management (TDM) Plan to reduce project trip generation. The proposed project TDM plan provides a reduction of 16.1 percent in VMT, which is reasonable for a townhome project in a suburban environment.[48] As stated above, the proposed project is located approximately one mile southwest from the San Carlos Caltrain Station, SamTrans Route 61 services Alameda De Las Pulgas adjacent to the site. The proposed project would construct a new southbound bus stop with a shelter immediately south of the project entrance along Alameda de las Pulgas, and a new northbound bus stop on the opposite side of Alameda de las Pulgas. Based on the impact assessment in Chapter 4.15,

[48] CHS Consulting Group. 2021, November 17. *806 Alameda de las Pulgas Transportation Impact Assessment*.

TABLE 4.7-6 CONSISTENCY WITH THE CITY OF SAN CARLOS CLIMATE MITIGATION AND ADAPTATION STRATEGY

Applicable Strategies	Consistency with Applicable Strategies
	Transportation, the proposed project's VMT would be below the City of San Carlos SB 743 VMT threshold.
Solid Waste	
23. Encourage hybrid and clean-fuel construction and landscaping equipment citywide.	**Consistent:** The proposed project would be required to install outside electric outlets in accordance with the CBC to ensure that homeowners can utilize electric landscaping equipment.
27. Increase the amount of waste recycled during construction and demolition of buildings.	**Consistent:** The proposed project would be required to provide recycling under the Construction & Demolition Waste Management Plan Agreement that is required by the City Municipal Code Chapter 8.05.
28. Partner with RethinkWaste to expand commercial and multi-family residential recycling and composting programs.	**Not Applicable:** The South Bay Recycling is the contractor hired by RethinkWaste to provide solid waste disposal services under the South Bayside Waste Management Authority. Waste, recycling, and greenwaste/composting provided by the City would be available for residents on-site.
Water and Wastewater	
32. Promote drought-tolerant and firewise landscaping.	**Consistent:** The proposed project would leave 1.36 acres of undisturbed Natural State Area on the project site and all new landscape will be irrigated with water efficient bubblers and drip irrigation systems. Water use would be designed to be consistent with the City of San Carlos' Water Efficient Landscape Ordinance. Irrigation systems would be automatically controlled with smart-type control capabilities based on weather conditions and would have flow sensing capabilities designed to minimize water use.
33. Promote gray water and recycled water systems.	**Not Applicable:** The proposed project would include landscaped bioretention areas designed to capture rainfall and spring water flow. However, the Mid-Peninsula District does not currently use recycled water due to low potential irrigation demand and high cost.

Source: City of San Carlos Climate Mitigation and Adaptation Plan, 2021.

Significance without Mitigation: Less than significant.

GHG-2 The proposed project would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

This impact discussion evaluates the proposed project's consistency with applicable plans adopted for the purpose of reducing GHG emissions, which include CARB's Scoping Plan and MTC/ABAG's *Plan Bay Area 2050*. The consistency review with the City of San Carlos CMAP is addressed in impact discussion GHG-1 above. As shown in impact discussion GHG-1, the proposed project would be consistent with the City's CMAP.

CARB's Scoping Plan

CARB's Climate Change Scoping Plan outlines the State's strategies to reduce GHG emissions in accordance with the targets established under AB 32 and SB 32. The Scoping Plan is applicable to State agencies and is not directly applicable to cities/counties and individual projects. 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 affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).

The proposed project would 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. For example, new buildings under the proposed project would meet the current and future CALGreen and Building Energy Efficiency standards. Project GHG emissions shown in Table 4.7-5 include reductions associated with statewide strategies that have been adopted since AB 32 and SB. Therefore, the proposed project would generate GHG emissions consistent with the reduction goals of AB 32 and SB 32, and impacts are considered *less than significant*.

Plan Bay Area

As part of the implementing framework for *Plan Bay Area 2050*, local governments have identified PDAs to focus growth. The project is not within a PDA.[49] However, as described in impact discussion POP-1 in Chapter 4.12*, Population and Housing*, the proposed project would provide housing that would reduce the demand for additional housing required to accommodate the growth projected within the City of San Carlos. Thus, the project would be consistent with the overall goals of *Plan Bay Area 2050* in concentrating new development in locations where there is existing infrastructure and accommodate the increase in residential growth. Therefore, the proposed project would not conflict with the land use concept plan in *Plan Bay Area 2050* and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

[49] Metropolitan Transportation Commission and Association of Bay Area Governments, 2020. Plan Bay Area 2050 Plan. Priority Development Areas (Plan Bay Area 2050) ArcGIS. https://opendata.mtc.ca.gov/datasets/priority-development-areas-plan-bay-area-2050/explore?location=37.496923%2C-122.269702%2C15.84, accessed January 21, 2022.

4.8 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the potential impacts associated with the development of the proposed project that are related to hazardous materials and airport-related hazards. Additionally, this chapter describes the environmental setting, including regulatory framework and existing conditions, and identifies mitigation measures that would avoid or reduce significant impacts.

The information and analysis in this chapter are based in part on the following technical studies:

- *Phase I Environmental Site Assessment, Black Mountain*, prepared by FirstCarbon Solutions, dated July 1, 2016.
- *Phase I Environmental Site Assessment, Brother's Property*, prepared by FirstCarbon Solutions, dated August 29, 2016.

Complete copies of these reports are included as Appendix I, *Phase I Environmental Site Assessments*, of this Draft EIR.

Discussions regarding wildland fire hazards and emergency response and evacuation plans are provided in Chapter 4.18, *Wildfire*, of this Draft EIR.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

There are many federal, State, County, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste, and they are constantly changing. Federal and State statutes as well as local ordinances and plans regulate hazardous waste management. These regulations can reduce the danger hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

Responsible agencies that regulate hazardous materials and waste include:

- 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 and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the Resource Conservation and Recovery Act (RCRA) and in cooperation with state and tribal partners, the EPA's Waste Management Division manages a hazardous waste program, an underground storage tank program, and a solid waste program that includes development of waste reduction strategies such as recycling.
- California Environmental Protection Agency: California Environmental Protection Agency (Cal EPA) was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the Cal EPA umbrella to create a cabinet-level voice for the protection of human health and the

environment and to assure the coordinated deployment of state resources. Cal EPA oversees the unified hazardous waste and hazardous materials management regulatory program.

- California Department of Toxic Substances Control: The California Department of Toxic Substance Control (DTSC) is a department of Cal EPA, which authorizes DTSC to carry out the RCRA program in California to protect people from exposure to hazardous wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations [CCR], Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Federal Regulations

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, and transportation of waste. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. Treatment is any process that changes the physical, chemical, or biological character of the waste to reduce its potential as an environmental threat. Treatment can include neutralizing the waste; recovering energy or material resources from the waste; rendering the waste less hazardous; or making the waste safer to transport, dispose of, or store.

The RCRA gave the USEPA the authority to control hazardous waste from "cradle to grave," that is, from generation to transportation, treatment, storage, and disposal. The RCRA also set forth a framework for the management of nonhazardous wastes. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that RCRA focuses only on active and future facilities and does not address abandoned or historical sites. The federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that required phasing out land disposal of hazardous waste. Some of the other mandates of this strict law include increased enforcement authority for the USEPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as the Superfund, was enacted to protect the water, air, and land resources from the risks created by past chemical disposal practices such as abandoned and historical hazardous waste sites. Through the act, the USEPA was given power to seek out the parties responsible for any release and assure their cooperation in the cleanup. This federal law created a tax on the chemical and petroleum industries that went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants,

or contaminants. The National Contingency Plan also established the National Priority List (NPL) of sites, which are known as Superfund sites. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Superfund Amendments and Reauthorization Act

Superfund Amendments and Reauthorization Act reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. Title III of the Act also authorized the Emergency Planning and Community Right-to-Know Act.

Emergency Planning & Community Right to Know Act

Emergency Planning & Community Right to Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. The primary purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored on-site to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies. Section 3131 of EPCRA requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals, report off-site transfers of waste for treatment or disposal at separate facilities, pollution prevention measures and activities, and participate in chemical recycling. These annual reports are submitted to the USEPA and state agencies. The USEPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online, publicly available, national digital database is called the Toxics Release Inventory and was expanded by the Pollution Prevention Act of 1990.

To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC) to coordinate planning and implementation activities associated with hazardous materials. The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. The federal EPCRA program is implemented and administered in California by the California Emergency Management Agency (Cal EMA), a SERC, six LEPCs, and 83 Certified Unified Program Agencies (CUPAs). Cal EMA provides staff support to the SERC and the LEPCs. The Governor's Office of Emergency Services (OES) coordinates and provides staff support for the SERC and LEPCs. Broad representation by firefighters, health officials, government and media representatives, community groups, industrial facilities, and emergency managers ensures that all necessary elements of the planning process are represented.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of any that may pose an environmental or human health hazard. It can ban the manufacture and import of those chemicals that pose an unreasonable risk. Also, the USEPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can

control these chemicals as necessary to protect human health and the environment. The act supplements other federal statutes, including the Clean Air Act and the Toxics Release Inventory under EPCRA.

Federal Aviation Regulation Part 77

The Federal Aviation Administration (FAA) issued a final rule on July 21, 2010, effective January 18, 2011, to 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. Federal Aviation Regulation (FAR) Part 77 establishes standards and notification requirements for objects affecting navigable airspace. The notification requirement serves as the basis for evaluating the effect of construction or alteration on operating procedures, determining the potential hazardous effect of proposed construction on air navigation, identifying mitigating measures to enhance safe air navigation, and charting of new objects. FAR Part 77 notification allows the FAA to identify potential aeronautical hazards in advance to prevent or minimize the adverse impacts to the safe and efficient use of navigable airspace. Any developer who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- Any construction or alteration exceeding 200 feet above ground level.
- Any construction or alteration:
  - within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet.
  - within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet.
  - within 5,000 feet of a public use heliport which exceeds a 25:1 surface,
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the standards noted above.
- When requested by the FAA.
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

State Regulations

Asbestos is regulated as a hazardous air pollutant under the Clean Air Act and is also regulated as a potential worker safety hazard under the authority of the OSHA. The Cal OSHA considers asbestos-containing building material a hazardous substance when a bulk sample contains more than 0.1 percent asbestos by weight. Cal OSHA requires that a qualified contractor licensed to handle asbestos materials handle any material containing more than 0.1 percent asbestos by weight. Any activity that involves cutting, grinding, or drilling during building renovation or demolition, or relocation of underground utilities, could release friable asbestos fibers unless proper precautions are taken.

Several regulations and guidelines pertain to abatement of and protection from exposure to asbestos-containing materials (ACM) and lead-based paint (LBP). These include Construction Safety Orders 1529 (pertaining to ACM) and 1532.1 (pertaining to LBP) from Title 8 of the CCR, and Part 61, Subpart M, of the CFR (pertaining to ACM). These rules and regulations prohibit emissions of asbestos from asbestos-related demolition or construction activities, require medical examinations and monitoring of employees engaged

in activities that could disturb asbestos, specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers, and require notice to federal and local government agencies prior to beginning renovation or demolition that could disturb asbestos. In California, ACM and LBP abatement must be performed and monitored by contractors with appropriate certification from the California Department of Health Services.

Regional Regulations

The Airport Land Use Compatibility Plan (ALUCP) covering all three public airports in San Mateo County was approved by the City/County Association of Governments of San Mateo County (C/CAG) in December 1996. The C/CAG is the Airport Land Use Commission (ALUC) responsible for promoting land use compatibility around the County's airports in order to minimize public exposure to excessive noise and safety hazards. The C/CAG has since adopted updated ALUCPs for San Francisco International Airport (November 2012), Half Moon Bay Airport (September 2014), and San Carlos Airport (October 2015).

The updated ALUCP for San Carlos Airport describes a series of land use safety and compatibility zones and associated guidelines for development around the San Carlos Airport that are intended to prevent development that is incompatible with airport operations.[1] These regulations include height restrictions based on proximity to the airport and flight patterns. The ALCUP for the San Carlos Airport delineates two Airport Influence Areas (AIA), Area A and Area B, within proximity to the airport. As a requirement for development located in Area A, the presence of existing airports within two miles of the property must be disclosed in the notice of intention to offer the property for sale. For development located within Area B of the AIA, the C/CAG Board shall exercise its statutory duty to review proposed land development proposals, among other plans, ordinances, amendments, and actions.

County Regulations

A CUPA is an agency of a county or city that administers several State programs regulating hazardous materials and hazardous wastes. San Mateo County Environmental Health Division (SMCEHD) is the CUPA for the City of San Carlos. SMCEH administers the following programs:

The California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) protects people from the release of "regulated substances" into the environment. Regulated substances are chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable or explosive; such substances include ammonia, chlorine gas, hydrogen, nitric acid, and propane.

Businesses subject to CalARP must develop a Risk Management Plan (RMP) for handling an accidental release; the RMP ensures that businesses have the proper information to give emergency response teams if an accidental release occurs. RMPs describe impacts to public health and the environment if a regulated

[1] City/County Association of Governments of San Mateo County, 2015, *Comprehensive Airport Land Use Compatibility Plan For the Environs of San Carlos Airport*, https://ccag.ca.gov/wp-content/uploads/2015/11/SQL_FinalALUCP_Oct15_read.pdf, accessed March 7, 2022.

substance is released near schools, residential areas, hospitals and childcare facilities. RMPs must include procedures for: keeping employees and customers' safe; handling regulated substances; training staff; maintaining equipment; ensuring that substances are stored safely; and responding to an accidental release.[2]

Underground Storage Tank Program

The CUPA staff review plans for new underground storage tanks (USTs); inspect UST sites during several construction phases to ensure installation standards are met; and conduct annual inspections to verify that operating requirements are met. All tank owners must possess a valid operating permit; conduct routine testing; maintain equipment; prepare an approved leak-response plan; and upgrade tank systems, as required.[3]

Local Regulations

The City of San Carlos 2030 General Plan, adopted in October 2009, includes goals, policies and implementing actions designed to protect the community and its property from natural and man-made hazards in Chapter 8, *Community Safety and Services Element*. The San Carlos 2030 General Plan policies relevant to hazardous materials are listed below in Table 4.8-1, *City of San Carlos 2030 General Plan Policies Relevant to Hazardous Materials*.

TABLE 4.8-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO HAZARDOUS MATERIALS

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-4.3	Mitigate hazard exposure to and from new development projects through the environmental review process, design criteria and standards enforcement.
Policy CSS-4.4	Mitigate indoor air intrusion potential in areas of new development or redevelopment where the property is located above known volatile compound plumes.
Policy CSS-4.5	Where deemed necessary, based on the history of land use, require site assessment for hazardous and toxic soil contamination prior to approving development project applications.
Policy CSS-4.6	Prohibit land uses and development which emit odors, particulates, light glare, or other environmentally- sensitive contaminants from being located within proximity of schools, community centers, senior homes and other sensitive receptors. Sensitive receptors shall be prohibited from locating in the proximity of environmentally sensitive contaminants.
Policy CSS-4.8	Actively promote public education, research and information dissemination on hazards materials.
Policy CSS-4.9	Encourage the use of green building practices to reduce potentially-hazardous materials in construction materials.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

[2] San Mateo County Health, 2022, The California Accidental Release Prevention Program (CalARP), https://www.smchealth.org/cupa/calarp, accessed February 11, 2022.

[3] San Mateo County Health, 2022, Underground Storage Tank Program, https://www.smchealth.org/cupa/ust, accessed February 11, 2022.

4.8.1.2 EXISTING CONDITIONS

Past Uses of the Project Site

In a 1946 photograph, the project site appears vacant except for the eastern portion of the site (APN 050-220-170). The structure in this photograph appears to be the Black Mountain Spring Water Company bottling facility. Additionally, there is evidence of one small rectangular structure located on the same parcel where the single-family residence is currently located. By 1960, two additional structures appear to have been established adjacent to the small rectangular structure in the center of the site. In the northern portion of the site (APN 050-220-160), there is evidence of a new structure where the single-family residence is currently located. By 2002, an aerial photo shows the removal of the once previously occupied Black Mountain Spring Water Company bottling facility; remnants of the facility are still evident in images thereafter. Moreover, the three single-family residences appear to be fully built out. While there is no evidence of the small rectangular structures positioned near the center of the site in 2002, some of these structures appear to have been present in 1991.[4]

Schools

The City of San Carlos is served by two school districts: the San Carlos School District and the Sequoia Union High School District. There are two schools within 0.25 mile of the project site: St. Charles Church School and Brittan Acres Elementary School, both located within 1,000 feet east of the site. Additional schools that serve the City of San Carlos are generally located within 1 to 2 miles of the project site.

Existing Hazardous Materials Sites

Recognized Environmental Conditions On-Site

Based on a site reconnaissance and a review of physiographic, historical, and regulatory information, there is no evidence of recognized environmental conditions in connection with the property except the following:

> According to the property owner of 804 and 806 Alameda de las Pulgas, one approximately 4,000-gallon gasoline underground storage tank, used to fuel the water company's delivery trucks and vans, was removed from the eastern portion of the property (APN 050-220-170) in the 1970s or early 1980s. The UST was removed and disposed of and that the area was cleaned up by removing soils from the property. The removal and disposal of the UST and soils was performed by a tank removal company. The exact quantity of soils removed is unknown, but no groundwater was impacted and the soil cleanup was relatively easy. Subsequently, a small aboveground storage tank (AST) with unknown quantity was utilized for a few years, however, as the AST was small and not convenient for use, fueling operations moved to a card lock fueling system in downtown San Carlos. The property owner was not aware of any spills or clean up associated with the former aboveground tank. The former UST and AST were located on the right side near the southernmost gate entrance to the water bottling

[4] Nationwide Environmental Title Research, 2022, Historical Aerials, Historicaerials.com, accessed February 11, 2022.

plant. The property owner was unable to provide documentation regarding the former on-site gasoline tanks.

In addition, the following business environmental risks (BERs) were identified:

- The property owner of 804 and 806 Alameda de las Pulgas stated in the Property Representative Questionnaire that "fill dirt was brought on and placed in the flat on the right side heading downhill, behind gate next to 806 and road improvements on the first 100 yards on lower road which was engineered and compacted with [oversight] by BKF." This fill area is located in the central southern portion of the property. According to the report *Geotechnical Engineering Investigation, Proposed Offhaul and Embankment Site, East Of Bullock Residence Site, Alameda de las Pulgas, San Carlos, California* prepared by BVGG Engineers on June 16, 2010 on behalf of Black Mountain Development, LLC., "The embankment fill area is underlain by roughly 6 to 12 feet of undocumented fill which is underlain by a foot or so of colluvium, which in turn is underlain by sandstone bedrock. The undocumented fill consisted of mostly fat clay with some lean clay and a little sandy soil."[5]
- Based on information obtained from the historical records review, the on-site single-family residences at 804 and 806 Alameda de las Pulgas—and the on-site single-family residence, garage, and outbuilding at 808 Alameda de las Pulgas—were constructed at a time when ACMs and LBPs were commonly used in building materials. Based on this information, there is a potential that ACMs and LBPs are present within these on-site structures. As these structures appeared in good condition at the time of the site visit, no further action is recommended at this time other than maintaining these suspect materials in good condition under an Asbestos and Lead Paint Operations and Maintenance (O&M) Program. Extensive areas of peeling and flaking paint on the exterior of the on-site outbuilding located in the northern portion of 808 Alameda de las Pulgas. Paint chips were observed on the ground surface adjacent to the outbuilding's western exterior door.
- No evidence of demolition debris was observed on the property at 808 Alameda de las Pulgas during the site reconnaissance except the following: five large insulation panels in poor condition were observed being stored on the north side of the on-site outbuilding. As the age of the insulation panels in unknown, there is a potential that the panels may contain asbestos.

On-Site Listings

There are no database listings for active hazardous materials on-site.

Off-Site Listings

Table 4.8-2, *Active Hazardous Materials Sites*, lists active hazardous materials sites within the vicinity of the project site. None of the off-site hazardous materials sites listed is considered an environmental concern for the proposed project due to factors including:

- The nature of the listing.
- The use of the site.
- When the site was listed and its current listed status.

[5] FirstCarbon Solutions, 2016, *Phase I Environmental Site Assessment (FINAL), Black Mountain*, page 4.

- The developmental density of the setting.
- The distance between the listed and subject sites as related to the distance that releases are likely to migrate based on local surface and subsurface drainage conditions.
- The presence of intervening drainage divides.
- Contaminants of concern.
- The inferred groundwater movement.

TABLE 4.8-2 ACTIVE HAZARDOUS MATERIALS SITES

Site Name and Address	Distance from Project Site	Regulatory Status	Database
On-Site			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
Off-Site			
1091 Industrial Owner, LLC Property 1091 Industrial Road	6,706 feet northeast	Cleanup Program Site, Open – long term management	GeoTracker
AT&T California – P3057 537 Laurel Street	3,897 feet northeast	Open double wall diesel underground storage tank (UST)	UST Finder
B&H Technical Ceramics 390 Industrial Road	6,494 feet northeast	Cleanup Program Site, Open – site assessment LUST Cleanup Site, Open – site assessment (petroleum case)	GeoTracker
Belmont Firehouse Square 875 O'Neil Avenue	7,762 feet north	Cleanup Program Site, Open – site assessment	GeoTracker
Blu-White Laundry (former) 1161 Brittan Avenue	4,946 feet east	Cleanup Program Site, Open – site assessment	GeoTracker
Brittan Ave Shell #171 1098 El Camino Real	4,629 feet east	Open double wall regular unleaded UST Open double wall premium unleaded UST Open double wall diesel UST	UST Finder
California Oil Recyclers 977A Bransten Road	5,702 feet east	Active – corrective action	EnviroStor
Carlos Cleaners 1000 Laurel Street	4,471 feet east	Cleanup Program Site, Open – site assessment	GeoTracker
Circuits Facility 641 Quarry Road	6,864 feet north	Cleanup Program Site, Open – inactive	GeoTracker
Delta Star 270 Industrial Road	6,917 feet northeast	Cleanup Program Site, Open – remediation	GeoTracker
Double AA Corporation (Belmont) 701 Harbor Boulevard	7,117 feet north	Open double wall diesel UST Open double wall regular unleaded UST Open double wall premium unleaded UST	UST Finder
Eaton Cleaners & Dyers 1752-1754 Laurel Street	6,917 feet southeast	Cleanup Program Site, Open – assessment and interim remedial action	GeoTracker
Estate of Robert E. Frank 1007 Bransten Road	5,491 feet northeast	Cleanup Program Site, Open – site assessment	GeoTracker
Flyers #489 602 Harbor Boulevard	7,396 feet north	Open double wall midgrade unleaded UST Open double wall regular unleaded UST Open double wall diesel UST	UST Finder
Former California Plating 1083 American Street	6,178 feet east	Cleanup Program Site, Open – remediation	GeoTracker

TABLE 4.8-2 ACTIVE HAZARDOUS MATERIALS SITES

Site Name and Address	Distance from Project Site	Regulatory Status	Database
Former Pyromet Inc. 595 Industrial Road	6,449 feet northeast	Cleanup Program Site, Open – long term management	GeoTracker
Former Sterling Screw 925 Tanklage Road	6,019 feet northeast	Cleanup Program Site, Open – site assessment	GeoTracker
G-C Lubricants Co 977 Bransten Road	5,655 feet northeast	Active – corrective action	EnviroStor
G.N. Renn Bulk Storage Tanks, San Carlos 833 Old County Road	4,905 feet northeast	Cleanup Program Site, Open – site assessment	GeoTracker
Holly 76 906 Holly Street	5,853 feet northeast	Open double wall regular unleaded UST	UST Finder
		Open double wall premium unleaded UST	
		Open double wall diesel UST	
Holly Petroleum, Inc. 907 Holly Street	5,833 feet northeast	Open double wall premium unleaded UST	UST Finder
		Open double wall regular unleaded UST	
		Open double wall regular unleaded UST	
		Open double wall diesel UST	
Home Depot GTE Lenkurt 100 Howard Avenue	3,648 feet southeast	Cleanup Program Site, Open – inactive	GeoTracker
Jon 76 234 El Camino Real	7,929 feet southeast	Open single wall premium unleaded UST	UST Finder
		Open single wall regular unleaded UST	
Justins Chevron 90 El Camino Real	5,074 feet north	Open double wall regular unleaded UST	UST Finder
		Open double wall premium unleaded UST	
Kelly Moore Paint Company Inc. 919 Old County Road	4,935 feet northeast	Cleanup Program Site, Open – site assessment	GeoTracker
Litton Electron Devices 960 Industrial Road	6,230 feet northeast	Cleanup Program Site, Open – assessment and interim remedial action	GeoTracker
Lovan Trust Property 672 Laurel Street	4,021 feet northeast	Cleanup Program Site, Open – site assessment	GeoTracker
New Mode Cleaners 615 Harbor Boulevard	7,709 feet north	Cleanup Program Site, Open – verification monitoring	GeoTracker
Nielsen Automotive 888 El Camino Real	4,146 feet northeast	Open single wall regular unleaded UST	UST Finder
		Open single wall premium unleaded UST	
		Open single wall diesel UST	
Peninsula Laboratories 601 Taylor Way	6,230 feet north	Cleanup Program Site, Open – remediation	GeoTracker
PG&E: San Carlos Service Center 275 Industrial Road	6,909 feet north	Open double wall used oil UST	UST Finder
Praxiar Distribution 767 Industrial Road	6,389 feet northeast	Cleanup Program Site, Open – long term management	GeoTracker
Redwood Touchless Car Wash 215 El Camino Real	7,833 feet southeast	Open double wall regular unleaded UST	UST Finder
		Open double wall premium unleaded UST	
San Carlos Corporation Yard 1000 Bransten Road	5,313 feet northeast	Open double wall diesel UST	UST Finder
		Open double wall regular unleaded UST	
San Carlos Transit Village 281-633 El Camino Real	5,269 feet northeast	Cleanup Program Site, Open – assessment and interim remedial action	GeoTracker
SDT Holly Shell		Open double wall regular unleaded UST	UST Finder

TABLE 4.8-2 ACTIVE HAZARDOUS MATERIALS SITES

Site Name and Address	Distance from Project Site	Regulatory Status	Database
500 El Camino Real	4,151 feet northeast	Open double wall regular unleaded UST	
		Open double wall premium unleaded UST	
Tanklage Square 837 Industrial Road	6,494 feet northeast	Active – voluntary cleanup	EnviroStor
Tiegel Family Trust/Manufacturing Co. 495 Bragato Road	7,286 feet north	Cleanup Program Site, Open – site assessment	GeoTracker
		Cleanup Program Site, Open – remediation	

Notes:
LUST: Leaking Underground Storage Tanks
UST: Underground Storage Tanks
Sources: State Water Resources Control Board, GeoTracker database, 2022; Department of Toxic Substance Control, EnviroStor database, 2022, Environmental Protection Agency, UST Finder database, 2022.

Neither the 205 Glasgow Lane nor the 120 Dundee Lane properties were identified in the environmental database search. These off-site properties adjacent to the project site are in consideration for a utility easement to provide a path for a water main extension onto the project site.

Other Potential Hazardous Materials On-site

Asbestos

Asbestos is the name of a group of silicate minerals that are heat resistant, and thus were commonly used as insulation and fire retardant. Inhaling asbestos fibers has been shown to cause lung disease (asbestosis) and lung cancer (mesothelioma).[6] Beginning in the early 1970s, a series of bans on the use of certain ACMs in construction were established by the USEPA and the Consumer Product Safety Commission. Most US manufacturers voluntarily discontinued the use of asbestos in certain building products during the 1980s. Requirements for limiting asbestos emissions from building demolition and renovation activities are specified in SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). California Government Code Sections 1529 and 1532.1 provide for exposure limits, exposure monitoring, respiratory protection and good working practice by workers exposed to lead and ACM. As all of the buildings on-site were built by 1968, the buildings could contain ACM.

Lead

Prior to 1978 lead was used as an ingredient in paint and as a gasoline additive; both of these uses have been banned. Lead is listed as a reproductive toxin and a cancer-causing substance; it also impairs the development of the nervous system and blood cells in children.[7] Those demolishing pre-1978 structures may presume the buildings contain LBP without having an inspection for LBP. Lead must be contained during demolition activities (California Health and Safety Code Sections 17920.10 and 105255). Title 29

[6] Department of Toxic Substances Control, 2022, Glossary of Environmental Terms, https://dtsc.ca.gov/glossary-of-environmental-terms/, accessed February 11, 2022.

[7] Department of Toxic Substances Control, 2022, Glossary of Environmental Terms, https://dtsc.ca.gov/glossary-of-environmental-terms/, accessed February 11, 2022.

CFR Part 1926 establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation or monitoring. As all of the buildings on-site were built by 1968, they could contain LBP.

Airport-Related Hazards

San Carlos Airport, located approximately 1.5 miles to the northeast of the project site, is a general-aviation airport. The San Carlos Airport is home to approximately 500 aircraft and over 25 aviation-related businesses.[8] Figure 4.8-1, *Height Limitation Area for San Carlos Airport*, shows the project site in the area where heights of structures are limited under Federal Aviation Administration Part 77 Regulations to avoid hazards to air navigation. The project site is within a Terrain Penetration of Airspace Surface Area. Because the terrain penetrates the FAA notification surface and the proposed project would involve structures greater than or equal to 30 feet in height, the proposed project would require filing of Form 7460-1 with the FAA.

The project site is not within an Overflight Easement Review Area (OERA). OERA is the area surrounding San Carlos Airport in which prospective real estate buyers are required to grant avigation easements[9] to the County of San Mateo, the owner and operator of the Airport, stating that the buyer is aware of the nearby airport. The OERA boundary for San Carlos Airport is based on the combination of a 60 db CNEL noise contour and the FAR Part 77 horizontal, approach, and transitional surface, within the 100-foot elevation above mean sea level boundary depicted in Figure 4.8-1.

An Approach Zone, which must be kept vacant, is designated northwest of the San Carlos Airport in the CLUP. Aircrafts approach San Carlos Airport from the southeast and depart to the northwest. There are three departure paths from the San Carlos Airport: one continuing northwest; one turning north, and the third turning northeast. No approach or departure paths pass over the project site.[10]

There are no private airstrips near the project site; no private airstrips or heliports in the cities of San Carlos, Redwood City, or Belmont.[11]

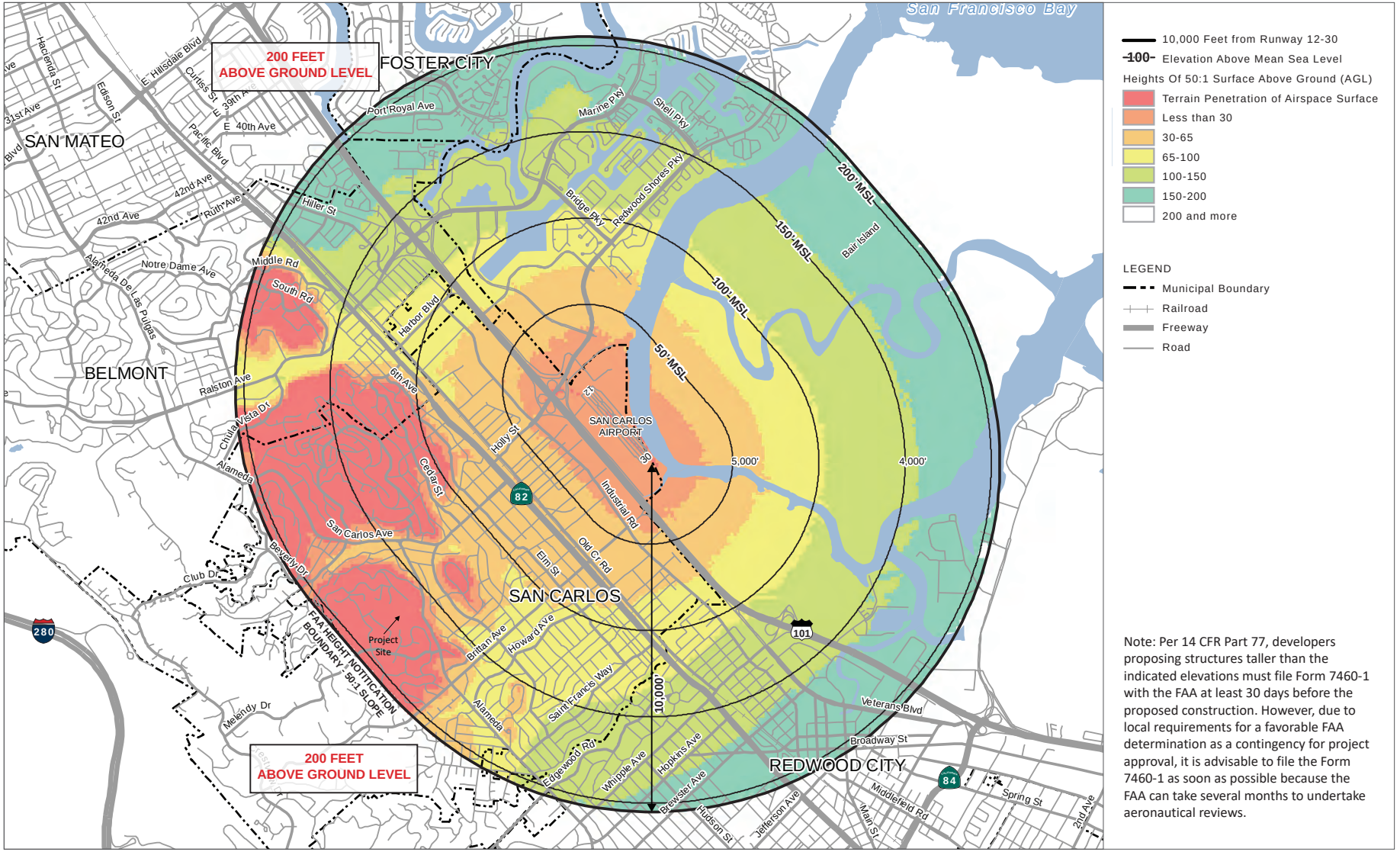
[8] San Mateo County, San Carlos Airport, http://publicworks.smcgov.org/san-carlos-airport-0, accessed February 11, 2022.

[9] An avigation easement is a property right acquired from a land owner for the use of airspace above a specified height. Avigation easements grant the right-of-flight including the right to noise and dust inherent in aircraft flight; the right to restrict or prohibit lights, electromagnetic signals and bird attractants; the right to unobstructed airspace and the right of entry upon the land to exercise those rights.

[10] San Mateo County, December 1996. *San Mateo County Comprehensive Airport Land Use Plan,* https://ccag.ca.gov/wp-content/uploads/2014/10/SMC-Airports-CLUP-1996.pdf, accessed February 7, 2022.

[11] Airnav.com. Airport Information, http://www.airnav.com/airports/, accessed February 11, 2022.

HAZARDS AND HAZARDOUS MATERIALS



Source: USGS, 1999-2013; ESRI, 2014; San Mateo County Planning and Building Department, 2014; ESA Airports, 2014.

0 6,000
Scale (Feet)

Figure 4.8-1
Height Limitation Area for San Carlos Airport

4.8.2 STANDARDS OF SIGNIFICANCE

Impacts related to emergency response and evacuation plans as well as wildland fires are fully discussed in Chapter 4.18, *Wildfire*, of this Draft EIR. Therefore, the following standards are not discussed in this chapter.

- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

The proposed project would have a significant impact regarding 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 or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.
6. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to hazards and hazardous materials.

4.8.3 IMPACT DISCUSSION

HAZ-1 The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

Construction activities for the proposed project would include the use of materials such as fuels, lubricants, and greases in construction equipment and coatings used in construction. However, the materials would be commonplace to construction and would not be used in such quantities or stored in such a manner as to pose a significant safety hazard. These activities would be temporary for the duration of construction.

In order to accommodate the construction of the project, the Applicant must demolish the existing buildings that occupy the site. According to the Phase I ESA report, the on-site single-family residences at 804 and 806 Alameda de las Pulgas were constructed at a time when ACMs and LBPs were commonly used in building materials. Based on this information, LBP and/or ACM may be present in the flooring, walls, roof materials, dry wall, or other building materials due to the age of the buildings present on-site. Removal or disturbance of LBP and/or ACM during the demolition of existing structures within the project area could expose construction workers and the general public to friable asbestos and/or lead, which would be a *significant* impact.

Impact HAZ-1: Demolition activities for the proposed project, including the disposal of materials, could result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site.

> Mitigation Measure HAZ-1: The construction contractor shall remove asbestos-containing materials and/or lead-based paint from the site prior to any activities which will disturb these materials. Asbestos disturbance and/or removal must be conducted by a California Division of Occupational Safety and Health registered and State licensed asbestos removal contractor. Disturbance and/or abatement operations shall be performed under the direct supervision of a California Certified Asbestos Consultant or Certified Site Surveillance Technician. The California Certified Asbestos Consultant must be approved by the Chief Building Official prior to the issuance of a demolition permit.
>
> Significance with Mitigation: Less than significant.

Operation

Due to the residential nature of the proposed project, no hazardous materials beyond what is typically used in a household setting for routine cleaning and maintenance would be used once the project is occupied. As a result, the potential impacts are considered to be *less than significant*.

Significance without Mitigation: Less than significant.

HAZ-2	**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.**

Construction

Project construction would require the use of diesel fuel to provide power for the construction equipment. On-site, diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Construction of the proposed project would not require other hazardous materials.

Before the construction phase, the existing structures on the project site would be demolished. According to the Phase I ESA report, the existing structures located on-site were originally constructed before 1968.

Therefore, it is likely that these structures contain ACM and/or LBP, as described under impact discussion HAZ-1, LBP and/or ACM shall be removed by a certified abatement contractor and as a result of the potentially *significant* impact from LBP and/or ACM, mitigation has been provided to further reduce potential impacts from LBP and/or ACM.

Impact HAZ-2: Demolition activities for the proposed project could result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site.

Mitigation Measure HAZ-2: Implement Mitigation Measure HAZ-1.

Significance with Mitigation: Less than significant.

Operation

General uses within and around the proposed townhome development may result in the generation, storage, transportation, use, and disposal of hazardous substances in association with the various residential and non-residential activities during project operation. Due to the residential nature of the proposed project, no hazardous materials would be used beyond common cleaning substances, building maintenance products, and other similar items. The County of San Mateo Household Hazardous Waste Program helps residents reuse, recycle, or responsibly manage residential hazardous waste and provides various options for safely and properly removing household hazardous wastes from their premises. The County of San Mateo Household Hazardous Waste Program is offered as a free service to all San Mateo County residents.[12] With existing General Plan policies, federal, State, and local regulations, and oversight of hazardous materials, the risk to the public of the environment from upset and accident conditions involving the release of hazardous materials would represent a *less-than-significant* impact.

Significance without Mitigation: Less than significant.

HAZ-3 The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

There are two schools within 0.25 mile of the project site: St. Francis School and Brittan Acres Elementary School.

Operation of the proposed residential development would not involve the use of hazardous materials beyond those commonly used in a household setting for maintenance or cleaning. Furthermore, the project will not require the use of chemical or materials that require oversight by the Department of Toxic Substances Control, Environmental Protection Agency, Redwood City-San Carlos Fire Department, Regional Water Quality Control Board, or SCAQMD. Therefore, the proposed project would not emit

[12] San Mateo County Health, 2022, Household Hazardous Waste, https://www.smchealth.org/hhw, accessed February 11, 2022.

hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

HAZ-4	**The proposed project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.**

Recognized Environmental Conditions On-Site

As described within the Phase I ESAs completed for the proposed project, there is no evidence of recognized environmental conditions in connection with the project site, with exception to the removal of a 4,000-gallon gasoline underground storage tank (UST) from the eastern portion of the property (APN 050-220-170) near the southernmost gate entrance to the former water bottling plant. Removal of the UST occurred in the late 1970s or early 1980s. The UST was replaced with an AST that was subsequently removed. A review of environmental regulatory databases including bulk storage tank databases indicative of contamination such as the leaking underground storage tank list or the inventory of Hazardous Sites, including GeoTracker and EnviroStor, did not reveal a record for the removed UST or AST. Additionally, Consultation with the San Carlos Building Division, Redwood City-San Carlos Fire Department, Bay Area Air Quality Management District, and San Mateo County Environmental Health Department concerning fuel tanks associated with the property show that none of these agencies had any records on file for the tanks.[13, 14]

Due to the lack of fuel tank closure documentation for the UST and AST, it is unknown to what extent testing was completed to determine whether groundwater and/or on-site soils at the property have been impacted. Therefore, this is a potentially *significant* impact, and soil sampling and testing would be required to determine if the property has been impacted by former on-site fuel tanks.

Additionally, the Phase I ESA identified a business environmental risk where a quantity of fill dirt was unloaded in the central southern portion of the property. According to the Phase I ESA, a Geotechnical Report prepared by BVGG Engineers on behalf of Black Mountain Development, LLC characterized the fill area and material as, "roughly six to 12 feet of undocumented fill which is underlain by a foot or so of colluvium, which in turn is underlain by sandstone bedrock. The undocumented fill consisted of mostly fat clay with some lean clay and a little sandy soil." Because this on-site fill is derived from an unknown location, the Phase I ESA recommends soil sampling and testing to be performed to ensure that contaminated soils above action levels are not present. Therefore, the impact is considered potentially *significant*.

[13] FirstCarbon Solutions, 2016, *Phase I Environmental Site Assessment, Black Mountain*.
[14] FirstCarbon Solutions, 2016, *Phase I Environmental Site Assessment, Brother's Property*.

Impact HAZ-4: The proposed project may result in significant impacts due to the unrecorded removal of an underground storage tank and aboveground storage tank and from the unverified import of fill soils.

Mitigation Measure HAZ-4: Soil sampling and testing shall be performed to determine if the property has been impacted by former on-site fuel tanks. Additionally, soil sampling and testing of the fill material should be performed to ensure that contaminated soils above action levels are not present. If the testing results show that the soils are contaminated above action levels, the Applicant shall notify the San Mateo County Environmental Health Division of a leak as statutorily required and follow the Division's direction to obtain case closure.

Significance with Mitigation: Less than significant.

On-Site and Off-Site Environmental Database Listings

As discussed in Section 4.8.1.2, *Existing Conditions*, there are no database listings for active hazardous materials on-site, pursuant to Government Code Section 65962.5, and none of the off-site database listings identified in Table 4.8-2 are considered an environmental concern for the project site. Therefore, the impact would be considered *less than significant*.

Significance without Mitigation: Less than significant

HAZ-5	**For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project could result in a safety hazard or excessive noise for people residing or working in the project area.**

Building Height

The proposed project would have a maximum building height of 35 feet. The proposed project is located within the FAA notification surface area for the San Carlos Airport. Within this area, any proposed project consisting of buildings with more than two floors or structures greater than or equal to 30 feet in height is required to file Form 7460-1 with the FAA at least 30 days before the proposed construction. Under federal law, the project applicant must comply with all notification and other requirements described in FAR Part 77, which is independent of the San Carlos Airport ALUCP. Because the proposed project is located in an area of Terrain Penetration of Airspace Surface and would exceed the 30-foot height threshold, the project applicant would be required to file Form 74601-1, *Notice of Proposed Construction or Alteration*, with the FAA. This would be considered a *significant* impact.

Impact HAZ-5.1: The proposed project exceeds the 30-foot height threshold and is within an area that has "Terrain Penetration of Airspace Surface" and is required to notify the Federal Aviation Administration prior to construction.

Mitigation Measure HAZ-5.1: As a requirement for development located within an FAA Notification Area, the project applicant shall file Form 7460-1, *Notice of Proposed Construction or Alteration*, with the FAA at least 30 days prior to project construction.

Significance with Mitigation: Less than significant.

Airport Influence Areas

The project site is located approximately 1.5 miles southwest of the San Carlos Airport. The proposed project is located in Area B of the AIA, which is the AIA in closer proximity to the airport. For development located within Area B of the AIA, the C/CAG Board shall exercise its statutory duty to review proposed land development proposals, among other plans, ordinances, amendments, and actions. Therefore, C/CAG shall be given the opportunity to review the plans for the proposed project.

As described in Chapter 4.11, *Noise*, the project site is located out of the noise contours of the airport and would not expose people residing or working in the project area to excessive airport-related noise levels. Nevertheless, due to the disclosure and C/CAG review requirements outlined in the ACLUP due to the development being within AIA Areas A and B, the proposed project would result in potentially *significant* impact.[15]

Impact HAZ-5.2: The proposed project may result in significant impacts due to its being within 1.5 miles of San Carlos Airport in Airport Influence Areas A and B.

Mitigation Measure HAZ-5.2: The project site's proximity to San Carlos Airport shall be disclosed to future townhome buyers. The disclosure shall state:

> NOTICE OF AIRPORT IN VICINITY This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

Significance with Mitigation: Less than significant.

HAZ-6 The proposed project would not result in significant cumulative impacts regarding hazards and hazardous materials in combination with past, present, or reasonably foreseeable projects.

Cumulative projects considered in this evaluation include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande development project located adjacent and to the north of the project site. In general, cumulative development projects would be subject to plans, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

[15] City/County Association of Governments of San Mateo County, October 2015, *Comprehensive Airport Land Use Compatibility Plan For the Environs of San Carlos Airport*, https://ccag.ca.gov/wp-content/uploads/2015/11/SQL_FinalALUCP_Oct15_read.pdf, accessed March 7, 2022.

Hazardous Materials

As described under impact discussions HAZ-1 and HAZ-2, during demolition activities, LBP and/or ACM may be encountered; the handling, removal, and disposal of which are governed by State and federal regulations and Mitigation Measures HAZ-1 and HAZ-2 would ensure impacts related to LBP and/or ACM would be less than significant. During operation, the project would not involve the use, handling, transport, or disposal of hazardous materials beyond those commonly used in a household setting for maintenance or cleaning would be used. Existing residential communities surrounding the project site would have similar common household hazardous materials, and the Vista Del Grande project would also involve materials commonly used in a household setting. Additional proposed projects would be dispersed throughout the city and the overall cumulative operational impact would be *less than significant*.

Airport-Related Hazards

The Vista Del Grande project and any other projects evaluated under the City's General Plan 2030 buildout that are within areas where heights of structures are regulated under FAR Part 77 regulations would be subject to the same height limit concerns as the proposed project. With adherence to applicable procedures and requirements described in impact discussion HAZ-5 and Mitigation Measures HAZ-5.1 and HAZ-5.2, the proposed project would not contribute to cumulative impact associated with airport-related hazards and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

4.9 HYDROLOGY AND WATER QUALITY

This chapter describes potential impacts associated with development of the proposed project that are related to hydrology and water quality. Additionally, this chapter describes the environmental setting, including regulatory framework and existing conditions, followed by a discussion of potential environmental impacts related to hydrology and water quality. Potential impacts to storm drain infrastructure are addressed in Chapter 4.17, *Utilities and Service Systems*.

The information and analysis in this section is based in part on the following technical studies:

- *Preliminary Stormwater Management Plan, 808 Alameda de las Pulgas*, prepared by BKF, dated January 2022.
- *Black Mountain Spring Tunnel Preliminary Evaluation*, Condor Earth Technologies, Inc., dated August 17, 2016.
- *Spring Tunnel Mitigation Plan, Black Mountain Property, 800 Alameda de las Pulgas, San Carlos, California*, Condor Earth Technologies, Inc., dated August 16, 2018.

These studies are included in Appendix J, *Hydrology and Water Quality*, of this Draft Environmental Impact Report (EIR).

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

Federal Regulation

Clean Water Act

Under the Clean Water Act (CWA) of 1977, the United States Environmental Protection Agency (USEPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA authorizes the USEPA to implement water-quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402 of the CWA controls water pollution by regulating stormwater discharges into the waters of the United States. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to its nine Regional Water Quality Control Boards (RWQCBs).

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water-quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant causing the conditions of impairment. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water

body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

National Pollutant Discharge Elimination System

The NPDES permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States from their municipal separate storm sewer systems (MS4s). Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. The project site lies within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The City of San Carlos is subject to the requirements of the Municipal Regional Stormwater NPDES Permit (MRP; Order No. R2-2015-0049; NPDES Permit No. CAS612008), with the last amendment, Order No. R2-2019-0004, taking effect on January 1, 2019.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) is the basic water-quality control law for California. This act established the SWRCB and divided the state into nine regional basins, each under the jurisdiction of an RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water-quality conditions and problems.

SWRCB General Construction Permit

Construction activities that disturb one or more acres of land must comply with the requirements of the SWRCB Construction General Permit (2009-0009-DWQ), as amended by 2010-0014-DWQ and 2012-0006-DWQ. Under the terms of the permit, applicants must file Permit Registration Documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Stormwater Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website. On May 28, 2021, the SWRCB issued a draft of the revised Statewide Construction General Permit, which, when approved, would supersede Order 2009-0009-DWQ and its amendments.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could

contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program for all risk levels and a stormwater sampling and analysis program for Risk Levels 2 and 3.

SWRCB Trash Amendments

On April 7, 2015, the SWRCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to control trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Together, they are collectively referred to as "the Trash Amendments." The Trash Amendments apply to all surface waters of California and include a land-use-based compliance approach to focus trash controls on areas with high trash-generation rates. Areas such as high-density residential, industrial, commercial, mixed urban, and public transportation stations are considered priority land uses. There are two compliance tracks for Phase I and Phase II MS4 permittees:

- Track 1: Permittees install, operate, and maintain a network of certified full capture systems in storm drains that capture runoff from priority land uses.
- Track 2: Permittees must implement a plan with a combination of full capture systems, multi-benefit projects, institutional controls, and/or other treatment methods that have the same effectiveness as Track 1 methods.

The Trash Amendments provide a framework for permittees to implement its provisions. Full compliance must occur within 10 years of the permit and permittees must also meet interim milestones, such as average load reductions of 10 percent per year.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act includes the State of California's Model Water Efficient Landscape Ordinance (MWELO), which requires cities and counties to adopt landscape water conservation ordinances. The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and build resiliency for future droughts. State law requires all land use agencies, which includes cities and counties, to adopt a WELO that is at least as efficient as the MWELO prepared by the Department of Water Resources (DWR). The 2015 revisions to the MWELO improve water conservation in the landscaping sector by promoting efficient landscapes in new developments and retrofitted landscapes. The revisions increase water efficiency by requiring more efficient irrigation systems, incentives for grey water usage, improvements in on-site stormwater capture, and limiting the portion of landscapes that can be covered in high-water-use plants and turf. New development projects that include landscape areas of 500 square feet or more are subject to the MWELO. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects ranged from 2,500 to 5,000 square feet.[1] The size threshold for rehabilitated landscapes has not changed and remains at 2,500 square feet.

[1] California Department of Water Resources, 2015, Updated Model Water Efficient Landscape Ordinance, Guidance for California Local Agencies, https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Model-Water-Efficient-Landscape-Ordinance, accessed September 10, 2021.

The City of San Carlos has enacted these provisions in the San Carlos Municipal Code (SCMC) Section 18.18.080, *Water-Efficient Landscaping and Irrigation*.

Regional Regulations

Municipal Regional Stormwater NPDES Permit

As stated previously, municipal stormwater discharge in the City of San Carlos is subject to the Waste Discharge Requirements (WDRs) of the MS4 Permit No. CAS612008 (Order Number R2-2015-0049; last amendment, Order No. R2-2019-0004). Provision C.3 of the MRP requirements applies to all new development or redevelopment projects that create or replace 10,000 square feet of impervious surfaces and specific land use projects that create or replace 5,000 square feet of impervious surfaces (i.e., auto service facilities, retail gasoline outlets, restaurants, and/or uncovered surface parking). Provision C.3 of the MRP also mandates that new development projects that meet certain criteria: (1) incorporate site design, source control, and stormwater treatment measures into the project design; (2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and (3) minimize the rate and volume of stormwater runoff under post-development conditions. Low-impact development (LID) methods are the primary mechanisms for implementing such controls.

New development projects must design and construct stormwater treatment systems that capture a percentage of the flow rate or volume from a specified storm event based on the sizing criteria described in the C.3 provisions of the MRP. The treatment systems use LID measures that include rainwater harvesting, infiltration, evapotranspiration, and biotreatment/bioretention.

In order to comply with Provision C.3 of the MRP, the project applicant would be required to submit a Stormwater Management Plan (SWMP) with building plans, to be reviewed and approved by the City of San Carlos' Public Works Department. The SWMP must be prepared under the direction of and certified by a licensed and qualified professional, which includes civil engineers, architects, or landscape architects. A Preliminary SWMP has been prepared by BKF with the latest revision dated January 2022.

San Mateo Countywide Water Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is a partnership of the City/County Association of Governments (C/CAG), 20 incorporated cities within the county, and the County of San Mateo, which share a common NPDES permit. This partnership also relies on each of the municipalities to implement local stormwater pollution prevention and control activities for its own local storm drain systems. The SMCWPPP's Stormwater Resource Plan (SRP) outlines priorities, key elements, strategies, and evaluation methods to implement the SMCWPPP. The comprehensive program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The SRP also includes a public education effort, target pollutant reduction strategies, and watershed assessment and monitoring. The SRP, in conjunction with the NPDES permit adopted by the Water Board, is designed to enable SMCWPPP to meet the requirements of the CWA.

Post-construction stormwater quality requirements pursuant to the SMCWPPP are described in the C.3 Regulated Projects Guide (Version 1.0) issued in February 2020.[2] The C.3 Regulated Projects Guide includes instructions for implementing site design measures, source controls, stormwater treatment measures, construction site controls, and LID measures.

San Mateo County Stormwater Resources Plan

The San Mateo County Stormwater Resource Plan (SRP) is a comprehensive document that addresses specific stormwater runoff issues in the county with a watershed-based approach. The main goals of the SRP are to identify and prioritize opportunities to better use stormwater as a resource in San Mateo County through a detailed analysis of watershed processes, surface and groundwater resources, input from stakeholders and the public, and analysis of multiple benefits that can be achieved through strategically planned stormwater management projects. These projects aim to capture and manage stormwater more sustainably, reduce flooding and pollution associated with runoff, improve biological functioning of plants, soils, and other natural infrastructure, and provide many community benefits, including cleaner air and water and enhanced aesthetic value of local streets and neighborhoods. Senate Bill 985 (Pavley, 2014) requires SRPs to be developed to be eligible for funding from future State bond measures for stormwater and dry weather capture projects.[3]

San Francisco Bay RWQCB Basin Plan

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document and was last updated in May 2017.[4] The Basin Plan gives direction on the beneficial uses of the state waters within Region 2, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan.

Local Regulations

City of San Carlos Municipal Code

The following chapters of the SCMC contain provisions pertaining to hydrology and water quality issues:

- Chapter 12.08, *Grading and Excavation*. A grading permit must be submitted and approved by the City prior to the start of construction activities and must include an interim and final Erosion and Sediment Control Plan. In addition, no grading shall be conducted in such a manner as to alter the established gradient of natural drainage channels in a manner to cause excessive erosion or flooding.

[2] San Mateo Countywide Water Pollution Prevention Program, 2020, C.3 Regulated Projects Guide, https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res_021220_0.pdf, accessed October 7, 2021.

[3] City/County Association of Governments of San Mateo, 2020, San Mateo Storm Water Resources Plan, https://ccag.ca.gov/srp/, accessed June 23, 2021.

[4] State Water Resources Control Board, 2018, *Basin Planning*, https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html, accessed March 4, 2022.

- Chapter 13.14, *Stormwater Management and Discharge Control*. The discharge of non-stormwater discharges to the City storm drain system is prohibited. All projects that will or may result in pollutants entering the City storm drain system must comply with Section 13.14.110 to reduce such pollutants, including standards for parking lots and similar structures, and BMPs for new development and redevelopment projects. In addition, this chapter provides for watercourse protection (Section 13.14.120) to ensure that all watercourses are kept and maintained reasonably free from pollutants and flow restrictions and for the maintenance of healthy bank vegetation.
- Chapter 17.16.270, *Storm Drainage Facilities*. For any subdivision, the subdivider shall dedicate rights-of-way for storm drainage purposes that conform to the boundary lines of any natural watercourse, channel, stream, or creek that traverses the subdivision.
- Chapter 18.18.080, *Water Efficient Landscaping*. This chapter establishes water-efficient landscape and irrigation guidelines to promote the conservation and efficient use of water and minimize runoff with the use of automatic control systems.
- Chapter 18.12, *Hillside (H) Overlay District*. The purpose of this chapter is to protect the health, safety, and welfare of residents of the city by establishing regulations for managing the development of hillside areas. The chapter includes measures to minimize hazards due to soil erosion associated with development on hillsides.

City of San Carlos General Plan

Policies of the San Carlos General Plan relevant to hydrology, water quality, and flood hazards are listed in Table 4.9-1, *City of San Carlos 2030 General Plan Policies Relevant to Hydrology and Water Quality.*

TABLE 4.9-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO HYDROLOGY AND WATER QUALITY

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element (Hydrology and Water Quality)	
Policy EM-5.1	Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).
Policy EM-5.3	Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.
Policy EM-5.4	Encourage the use of drought-tolerant plants and efficient watering techniques for all City landscaping.
Policy EM-5.7	Encourage site designs that manage the quantity and quality of storm water runoff.
Policy EM-5.10	Require the evaluation of potential groundwater depletion that could occur from new development through dewatering.
Chapter 8, Community Safety and Services (CSS) Element (Flood Hazards)	
Policy CSS-2.1	Improve and maintain City storm drainage infrastructure in a manner that reduces flood hazards.
Policy CSS-2.2	Maintain a healthy riparian corridor in City-maintained flood control channels to reduce the risk of flooding due to erosion, siltation, blockage and heavy undergrowth.
Policy CSS-2.3	Maintain a strong and enforceable Stream Development and Maintenance Ordinance for all city creeks and their tributaries.
Policy CSS-2.4	Minimize impervious surfaces to reduce stormwater runoff and increase flood protection.

TABLE 4.9-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO HYDROLOGY AND WATER QUALITY

Policy Number	Policy Text
Policy CSS-2.5	Evaluate flood hazards on a watershed level, taking into account all sources of water and the eventual end point of each source.
Policy CSS-2.9	Continue to work with appropriate local, State and federal agencies (particularly FEMA) to maintain the most current flood hazard and flood-plain information and use it as a basis for project review and to guide development in accordance with federal, State and local standards.
Policy CSS-2.12	Incorporate stormwater drainage systems in development projects to effectively control the rate and amount of runoff, so as to prevent increases in downstream flooding potential.
Policy CSS-2.13	Continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that its regulations are in full compliance with standards adopted by the Federal Emergency Management Agency.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

4.9.1.2 EXISTING CONDITIONS

Regional Hydrology

Climate

The climate in San Carlos is characterized as a cold-summer Mediterranean climate, with warm, dry summers and cool, moist winters. The average rainfall in San Carlos is 27 inches per year and almost all precipitation falls between the months of October and April. Temperatures in San Carlos range from an average high of 80 degrees Fahrenheit (˚F) in July and August to an average low of 39˚F in December and January.[5] The temperatures in San Carlos are moderate compared to inland locations due to the mitigating impact of the Pacific Ocean and San Francisco Bay.

Watersheds

The City of San Carlos is within the San Francisco Bay Watershed that covers 4,600 square miles, of which, the Bay encompasses 1,600 square miles.[6] It spans lowlands and Bay-facing slopes of hills and mountains surrounding San Francisco Bay and is home to the largest estuary in North and South America. The San Francisco Bay Watershed is further divided into smaller subwatersheds. The project site and most of San Carlos is within the Cordilleras Creek Watershed.[7] The Cordilleras Creek Watershed originates in the Pulgas Ridge Open Space Preserve but is dominated by urban development in San Carlos and neighboring communities. There are several unlined creeks that are the main drainageways through San Carlos emptying into San Francisco Bay, including Pulgas Creek, Brittan Creek, Belmont Creek, and Cordilleras

[5] Climate in San Carlos, California, 2021, https://www.bestplaces.net/climate/city/california/san_carlos accessed October 15, 2021.

[6] United States Environmental Protection Agency, 2021, San Francisco Bay Watershed, https://www.epa.gov/sfbay-delta/about-watershed#sfb, accessed October 16, 2021.

[7] First Carbon Solutions, 2021, Jurisdictional Delineation, 808 Alameda de las Pulgas, City of San Carlos, San Mateo County, California.

Creeks.[8] According to the City's Storm Drain Master Plan, the City is further divided into five subwatersheds and the project site is within the Brittan Creek Watershed.[9]

Project Site Hydrology

The project site is on the northeast slope of Pulgas Ridge, which rises about 600 feet above the surrounding terrain.[10] The project site consists of hilly terrain that generally slopes downward to the east.

Drainage from the site and surrounding tributary areas typically flows to the east and into the drainage system at Alameda de las Pulgas (see Figure 4.9-1, *Existing Drainage Conditions*).[11] The total drainage from the project site and the undeveloped tributary areas consists of 27.2 acres. The drainage area extends from the southern ridgeline of Vista Del Grande, east of the private driveway off Coronado Avenue, north of the back of the residential lots along Glasgow Lane and Bauer Drive, and north of the high point of Alameda de las Pulgas. Runoff sheet flows flow from the undeveloped tributary areas to Alameda de las Pulgas where they are collected by one of four catch basins on the west side of the street. Some of the runoff from the tributary areas flows onto the project site, where it is collected by seven catch basins and an 18-inch storm drain, which also discharges into the storm drain system along the western side of Alameda de las Pulgas.

The City's 18-inch storm drain then runs northeast to Rutherdale Avenue, southeast on Rutherdale Avenue beneath Brittan Acres Elementary School to Belle Avenue. The piped system then runs northeast on Belle Avenue, southeast on Cordilleras, and northeast on Brittan Avenue. It then discharges into a 5-foot by 12-foot box culvert beneath El Camino Real followed by an open ditch, then a double 6- by 12-foot box culvert under the train tracks, and then an open ditch before entering four 5- by 12-foot box culverts under Old County Road and discharging into Lower Pulgas Creek and eventually into Smith Slough.[12]

The eastern portion of the site was formerly occupied by the Black Mountain Spring Water Company, which used an on-site artesian spring as a source for bottled water from the 1930s to approximately 1990. A tunnel was constructed to reach the source of the spring water within the hillside and underlying rock mass and to act as a water-storage reservoir.[13] The entrance to the tunnel is approximately 4 feet wide by 5.5 feet high and consists of a brick masonry arch opening with a locked steel door. Standing water is present in the tunnel at a depth of about 2.5 feet. Three PVC pipes extend from the bottom of the tunnel opening with water flowing at a rate of about 5 gallons per minute (gpm) that discharges into a storm drain drop inlet and connects to the City's storm drain system beneath Alameda de las Pulgas.[14]

[8] City of San Carlos, 2009, San Carlos 2030 General Plan, http://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed October 7, 2021.

[9] City of San Carlos, 2017, City of San Carlos Citywide Storm Drain System Master Plan.

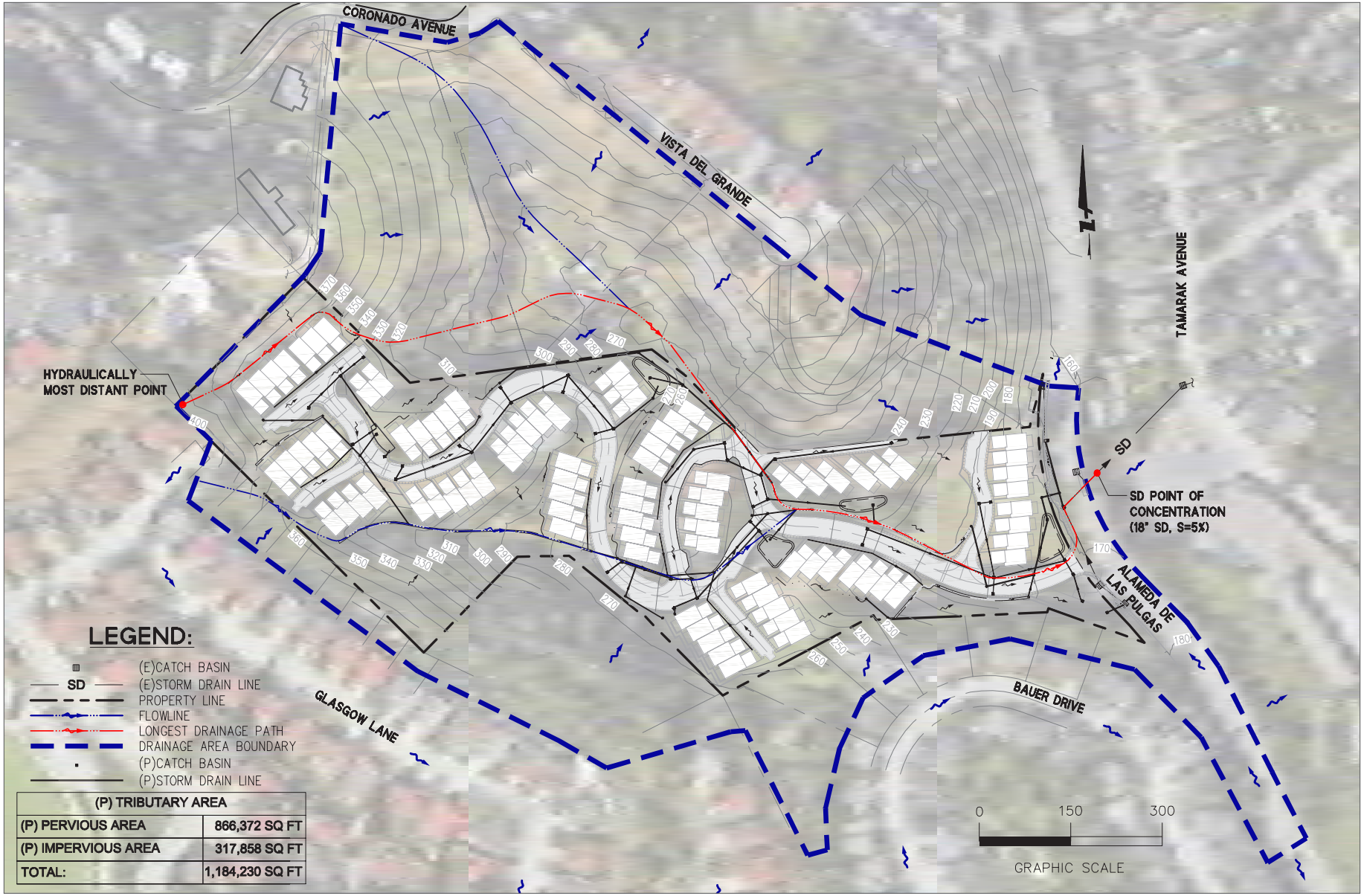
[10] Cornerstone Earth Group, 2017, Geotechnical and Geologic Feasibility Review.

[11] BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas*.

[12] City of San Carlos, 2015, Storm Infrastructure Maps.

[13] Condor Earth Technologies, Inc., 2016, Black Mountain Spring Tunnel Preliminary Evaluation.

[14] WSP/Parsons Brinckerhoff, 2016, Black Mountain Spring Investigation and Site Inspection Summary.



Source: BKF Engineers, 2022.

0 300
Scale (Feet)

Figure 4.9-1
Existing Drainage Conditions

The 90-foot entry tunnel is lined with shotcrete and is in relatively good condition. Condor Earth Technologies believes that this section of tunnel could remain during site development.[15] At 90 feet, the tunnel bifurcates into two branches. These back "reservoir" portions of the tunnel are not likely to remain stable without support and Condor recommends that they be backfilled with cellular concrete prior to site development.[16] There also is about 5 feet of standing water in the reservoir tunnel impounded behind a concrete dam. It is recommended that the existing dam be removed. Once the exact source of the spring water is located, an approach for collecting and discharging the spring water will be developed, most likely by placing a 4- to 6-inch PVC pipe at the tunnel invert to collect the water. The spring water may be used for future landscape irrigation.[17] Detailed specifications for the tunnel work will be provided to the City prior to the issuance of grading permits.

The existing 10-year storm flow for the project site and tributary areas is approximately 16.76 cubic feet per second (cfs).[18] The existing 18-inch storm drain system beneath Alameda de las Pulgas has an approximate capacity of 23.49 cfs. Therefore, the 10-year storm flow under existing conditions is contained within the storm drain system.

Water Quality

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, and the amount and frequency of rainfall and irrigation practices. Runoff in residential areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the "first flush," when early rainfall flushes out pollutants that have accumulated on hardscape surfaces during the preceding dry months.

The runoff from the proposed development flow through the City's storm drain system and eventually discharges into Pulgas Creek, Smith Slough, Steinberger Sloughs, and then into Lower San Francisco Bay. The beneficial uses of these surface water bodies and groundwater have been designated in the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan), as listed in Table 4.9-2, *Designated Beneficial Uses of Water Bodies in the Project Area*.[19]

[15] Condor Earth Technologies, Inc., 2016, Black Mountain Spring Tunnel Preliminary Evaluation.

[16] Condor Earth Technologies, Inc., 2018, Spring Tunnel Mitigation Plan, Black Mountain Property.

[17] Condor Earth Technologies, Inc., 2018, Spring Tunnel Mitigation Plan, Black Mountain Property.

[18] BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas*.

[19] San Francisco Bay Area Regional Water Quality Control Board,. *Water Quality Control Plan for San Francisco Bay Area*, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/tab/tab_2-01.pdf, accessed March 4, 2022.

TABLE 4.9-2 DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE PROJECT AREA

Water Body	Designated Beneficial Use
Surface Water	
Pulgas Creek	WARM, WILD, REC-1, REC-2
Smith Slough	EST, RARE, WILD, REC-1, REC-2
Steinberger Slough	EST, RARE, WILD, REC-1, REC-2
Lower San Francisco Bay	IND, COMM, SHELL, EST, MIGR, RARE, SPWN, WILD, REC-1, REC-2, NAV
Groundwater	
San Mateo Plan, Santa Clara Valley	MUN, PRO, IND, AGR (potential)

Notes: Municipal and Domestic Water Supply (MUN), Agricultural Supply (AGR), Industrial Process Water Supply (PRO), Industrial Service Water Supply (IND) Commercial and Sport Fishing (COMM), Shellfish Harvesting (SHELL), Estuarine Habitat (EST), Fish Migration (MIGR), Preservation of Rare and Endangered Species (RARE), Fish Spawning (SPWN), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC-1), Noncontact Water Recreation (REC-2), Navigation (NAV).
Source: San Francisco Bay RWQCB, 2017, *Water Quality Control Plan (Basin Plan).*

In addition to the establishment of beneficial uses and water quality objectives, another approach to improve water quality is a watershed-based methodology that focuses on all potential pollution sources and not just those associated with point sources. If a body of water does not meet established water quality standards under traditional point source controls, then it is listed as an impaired water body under Section 303(d) of the CWA. For Section 303(d) listed water bodies, a limit is established, which defines the maximum amount of pollutants that can be received by that water body. No water bodies in the City of San Carlos are listed on the CWA Section 303(d) List of Water Quality Limited Segments. [20]

However, runoff from the project site ultimately drains into Lower Pulgas Creek and then into Smith and Steinberger Sloughs, which eventually discharges to Lower San Francisco Bay. Lower San Francisco Bay is listed on the Section 303(d) List of Water Quality Limited Segments for chlordane, DDT, dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and trash.[21] Chlordane, DDT, and Dieldrin are organochlorine insecticides.

Groundwater

Most of the City of San Carlos is within the San Mateo Plain Subbasin of the Santa Clara Valley Groundwater Basin.[22] However, the project site is within the portion of the city that does not overlie a groundwater basin. The California Water Service (Cal Water) Mid-Peninsula District supplies the City of San Carlos with water purchased from the San Francisco Public Utilities Commission (SFPUC). The SFPUC's

[20] State Water Resources Control Board, 2018 Integrated Report Map https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report/2018IR_map.html, accessed October 8, 2021.

[21] State Water Resources Control Board, 2018 Integrated Report Map https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report/2018IR_map.html, accessed October 8, 2021.

[22] San Mateo County, 2019, *San Mateo County GIS open data: San Mateo Plain Subbasin*. https://data-smcmaps.opendata.arcgis.com/datasets/san-mateo-plain-subbasin?geometry=-122.296%2C37.491%2C-122.242%2C37.503, accessed October 8, 2021.

water supplies consist of surface water imported from the Sierra Nevada via the Hetch Hetchy Project and local surface water from the San Francisco Bay Region.[23] Groundwater is not used for municipal water supply in the city.[24]

It is unlikely that shallow groundwater will be present during excavation or grading activities. Eight soil borings advanced to depths of 30 feet below ground surface (bgs) at the site did not encounter groundwater in any of the borings.[25] Therefore, it is not anticipated that construction dewatering will be required at the site.[26] The current discharge rate from the spring is 5 gallons per minute (gpm) or about 0.011 cubic feet per second (cfs).

Flood Hazards

100-Year Flood Zone

FEMA determines floodplain zones to assist cities in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction within a 100-year floodplain. The 100-year floodplain is defined as an area that has a 1-percent chance of being inundated during a 12-month period. According to FEMA Flood Insurance Rate Map (FIRM) No. 06081C0282E dated October 16, 2012, the project site is not in a 100-year flood zone.[27]

Dam Inundation Areas

Dam inundation areas are areas where flooding could occur due to failure from an upstream dam. There are no dam inundation zones within the City of San Carlos and therefore, the project site is not within a dam inundation zone.[28]

Tsunami and Seiches

A tsunami is a series of traveling ocean waves generated by a rare, catastrophic event, including earthquakes, submarine landslides, and submarine or shoreline volcanic eruptions. The project site is not in a tsunami inundation area. The nearest inundation area is about 1.4 miles to the northeast beyond Highway 101, near the Smith Slough.[29]

[23] California Water Service, 2021, *2020 Urban Water Management Plan: Mid-Peninsula District*. https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed October 8, 2021.

[24] California Water Service, 2021, *2020 Urban Water Management Plan: Mid-Peninsula District*. https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed October 8, 2021.

[25] Cornerstone Earth Group, 2016, Magnetometer Survey, Test Pit Exploration, and Soil Quality.

[26] Cornerstone Earth Group, 2016, Geotechnical and Geologic Feasibility Review.

[27] Federal Emergency Management Agency, 2021, *FEMA Flood Map Service Center: Search by Address*. https://msc.fema.gov/portal/home, accessed October 8, 2021.

[28] City of San Carlos, 2009, *San Carlos 2030 General Plan*, http://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed October 8, 2021.

[29] California Department of Conservation, 2015, *CGS Information Warehouse: Tsunami*. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps, accessed October 8, 2021.

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water, such as bays, harbors, reservoirs, ponds, and swimming pools can experience seiche waves up to several feet in height during a strong earthquake. There are no inland water bodies near the site that would pose a flood hazard due to a seiche.

4.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    i. Result in substantial erosion or siltation on- or off-site;
    ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    iv. Impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
6. In combination with past, present, and reasonably foreseeable projects, result in cumulative hydrology and water quality impacts in the area.

4.9.3 IMPACT DISCUSSION

HYD-1 The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Construction

Clearing, grading, excavation, and construction activities associated with the proposed project have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried

in runoff. Additionally, the use of construction materials, such as fuels, solvents, and paints may present a risk to surface water quality. Finally, the refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

To minimize these potential impacts, development of the proposed project would require compliance with the Construction General Permit Water Quality Order 2009-0009-DWQ (as amended by Order No. 2010-0014-DWQ and 2012-006-DWQ), because the project would disturb one or more acres of land during construction. This requires the preparation and implementation of a SWPPP and the incorporation of BMPs to control sediment, erosion, and hazardous materials contamination of runoff during construction and prevent contaminants from reaching receiving water bodies. The General Construction Permit (GCP) also requires that, prior to the start of construction activities, the project applicant file PRDs with the SWRCB, which includes a Notice of Intent, risk assessment, site map, annual fee, signed certification statement, SWPPP, and post-construction management standards. The construction contractor is always required to maintain a copy of the SWPPP at the site and implement all construction BMPs identified in the SWPPP during construction activities. Prior to the issuance of a grading permit, the project applicant is required to provide proof of filing of the PRDs with the SWRCB, which include preparation of SWPPP.

In addition, the City of San Carlos requires that an erosion and sediment control plan be submitted prior to grading plan approval and the issuance of a grading permit. Implementation of the erosion control plan would address any potential erosion issues associated with the proposed grading and site preparation activities. Also, the Hillside Overlay District requirements in Chapter 18.12 of the City's Municipal Code set forth erosion-control measures to be adopted on steep slopes.

During a geotechnical evaluation, no groundwater was encountered in any borings on the project site with depths ranging from 8 to 18 feet below ground level.[30] (See Appendix H, *Geotechnical and Geologic Study*.) However, groundwater seepage may occur in the area near the artesian spring. Therefore, the geotechnical report recommends that a subdrain system plan be prepared once the grading plan has been finalized. The location of the subdrains, consisting of perforated pipe and permeable gravel or drain rock, would be determined during the design-level geotechnical investigation. Under Mitigation Measure GEO-1 in Chapter 4.6, *Geology and Soils*, the proposed project would follow the recommendations in the project geotechnical report and it is expected that the flow from the spring would be nominal.

The tunnel associated with the artesian spring would be permanently abandoned while maintaining discharge of the existing spring to the ground surface. The tunnel would be structurally backfilled, and the existing portal would be excavated during mass grading work.[31] A discharge pipe would be installed and any collected runoff would either be used for future landscape irrigation or directed into the storm drain system.

[30] Cornerstone Earth Group, 2017, Geotechnical and Geological Feasibility Review for 800, 804, 806 Alameda de las Pulgas Site.

[31] Condor Earth, 2018, Spring Tunnel Mitigation Plan.

Submittal of the PRDs and implementation of the SWPPP throughout the construction phase of development would address anticipated and expected pollutants of concern from construction activities. Furthermore, this project would abide by the requirements of the SCMC Chapter 13.14, which specifies that any construction contractor performing work in the City must provide filter materials at the catch basins to prevent any debris or dirt from entering the City's storm drain system. The City also requires an Erosion and Sediment Control Plan to be prepared for review and approval by the City prior to the initiation of grading activities. As a result of compliance with these existing requirements and procedures, water quality impacts associated with construction activities would be *less than significant*.

Operation

Once the proposed project has been constructed, urban runoff could include a variety of contaminants that could impact water quality. Runoff from buildings and parking lots typically contain oils, grease, fuel, antifreeze, and byproducts of combustion (such as lead, cadmium, nickel, and other metals), as well as fertilizers, herbicides, pesticides, and other pollutants. Precipitation at the beginning of the rainy season may result in an initial stormwater runoff (first flush) with high pollutant concentrations.

According to the San Francisco Bay RWQCB MS4 permit, the proposed project would be classified as a Priority Development Project because it would create more than 10,000 square feet of impervious surfaces. Therefore, a preliminary SWMP and a final SWMP would be required for the proposed project under the MS4 permit. A preliminary SWMP has been prepared by BKF (see Appendix J, *Hydrology and Water Quality*) and a final SWMP would be submitted to the City prior to the start of construction.

The preliminary SWMP for the proposed project includes the following site design and source-control measures:

- Development areas and units would be clustered to minimize the amount of land disturbed.
- All landscape areas would be self-treating and runoff would be diverted to Alameda de las Pulgas via swales and drainage ditches.
- Final landscape plans would require the preservation of existing native trees, shrubs, and ground cover to the maximum extent possible.
- Landscaping would be designed with an efficient irrigation system to minimize runoff, promote surface infiltration where appropriate, and minimize the use of fertilizers and pesticides.
- Where landscape areas would be used to retain or detain stormwater, plants would be specified that are tolerant of saturated conditions.
- Plants and trees would be selected that are appropriate for site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, disease tolerance, drought tolerance, and attractiveness to beneficial insects.
- All buildings would incorporate flow-through planters.
- On-site storm drain inlets would be clearly marked with the words "No Dumping! Flows to Bay."
- Refuse would be disposed of in designated collection areas with adequate numbers of refuse and recycling receptacles and signs with the words "Do not dump hazardous materials here."

The proposed project would incorporate four bioretention areas to treat and detain the runoff from the proposed impervious surfaces. Runoff from each building would be directed to flow-through planters. All site landscape areas would be self-treating with any runoff diverted to Alameda de las Pulgas using swales and rock-lined drainage channels. All buildings would incorporate a green roof and/or flow-through planters. However, to be conservative, these features were not included in the preliminary stormwater detention and treatment calculations.

The preliminary SWMP prepared for the proposed project divides the project site into six drainage management areas (DMAs) as shown in Figure 4.9-2, *Stormwater Control Plan.* Table 4.9-3, *Treatment Area*, shows the site design BMP chosen for each DMA, the contributing impervious area within each DMA, the required LID treatment area, and the provided LID treatment area.

TABLE 4.9-3 TREATMENT AREA

DMA Number	Type of BMP	Contributing Impervious Area (Square Feet)	Required LID Area (Square Feet)	Provided LID Area (Square Feet)
1	Flow-Through Planter	18,250	744	755
2	Bioretention Area	34,097	1,372	1,412
3	Bioretention Area	35,731	1,483	1,486
4	Bioretention Area	25,034	1,035	1,040
5	Bioretention Area	41,098	1,662	1,688
6	Self-Treating Areas	0	--	--
Units	Flow-Through Planters	120,403	4,816	5,025
	Total	274,613	6,179	11,406

Source: BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas, San Carlos, CA*.

DMAs 1 through 5 consist of streets, asphalt paving, and sidewalks. Runoff from these areas will be collected via catch basins and piped to the bioretention areas or flow-through planter (DMA-1) for treatment. Once treated, the stormwater will be routed through the internal storm drain system and diverted to the existing storm drain in Alameda de las Pulgas.

DMA 6 consists of several landscape areas and is designated as self-treating. Runoff from the landscape areas will be routed directly to the storm drain system via swales and rock lined channels. The collected stormwater will then be routed to the existing 18-inch storm drain in Alameda de las Pulgas.

The proposed project would also include flow-through planters at each building unit that would collect and treat runoff from the roofs. The treated stormwater would then be discharged to the internal storm drain network with eventual discharge to the City storm drain in Alameda de las Pulgas. As shown in Table 4.9-3, these stormwater treatment measures would provide sufficient bioretention and the water quality of the collected runoff would also be enhanced prior to discharge into the City's storm drain system.[32]

[32] BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas*.

Source: BKF Engineers, 2022.

0 200
Scale (Feet)

Figure 4.9-2
Stormwater Control Plan

It is the responsibility of the property owner to install and then maintain the post-construction BMPs in accordance with the SWMP. For the bioretention areas, semiannual inspection of plants and removal of sediment and debris would be performed. Plants would be irrigated during dry weather and replanted if necessary. If ponded water is observed 72 hours after a rainfall event, soil would be added to raise local low points. Furthermore, the Owner's Certification establishes that the operation and maintenance of the post-construction source-control BMPs would be the sole responsibility of the site owner. [33]

In addition, the project is subject to the City of San Carlos drainage policy that post-development peak flow runoff and velocity must be less than or equal to pre-development peak flow rates and velocities.[34] The project is also subject to the hydromodification management (HM) requirements listed in the C.3 provisions of the MS4 permit. The HM requirements specify that if the project creates and/or replaces one acre or more of impervious surface, is located in a susceptible area as designated by the HM Control Area Map, and increases impervious surfaces as compared to pre-project conditions, then flow duration controls must be implemented so that the post-project stormwater discharge rates and durations match the pre-project rates and durations from 10 percent of the pre-project two-year peak flow up to the pre-project 10-year flow.[35] The preliminary SWMP provides modeling that shows the project meets this requirement, as discussed in further detail in impact discussion HYD-3.

Operational water quality impacts would be less than significant with implementation and maintenance of the BMPs, bioretention areas, and flow-through planters described previously. Also, the proposed project would comply with all State and local regulations regarding stormwater runoff during construction and operational phases of the proposed project. Therefore, water quality standards and waste discharge requirements will not be exceeded, and surface water and groundwater quality will not be degraded. Therefore, impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

HYD-2 The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

The project site is located within Cal Water's service area and is managed by the Cal Water Mid-Peninsula District.[36] Groundwater is not used for municipal water supply. The proposed project would connect to the existing water main beneath Alameda de las Pulgas and direct additions or withdrawals of groundwater are not proposed by the project. Due to the depth of groundwater beneath the site, it is not anticipated that any construction dewatering would be required. The project site is also not in a designated groundwater basin and the proposed project would not affect designated recharge areas.

[33] BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas*.

[34] City of San Carlos, 2014, Part 1, Design Guidelines.

[35] San Mateo Countywide Water Pollution Prevention Program, 2016, Hydromodification Management Requirements: Information for Developers, Builders and Project Applicants.

[36] City of San Carlos, 2009, *San Carlos 2030 General Plan EIR*, Utilities and Infrastructure, page 4.13-4.

As previously mentioned, the project site includes an artesian spring in the eastern portion of the site. To mitigate groundwater seepage occurrences, the geotechnical and geologic feasibility evaluation recommends the installation of a subdrain system, as needed. The subdrain system would consist of perforated pipes and permeable gravel or drain rock and the layout of the subdrains would be determined during the design-level geological and geotechnical evaluation. However, this system would not substantially interfere with groundwater recharge.

In summary, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin and this impact is *less than significant*.

Significance without Mitigation: Less than significant.

HYD-3	**The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows.**

Erosion and Siltation

The project would involve site improvements that require grading, excavation, and soil exposure during construction, with the potential for erosion or siltation to occur. If not controlled, the transport of these materials to local waterways could temporarily increase suspended sediment concentrations and release pollutants attached to sediment particles. To minimize this impact, the project would be required to comply with the requirements in the State's General Construction Permit, including preparation of a Notice of Intent and SWPPP prior to the start of construction activities (see impact discussion HYD-1). The SWPPP would describe the BMPs to be implemented during the project's construction activities. The implementation of the BMPs during the construction phase would include the following measures to minimize erosion and siltation:

- Minimize disturbed areas of the site
- Install on-site sediment basins to prevent off-site migration of erodible materials
- Implement dust control measures, such as silt fences and regular watering of open areas
- Stabilize construction entrances/exits
- Install storm drain inlet protection measures
- Install sediment control measures around the site, including silt fences or gravel bag barriers.

In addition, the City requires preparation of an erosion and sediment control plan and implementation of BMPs to control erosion, debris, and construction-related pollutants. This would further reduce the potential for erosion and siltation during the construction phase.

For the operational phase, the San Francisco Bay RWQCB MS4 permit mandates the preparation of a preliminary SWMP and a final SWMP, which also contains source-control and stormwater treatment measures to minimize the potential for erosion and siltation to occur.

Collectively, implementation of the BMPs outlined in the SWPPP, the erosion and sediment control plan, and the SWMP would address the anticipated and expected erosion and siltation impacts during the construction and operational phases of the proposed project. Therefore, the proposed project would not result in substantial erosion or siltation on- or off-site and the impact would be *less than significant*.

Surface Runoff and Capacity of the Storm Drain System

The project site does not contain any streams or rivers, as determined by the Jurisdictional Delineation Report (see Appendix F, *Wetland Delineation*).[37] Project development would involve the construction of an internal network of storm drains, catch basins, and drainage swales in six drainage areas with four on-site bioretention areas and one flow-through planter area to temporarily retain, treat, and ultimately convey on-site flows (see Figure 4.9-2, *Stormwater Control Plan*). In addition, each building unit will have a flow-through planter for treatment and retention prior to discharge to the storm drain system. Runoff from these areas would be diverted to the City's storm drain system in Alameda de las Pulgas along with any runoff from the self-treating landscaped areas. Runoff from the off-site tributary areas that does not enter the project site will continue to flow into catch basins along Alameda de las Pulgas, which is the same as under existing conditions. Off-site runoff that enters the project site will be diverted to on-site swales and drainage channels before discharge into the storm drain system in Alameda de las Pulgas.

As per the City's storm drainage policy, pre- and post-development peak flow rates and velocities were estimated to determine if the City's 18-inch storm drain would have the capacity to convey the runoff from a 10-year storm event. The calculations are provided in the preliminary SWMP (Appendix J, *Hydrology and Water Quality*). Peak flow rates were calculated using the rational method and the methodology provided in the City's 2014 Design Guidelines. The results are provided in Table 4.9-4, *Pre- and Post-Development Peak Flow Rates and Velocities*.

TABLE 4.9-4 PRE- AND POST-DEVELOPMENT PEAK FLOW RATES AND VELOCITIES

	Peak Discharge (cfs)	Peak Velocity (ft/sec)
Pre-Development	16.56	14.16
Post-Development	21.92	15.10
City's 18-Inch Storm Drain Capacity	23.49	--

Source: BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas, San Carlos, CA*.

The results indicate that the post-development peak flow rates (without bioretention) increased by 5.36 cfs and the peak velocity increased by 0.94 cfs. However, the LID treatment measures are designed to mitigate peak flows and velocities so that the post-development flow rates and velocities do not exceed the rates and velocities under existing conditions.

[37] First Carbon Solutions, 2021, Jurisdictional Delineation, 808 Alameda de las Pulgas, City of San Carlos, San Mateo County, California.

The hydromodification requirements of the MS4 permit specify that flow duration controls must be implemented so that the post-project stormwater discharge rates and durations match the pre-project rates and durations. To ensure compliance with this requirement, the Bay Area Hydrology Model software was used to design outlet orifices for the LID treatment measures. Off-site areas that contribute runoff onto the project site were also included in the model. The model results are summarized in Table 4.9-5, *Bay Area Hydrology Model Results*, and the calculations are provided in the preliminary SWMP.

TABLE 4.9-5 BAY AREA HYDROLOGY MODEL RESULTS

Design Storm Period	Pre-Development Peak Discharge (cfs)	Mitigated Post-Development Peak Discharge (cfs)
2-year	3.35	2.48
5-year	6.48	4.93
10-year	8.51	6.41
25-year	15.18	11.42

Source: BKF, 2022, *Preliminary Stormwater Management Plan for 808 Alameda de las Pulgas, San Carlos, CA*.

As shown in Table 4.9-5, post-development peak flow rates are less than pre-development peak flow rates for storm events ranging from 2 to 25 years. These results show that the LID treatment measures at the site will provide mitigation and meet the requirements of both the City's storm drain design guidelines and the County of San Mateo's hydromodification requirements. Therefore, the proposed project would not exceed the capacity of the City's storm drain system and would not create runoff that would cause on-site or off-site flooding. With the project's proposed LID features, impacts would be *less than significant*.

Flood Flows

According to FEMA FIRM No. 06081C0282E dated October 16, 2012, the project site is not in a 100-year flood zone. Additionally, the project site is not in a dam or tsunami inundation zone. Therefore, there would be *no impact* from this project in terms of impeding or redirecting flood flows.

Significance without Mitigation: Less than significant.

HYD-4 The proposed project would not risk the release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.

The project site is not within a 100-year floodplain, as per FEMA FIRM No. 06081C0282E dated October 16, 2012. The project site is also not located in a dam inundation zone as indicated in the City of San Carlos' 2030 General Plan.[38] Additionally, there are no water storage tanks or reservoirs near the project site that would result in a seiche during seismic activity. The project site is approximately 1.5 miles from the San Francisco Bay and therefore is not at risk of flooding due to tsunamis. Therefore, there would be *no impact* associated with the release of pollutants due to inundation at the project site.

Significance without Mitigation: No impact.

[38] City of San Carlos, 2009. *San Carlos 2030 General Plan*, http://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed October 8, 2021.

HYD-5 The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Adherence to the State GCP, implementation of the SWPPP, and adherence to the City's erosion control requirements, as described in impact discussion HYD-1, would ensure that water quality is not adversely impacted during construction. In addition, implementation of the BMP measures at the site, including bioretention areas, self-treating landscaped areas, and flow-through planters, would ensure that water quality is not impacted during the operational phase of the project. As a result, site development would not obstruct or conflict with the implementation of the San Francisco Bay RWCQB Basin Plan.

Water for the proposed project would be supplied by Cal Water, which exclusively uses surface water sources. Therefore, project development would not obstruct the implementation of a sustainable groundwater management plan and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

HYD-6 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts regarding hydrology and water quality.

For the purposes of this analysis, the geographic context used for the cumulative assessment of hydrology and water quality impacts includes the areas within the City of San Carlos that discharge stormwater to Belmont Creek, Brittan Creek, Cordilleras Creek, and Pulgas Creek, which drains into the San Francisco Bay. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande development project adjacent and to the north of the project site.

Hydrology and Drainage

Cumulative projects within the San Francisco Bay Watershed could increase impervious areas and increase stormwater runoff rates. However, all projects within the watershed would be required to prepare and implement SWMPs that include provisions for the capture and infiltration of runoff or the temporary detention of stormwater runoff in accordance with the NPDES MS4 permit. These BMPs include site design, source control, and treatment control measures that provide both flow control and treatment to runoff before it enters the storm drain system or is discharged into a receiving water body. Any new development would also be subject, on a project-by-project basis, to the applicable level of independent CEQA review as well as City or County design guidelines and other applicable policies and procedures. Thus, no significant cumulative drainage impacts would occur, and cumulative project drainage impacts would be *less than significant*.

Water Quality

Cumulative development projects have the potential to generate pollutants during project construction and operation. All construction projects that disturb one acre or more of land, including the Vista Del

Grande development project, would be required to prepare and implement SWPPPs and obtain coverage under the Statewide GCP. All projects within the watershed would also be required to prepare and implement SWMPs specifying BMPs that would be applied during project design and project operation, including stormwater treatment measures that temporarily detain and treat runoff prior to discharge to the storm drain system or receiving water body. Thus, cumulative water quality impacts would be *less than significant*.

Significance without Mitigation: Less than significant

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4.10 LAND USE AND PLANNING

This chapter describes the regulatory framework and existing conditions in the project site related to land use and planning, and the potential impacts from implementation of the proposed project.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 REGULATORY FRAMEWORK

This section summarizes key regional and local regulations and policies pertaining to land use and planning that are applicable to the proposed project. There are no federal or State regulations applicable to the proposed project with regards to land use and planning.

State Regulations

California's Density Bonus Law (California Government Code Sections 65915 et seq.) encourages the development of affordable and senior housing, including up to a fifty percent increase in project densities, depending on the amount of affordable housing provided, and an eighty percent increase for projects which are completely affordable. The Density Bonus is a state mandate. A developer who meets the requirements of the state law is entitled to receive the density bonus. The amount of the density bonus is based upon the percentage of affordable units at each income level. In addition to the density bonus, the city or county is required to provide one or more "concessions" to projects that qualify for a density bonus. A concession is defined as a reduction in site development standards or a modification of zoning code or design requirements, approval or mixed-use zoning, or other regulatory concessions that result in identifiable and actual cost reductions.

Regional Regulations

The Association of Bay Area Governments (ABAG) is the regional planning agency and council of governments for the nine-county San Francisco Bay Area, which includes San Mateo County and San Mateo. The Metropolitan Transportation Commission (MTC) and ABAG's *Plan Bay Area 2050* is the Bay Area's Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). *Plan Bay Area 2050* was prepared by MTC in partnership with ABAG, the Bay Area Air Quality Management District, and the San Francisco Bay Conservation and Development Commission and adopted on October 21, 2021.[1] The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board. An overarching goal of *Plan Bay Area 2050* is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger

[1] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed February 11, 2022.

vehicle miles traveled and associated greenhouse gas emissions reductions. The project site is not located within a Priority Development Area or Transit Priority Area.[2]

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan provides the basis for the City's land use and development policies and represents the community's basic values, ideals, and aspirations. The General Plan establishes policies to guide development and conservation through 2030. The seven State-mandated General Plan elements (Land Use, Circulation, Conservation, Housing, Open Space, Noise, and Safety) were organized into seven elements under the City's General Plan as follows:

- Land Use
- Housing
- Circulation and Scenic Highways
- Environmental Management
- Parks and Recreation
- Community Safety and Services
- Noise

General Plan Policies

Key policies and strategies of the General Plan relevant to this chapter's analysis of the proposed project's potential land use impacts are included in Table 4.10-1, *City of San Carlos 2030 General Plan Land Use and Planning Policies Relevant to the Proposed Project.* The set of policies listed in Table 4.10-1 is not an exhaustive list of all of the General Plan policies applicable to the proposed project; rather, it is a selection of land use policies relevant to the impact discussion in this chapter.

TABLE 4.10-1 CITY OF SAN CARLOS 2030 GENERAL PLAN LAND USE AND PLANNING POLICIES RELEVANT TO THE PROPOSED PROJECT

Policy Number	Policy Text
Chapter 3, Land Use (LU) Element	
Policy LU-7.2	Actively encourage and promote a balanced development pattern that provides opportunities for community connections and social interaction.
Policy LU-8.2	Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.
Policy LU-8.3	Encourage design features and amenities in new development and redevelopment, including, but not limited to: a. Interconnected street layout. b. Clustering of buildings. c. Landscaping on each lot. d. Visual buffers.

[2] Metropolitan Transportation Commission GIS, 2020, Priority Development Areas (Plan Bay Area 2050), https://opendata.mtc.ca.gov/datasets/priority-development-areas-plan-bay-area-2050/explore?location=37.498313%2C-122.264890%2C16.11, accessed February 11, 2022.

TABLE 4.10-1 CITY OF SAN CARLOS 2030 GENERAL PLAN LAND USE AND PLANNING POLICIES RELEVANT TO THE PROPOSED PROJECT

Policy Number	Policy Text
	e. Facilitation of pedestrian activity. f. Distinctiveness and variety in architectural design.
Policy LU-8.7	Require new residential development to provide outdoor areas and landscaping or native vegetation, or tree canopy to enhance the surroundings.
Policy LU-8.18	Encourage "green building" practices in new development and redevelopment, such as those that make a building more energy efficient and reduces its effect on human health and the environment through better siting, design, construction, maintenance and operation.
Policy LU-8.19	Residential structures shall be designed to be compatible with existing structures in the vicinity, avoid obstructing views from adjacent structures or views of community importance, avoid interference with the right or ability to use solar energy and be consistent with the community design principles.
Policy LU-9.5	Require buffering, screening, setbacks, or other measures for new and expanded multi-family residential and/or commercial/industrial developments adjacent to single-family residential neighborhoods to minimize impacts and compatibility conflicts.
Policy LU-10.2	Require development in hillside areas to be designed into the natural features of the hillside including topography, trees, vegetation, landforms and drainage channels.
Policy LU-10.3	In hillside areas, encourage houses to be oriented to the natural topography of the site.
Policy LU-10.4	Design and locate roads, utilities and other infrastructure to reasonably minimize impacts on the hillside environment. Design should respect the natural topography, produce the least visual impact and require the least grading while remaining consistent with public health and safety standards.
Policy LU-10.5	Minimize grading and removal of earth material in hillside areas to the greatest extent possible.

Source: City of San Carlos, 2009. *2030 General Plan.*

General Plan Land Use Designations

The San Carlos 2030 General Plan designates the majority of the project site as Single-Family, a low-density residential land use that permits up to six dwelling units per acre (DUs/Ac). As shown in Figure 3-4, *General Plan Land Use*, in Chapter 3, *Project Description*, of this Draft Environmental Impact Report (EIR), the far western portion of the site is designated as Single-Family, Low-Density, which permits up to three DUs/Ac. This portion of the project site is the 3.9-acre parcel with Assessor's Parcel Number 049-360-060, shown in Figure 3-3, *Surrounding Setting*.

Environmental Management Element

The Environmental Management Element of the General Plan ensures that future development will respect the natural and scenic qualities of the City's open spaces.

San Carlos Municipal Code

Zoning Ordinance

RS-6 District

As shown in Figure 3-5, *Zoning*, in Chapter 3, *Project Description*, of this Draft EIR, the project site is zoned RS-6: Single Family on the City of San Carlos zoning map. According to the Chapter 18.04, *Residential*

Districts, of the Municipal Code, residential, public, and semi-public development is allowed in the RS-6 District, with density limited to six units per net acre. Specifically, residential development in the RS-6 District is permitted as single-unit dwellings, accessory dwelling units, and junior accessory dwellings units, and residential development is allowed with a Conditional-Use Permit as small-lot single-unit development, bungalow court development, duplexes, and townhouses. Multi-unit residential development is not permitted in the RS-6 District.

The RS-6 standards require a minimum lot width of 80 feet for townhouse development. The RS-6 District allows a maximum floor area ratio (FAR) of 1.0 and a maximum lot coverage of 35 percent of the lot for townhouse development. A minimum of 35 percent of the site shall be landscaped.

The maximum allowable building height is three stories, and the maximum building length is 150 feet.

The RS-6 District requires the following minimum setbacks for townhouses for the overall project lot:
- Front, first story: 15 feet
- Front, second story: 19 feet
- Interior side, first story: 5 feet
- Interior side, second story: 9 feet
- Street side, first story: 7.5 feet
- Street side, second story: 11.5 feet
- Rear: 15 feet

For individual townhouse lots, the RS-6 District requires the following setbacks:
- Front: 10 feet; 7 feet for porch
- Side, first story (for attached units, apply to end unit): 4 feet
- Side, second story (for attached units, apply to end unit): 8 feet
- Rear: 15 feet; 0 feet for detached garage on alley
- Building separation of detached units: 5 feet

Garages must be set back 20 feet from the property line and 5 feet from the primary façade of the structure, with exceptions in the Hillside Overlay Zone.

Section 18.04.040, *Supplemental regulations – RS districts*, of the San Carlos Municipal Code establishes additional regulations regarding the following:
- Design of building additions
- Building entrances
- Window trim or recess
- Architectural articulation
- Materials
- Garage frontage
- Paving
- Driveways
- Alley access
- Small lot subdivisions

Townhouse buildings must face the public street and a common courtyard, if provided. The main entrance to each ground-floor dwelling shall be visible and located directly off a common courtyard or street.

Each unit shall have a minimum of 300 square feet of private space, in addition to 200 square feet per unit of common open space that shall be provided.

Hillside Overlay District

The project site is within the City's Hillside (H) Overlay District. Per Chapter 18.12, *Hillside (H) Overlay District*, of the San Carlos Municipal Code, the H District applies to all lots and sites that have a footprint slope of 19.9 percent or greater. It is intended to protect residents by establishing regulations for managing the development of hillside areas. Goals of the H District are to minimize soil erosion, preserve scenic character, conserve open space and respect existing natural features. The H District includes the following set of development standards to achieve these goals:

- Section 18.12.030, *Hillside Subdivision Standards*. Each proposed lot shall provide at least one building site where all proposed structures are built in compliance with the City's Zoning Ordinance. New roads shall follow the natural terrain to the maximum extent feasible to minimize grading.
- Section 18.12.040, *Excavations and Grading*. Grading shall disturb the terrain and natural land to the minimum extent feasible. Existing trees and vegetation shall be retained where possible, to stabilize hillsides, reduce erosion, and preserve natural scenic beauty. Additional requirements apply to reduce impact and export, reduce disturbance of steep slopes, preserve existing landforms, avoid new slopes greater than 30 percent, and avoid sharp corners of cut and fill slopes. Exceptions may be approved by the Planning Commission subject to certain findings.
- Section 18.12.050, *Development Standards*. Structures shall be located in the most accessible, least visually prominent, most geologically stable portions of the site and shall be aligned with natural contours. Parking may be permitted as close as 5 feet from the street property line, at the discretion of the Director, to reduce grading. Section 18.12.050(C) of the Municipal Code provides a formula for calculating the amount of the site that must remain in its natural state; exceptions are granted for lots zoned PD or developed with cluster development. The Fire Department shall review the location and design of driveways. Requirements for retaining walls are also provided.
- Section 18.12.060, *Building Design Standards*. Building heights shall not exceed 35 feet, measured from the lowest elevation where the structure touches the finished grade to the highest point of the roof. For the building elevation facing downslope, the maximum height is 20 feet. There shall be sufficient articulation from that building face to the highest story to minimize the visual height and bulk of the building from the lowest finished grade. Exterior wall surfaces shall be articulated to create changing shadow lines and break up building forms. A mixture of building materials and colors shall be used to blend structures with the natural appearance of the hillside. Darker tones and earth tones shall be used for building walls and roofs on highly visible sites, and exterior finish materials shall be compatible with the hillside environment. In areas of high fire hazard, exterior building materials shall be fire retardant. Additional standards are provided for foundation design, underfloors, and decks.
- Section 18.12.070, *Landscaping*. Landscaping shall be provided for screening, slope stabilization and fire safety.

Conditional Use Permit

A Conditional Use Permit, as established in Chapter 18.30, *Use Permits*, of the San Carlos Municipal Code, is required for uses that are generally consistent with the purposes of the zoning district where they are proposed but require special consideration to ensure that they can be designed in a manner that will not interfere with the use and enjoyment of surrounding properties. Findings must be made for one or more of the following to conditionally approve a use permit application:

- The proposed use is allowed within the applicable zoning district and complies with all other applicable provisions of this title and all other titles of the municipal code;
- The proposed use is consistent with the General Plan and any applicable specific plan;
- The proposed use will not be adverse to the public health, safety, or general welfare of the community, nor detrimental to surrounding properties or improvements;
- The proposed use complies with any design or development standards applicable to the zoning district or the use in question unless waived or modified pursuant to the provisions of this title;
- The design, location, size, and operating characteristics of the proposed activity are compatible with the existing and reasonably foreseeable future land uses in the vicinity; and
- The site is physically suitable for the type, density, and intensity of use being proposed, including access, utilities, and the absence of physical constraints.

Other Regulations

Land use plans, policies, or regulation adopted for the purpose of avoiding or mitigating an environmental effect are described in the regulatory setting of other environmental topic chapters of this Draft EIR. Specifically, these discussions are in Chapter 4.1, *Aesthetics*; Chapter 4.3, *Biological Resources*; Chapter 4.5, *Energy*; Chapter 4.6, *Geology and Soils*, Chapter 4.7, *Greenhouse Gas Emissions*; Chapter 4.9, *Hydrology and Water Quality*; Chapter 4.11, *Noise*; Chapter 4.13, *Public Services*; Chapter 4.14, *Recreation*; Chapter 4.15, *Transportation*; Chapter 4.17, *Utilities and Service Systems*; and Chapter 4.18, *Wildfire*. Some of these key municipal codes include:

- Section 18.18.070, *Trees*. This section contains the City's tree protection regulations. Within RS Districts, one tree shall be provided for every 1,000 square feet of lot coverage. The Municipal Code defines "protected tree" as any significant or heritage tree. Protected trees may not be removed, pruned, or otherwise materially altered without a permit.
- Section 18.29.060, *Design Review Criteria*. This section sets forth the criteria for the City's design review process and requires, among others, the project to be compatible with neighboring development by avoiding big differences in building scale and character between developments on adjoining lots in the same zoning district and providing a harmonious transition in scale and character between different districts.

For a complete list and description of the applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect please see the individual chapters of this Draft EIR listed above.

4.10.1.2 EXISTING CONDITIONS

Surrounding Land Uses and Context

The project site is located in western San Carlos, among primarily residential neighborhoods. The City's General Plan describes the area west of Alameda de las Pulgas, within which the project site is located, as containing residential neighborhoods "integrated into picturesque and often dramatic hillside terrain. In these areas, streets follow the contours of the hills, with many multi-story hillside homes appearing as single-story residences from the street."[3]

As shown in Figure 3-2, *Local Vicinity*, in Chapter 3, *Project Description*, of this Draft EIR, the project site is located within an area of sparsely developed land that is bounded on the north and west by single-family residential land uses; to the east by Alameda de las Pulgas and residential and institutional (St. Charles School) land uses; and to the south by residential land uses. The site and surroundings are located in an upsloping valley between two knolls, with gradients from slight to steep descending primarily to the west. The land directly to the north of the project site is currently planned for redevelopment of the Vista Del Grande project (evaluated in this Draft EIR as a cumulative development project).

Existing Uses on the Project Site

The project site currently contains three single-family residences. The site contains landscaped and open space areas and is heavily wooded, containing 384 trees representing 17 species. Areas of the site are paved, including Castor Road, driveways, and parking areas. Remnants of the Black Mountain Spring Water Company bottling facility are located at the eastern boundary of the site, adjacent to Alameda de las Pulgas. A tunnel that was used by the water company for harvesting the spring is located on the eastern side of the site.

The project site contains a freshwater spring. Large areas of earthen fill are distributed throughout the site. The site currently contains Pacific Gas and Electric Company (PG&E) gas and electric easements as well as a series of public and private utility easements.

[3] City of San Carlos, 2009. *2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

4.10.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant land use impact if it would:

1. Physically divide an established community.
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative land use and planning impacts in the area.

4.10.3 IMPACT DISCUSSION

LU-1	**The proposed project would not physically divide an established community.**

Projects with the potential to divide an established community typically include major highways or roadways, storm channels, utility transmission lines, or the closure of bridges or roadways. The physical division of an established community would impair mobility within an existing community or between a community and outlying areas.

The proposed project would result in the construction of a townhome development on what is currently undeveloped land. Existing surrounding roadways and land uses would be retained. Additionally, the project would include new internal roadways connecting the development to public streets. Based on the scope and size of the project and current land use, this would not physically divide the established community, and this impact would be *less than significant*.

Significance without Mitigation: Less than significant.

LU-2	**The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

San Carlos 2030 General Plan

The proposed project would comply with the General Plan policies for land use and planning described in Section 4.10.1.1, *Regulatory Framework*, above, including orienting houses relative to the street and with the natural topography of the project site. The proposed townhomes would be built with various site layouts depending on the location among the existing hills on the project site, to minimize grading and harmonize the development with the project site. As a residential project, the proposed project would be compatible with adjacent residential and school uses. The project would include green building practices as encouraged in Policy LU-8.1, including water efficient irrigation systems. As described in Chapter 3, *Project Description*, the proposed project would include areas of greenery and trees between units and

areas of natural landscaping comprised largely of existing tree cover. A public walking trail would through the project site, as depicted in Figure 3-6, *Site Plan*.

Municipal Code

The project site is currently zoned as RS-6: Single Family, which has specific design requirements for townhomes as described above in Section 4.10.1.1, *Regulatory Framework*. The proposed project requires a Conditional Use Permit as established in Chapter 18.30, *Use Permits*, of the San Carlos Municipal Code, which is required for uses that are generally consistent with the purposes of the zoning district where they are proposed but require special consideration to ensure that they can be designed in a manner that will not interfere with the use and enjoyment of surrounding properties. However, the residential zoning standards are not adopted for the purpose of avoiding or mitigating an environmental effect and, upon obtaining approval from the City, the proposed project would not conflict with zoning requirements.

The proposed project's potential to conflict with other applicable plans and regulations adopted for the purpose of avoiding or mitigating an environmental effect is discussed in detail in the other environmental topic chapters of this Draft EIR. Specifically, these discussions are in Chapter 4.1, *Aesthetics*; Chapter 4.3, *Biological Resources*; Chapter 4.5, *Energy*; Chapter 4.6, *Geology and Soils*, Chapter 4.7, *Greenhouse Gas Emissions*; Chapter 4.9, *Hydrology and Water Quality*; Chapter 4.11, *Noise*; Chapter 4.13, *Public Services*; Chapter 4.14, *Recreation*; Chapter 4.15, *Transportation*; Chapter 4.17, *Utilities and Service Systems*; and Chapter 4.18, *Wildfire*. As discussed in these chapters, implementation of the proposed project would not be inconsistent with or obstruct the implementation of any applicable land use plan or regulation adopted for the purposes of avoiding or mitigating an environmental effect.

The project would comply with the General Plan and Municipal Code policies adopted for the purpose of mitigating an environmental effect. Impacts in this regard would be *less than significant*.

Significance without Mitigation: Less than significant.

LU-3 The proposed project, in combination with other projects, would not result in a significant cumulative land use and planning impact.

This section analyzes potential impacts related to land use and planning that could occur from a combination of the proposed project and other past, present, and reasonably foreseeable projects within the vicinity. The proposed project would place residential townhomes in a residentially zoned area of San Carlos. The homes would be designed in compliance with the City's plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects. Cumulative projects included in this analysis includes projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande Development project located adjacent to the north of the project site. This project would include 89 residential units and is within its preliminary review process with the City. The proposed project and Vista Del Grande projects are located amongst existing residential neighborhoods, and the combination of the proposed project and the Vista del Grande project would not physically divide the surrounding established community. Additional properties surrounding the project site are currently developed, and primarily residential. As described under impact discussion LU-1, the project would not divide an existing

community and, in combination with other projects which would be scattered throughout San Carlos would not divide an existing community. In addition, other projects would be subject to land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Thus, the project would not in combination with other projects result in significant cumulative land use and planning impacts and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

4.11 NOISE

This chapter describes the regulatory framework and existing conditions related to noise sources and the overall noise environment in the vicinity of the proposed project, evaluates the potential impacts that could occur from development of the proposed project, and details mitigation measures needed to reduce significant impacts. The technical data and modeling used for this analysis are in Appendix K, *Noise Data*, of this Draft Environmental Impact Report (EIR).

4.11.1 ENVIRONMENTAL SETTING

The following are brief definitions of terminology used in this section:

- Sound. A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- Noise. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- Decibel (dB). A unit-less measure of sound on a logarithmic scale.
- A-Weighted Decibel (dBA). An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- Ambient Noise Level. The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
- Equivalent Continuous Noise Level (L_{eq}). The mean of the noise level (or energy) averaged over the measurement period.
- Statistical Sound Level (L_n). The sound level that is exceeded "n" percent of time during a given sample period. For example, the L50 level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L10 level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L90 is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."
- Maximum Sound Level (L_{max}). The highest RMS sound level measured during the measurement period.
- Root Mean Square Sound Level (RMS). The square root of the average of the square of the sound pressure over the measurement period.
- Day-Night Sound Level (Ldn or DNL). The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- Community Noise Equivalent Level (CNEL). The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00

p.m. to 7:00 a.m. Note that for general community/environmental noise, CNEL and Ldn values rarely differ by more than 1 dB. As a matter of practice then, Ldn and CNEL values are considered to be equivalent/interchangeable and are treated as such in this assessment.

- Peak Particle Velocity (PPV). The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.
- Sensitive Receptor. Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

4.11.1.1 REGULATORY FRAMEWORK

This section describes the regulatory framework related to noise and vibration in the vicinity of the project site.

State Regulations

The California Building Code (CBC), Title 24, Part 2, Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric is evaluated as either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the local general plan noise element.

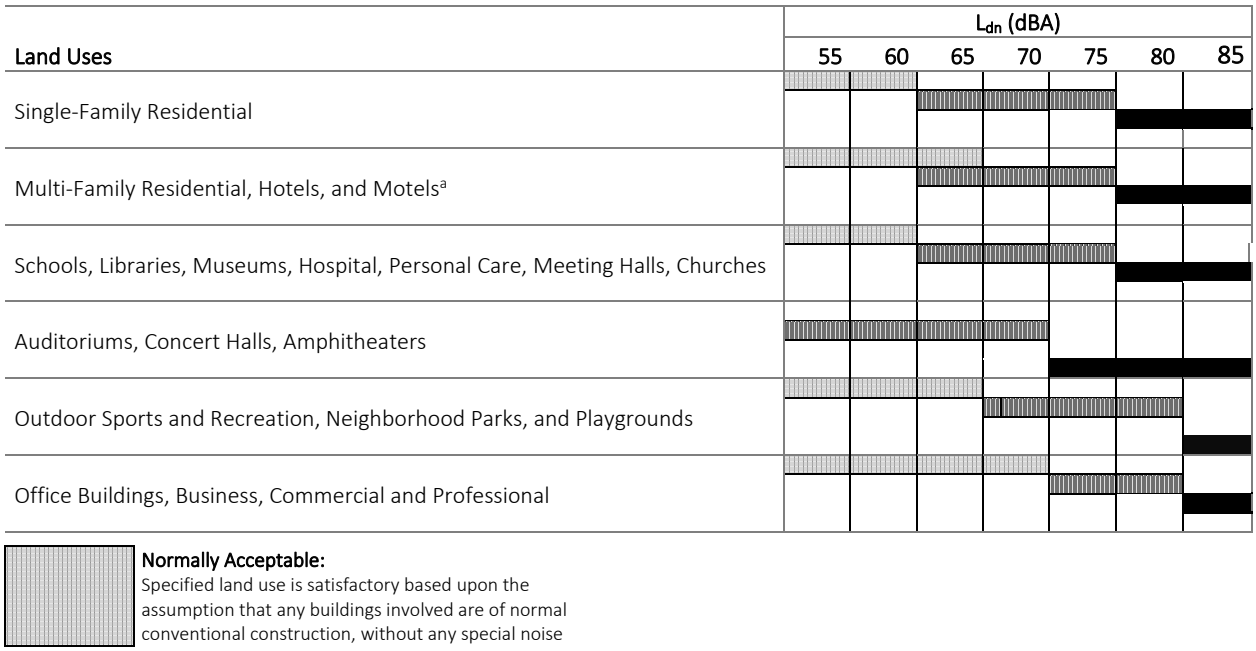
Proposed residential development in areas with high ambient noise levels are required to prepare an acoustical analysis that demonstrates compliance with the interior 45 dBA noise standard through use of noise attenuation measures, including insulation, window design, and use of heating and ventilating systems in lieu of opening windows.

Local Regulations

San Carlos 2030 General Plan

The City of San Carlos 2030 General Plan provides objectives, policies, and implementing actions in Chapter 9, Noise Element, that address land use compatibility with environmental noise levels and to ensure that city residents will be protected from excessive noise intrusion, both now and in the future. The noise standards specified in the Noise Element are a guideline to evaluate the acceptability of the noise levels generated by vehicular traffic and the San Carlos Airport. These standards are used for assessment of long-term traffic- and aircraft-related noise impacts on land uses. The Noise Element also establishes the noise/land use compatibility criteria to be used in determining whether a new use is appropriate within a given noise environment, the criteria is presented in Table 4.11-1, *San Carlos Land Use Compatibility for Community Noise Environments*.

TABLE 4.11-1 SAN CARLOS LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



[a] See Policy NOI-1.5.
Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

Table 4.11-2, *City of San Carlos 2030 General Plan Policies Relevant to Noise*, lists the noise goals and policies of the 2030 General Plan Noise Element.

TABLE 4.11-2 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO NOISE

Policy Number	Policy Text
Chapter 9, Noise (NOI) Element	
NOI-1.1	Use the Noise and Land Compatibility Standards shown in Figure 9-1, the noise level performance standards in Table 9-1 and the projected future noise contours for the General Plan shown in Figure 9-3 and detailed in Table 9-2, as a guide for future planning and development decisions.
NOI-1.2	Minimize noise impacts on noise-sensitive land uses. Noise-sensitive land uses include residential uses, retirement homes, hotel/motels, schools, libraries, community centers, places of public assembly, daycare facilities, churches and hospitals.
NOI-1.3	Limit noise impacts on noise-sensitive uses to noise level standards as indicated in Table 9-1.
NOI-1.4	Require a detailed acoustic report in all cases where noise-sensitive land uses are proposed in areas exposed to exterior noise levels of 60 CNEL/L_{dn} or greater. If recommended in the report, mitigation measures shall be required as conditions of project approval.
NOI-1.5	New development of noise-sensitive land uses proposed in noise-impacted areas shall incorporate effective mitigation measures into project design to reduce exterior and interior noise levels to the following acceptable levels:

TABLE 4.11-2 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO NOISE

Policy Number	Policy Text
	a. For new single-family residential development, maintain a standard of 60 L_{dn} (day/night average noise level) for exterior noise in private use areas. b. For new multi-family residential development maintain a standard of 65 L_{dn} in community outdoor recreation areas. Noise standards are not applied to private decks and balconies and shall be considered on a case-by-case basis in the downtown core. c. Interior noise levels shall not exceed 45 L_{dn} in all new residential units (single- and multi-family). Development sites exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1208, A, Sound Transmission Control, 2001 Building Code Chapter 12, Appendix Section 1207.11.2 of the 2007 California Building Code (or the latest revision).
	d. Where new residential units (single- and multi-family) would be exposed to intermittent noise levels generated during train operations, maximum railroad noise levels inside homes shall not exceed 50 dBA in bedrooms or 55 dBA in other occupied spaces. These single event limits are only applicable where there are normally four or more train operations per day.
NOI-1.6	Where noise mitigation measures are required to achieve the noise level standards, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered after practical design-related noise mitigation measures have been integrated into the project.
NOI-1.7	The City shall seek to reduce impacts from ground-borne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g. residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible. The development of vibration-sensitive buildings within 100 feet from the centerline of the rail-road tracks would require a study demonstrating that ground borne vibration issues associated with rail operations have been adequately addressed (i.e. through building siting, foundation design and construction techniques).
NOI-1.8	During all phases of construction activity, reasonable noise reduction measures shall be utilized to minimize the exposure of neighboring properties to excessive noise levels. a. Construction activities shall comply with the City's noise ordinance.
NOI-1.9	Minimize potential transportation-related noise through the use of setbacks, street circulation design, coordination of routing and other traffic control measures, and the construction of noise barriers and consider use of "quiet" pavement surfaces when resurfacing roadways.
NOI-1.10	Ensure that mixed-use development projects are designed to minimize noise impacts on residential units.
NOI-1.11	Ensure that proposed noise sensitive land uses include appropriate mitigation to reduce noise impacts from aircraft operations at San Carlos Airport. Work with the San Carlos Airport Pilots Association and San Mateo County to continue to refine and implement the Airport's noise abatement procedures.
NOI-1.12	Ensure consistency with noise limitations contained in the San Carlos Airport Land Use Plan.
NOI-1.13	Require a noise analysis for new residential uses located within the 55 CNEL impact area of the San Carlos Airport. If recommended in the report, mitigation measures shall be required as conditions of project approval.
NOI-1.14	The Federal Transit Administration vibration impact criteria and assessment methods shall be used to evaluate the compatibility of train vibration with proposed land uses adjoining the UPRR (Caltrain) corridor. Site specific vibration studies shall be completed for vibration-sensitive uses proposed within 100 feet of active railroad tracks.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

Table 4.11-3, *Non-Transportation Noise Standards*, lists exterior and interior daytime and nighttime noise standards for various land uses, as presented in the Noise Element.

TABLE 4.11-3 NON-TRANSPORTATION NOISE STANDARDS

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard in Any Hour (dBA)		Interior Noise-Level Standard In Any Hour (dBA)	
		Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Residential	L_{50}	55	45	40	30
	L_{max}	70	60	55	45
Medical, convalescent	L_{50}	55	45	45	35
	L_{max}	70	60	55	45
Theater, auditorium	L_{50}	--	--	35	35
	L_{max}	--	--	50	50
Church, meeting hall	L_{50}	55	--	40	40
	L_{max}	--	--	55	55
School, library, museum	L_{50}	55	--	40	--
	L_{max}	--	--	55	--

Notes:
1. The Residential standards apply to all residentially zoned properties.
2. Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises.
3. In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level.
4. The exterior noise standards are measured at any point on the receiving property where there is, or could be in the future, frequent human use and quiet would be beneficial.
5. These standards do not apply to temporary sources such as construction activities.
Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

San Carlos Municipal Code

The Municipal Code is organized by Title, Chapter, and Section. The regulatory provisions to protect the noise environment in San Carlos are described below.

Noise Standards

Section 18.21.050-A of the City's Municipal Code includes noise limits for non-transportation sources, which are consistent with the requirements included in the General Plan Noise Element (see Table 4.11-3, *Non-Transportation Noise Standards*). The maximum allowable noise levels in Table 4.11-3 shall be adjusted according to the following provisions, with no more than one increase in the maximum permissible noise level applied to the noise generated on each property, as measured at the receiving property line:

a. Ambient Noise. If the ambient noise level at a noise-sensitive use is 10 dBA or more below the standard, the allowable noise standard shall be decreased by 5 dBA.
b. Duration. The maximum allowable noise level (L_{50}) shall be increased as follows to account for the effects of duration:
    i. Noise that is produced for no more than a cumulative period of fifteen minutes in any hour (L_{25}) may exceed the noise limit by 5 dBA; and
    ii. Noise that is produced for no more than a cumulative period of five minutes in any hour (L_8) may exceed the noise limits by 10 dBA;

iii. Noise that is produced for no more than a cumulative period of one minute in any hour (L_2) may exceed the noise limits by 15 dBA.

c. Character of Sound. If a noise contains a steady audible tone or is a repetitive noise (such as hammering or riveting) or contains music or speech conveying informational content, the maximum allowable noise levels shall be reduced by 5 dBA.
d. Prohibited Noise. Noise for a cumulative period of thirty minutes or more in any hour which exceeds the noise standard for the receiving land use is prohibited.

Section 18.21.050-B of the City's Municipal Code discusses noise and land use requirements and limitations of various land uses. However, these standards are not applicable to the project analysis due to the California Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015).

Section 9.30.050 of the City's Municipal Code addresses the enforcement mechanisms and states that the enforcement of the City's standards falls under the jurisdiction of the San Carlos Police Department. The Department investigates alleged violations of the noise standards on a complaint basis. Section 9.30.060 provides penalties for violations of the City's noise standards.

Construction Noise

According to Section 9.30.070-B of the Municipal Code, construction activities are exempt from the Municipal Code noise standards provided that they are limited to the hours between 8:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on weekends. Construction noise-related activities are prohibited on holidays, and all gasoline-powered construction equipment must be equipped with an operating muffler or baffling system as originally provided by the manufacturer. The Building Official has the authority to grant exceptions to construction noise-related activities. The City has not established noise limits for temporary construction activities.

Per Section 9.30.070-C, home workshop and gas-powered gardening equipment is also exempt when conducted between the hours of 8:00 a.m. to sunset, Monday through Friday, and 10:00 a.m. to sunset on weekends.

Vibration Standards

Section 18.21.060 of the Municipal Code states that, "no vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments by a reasonable person at the lot lines of the site. Vibrations from temporary construction, demolition, and vehicles that enter and leave the subject parcel (e.g., construction equipment, trains, trucks, etc.) are exempt from this standard."

The Municipal Code does not have quantified limits for potential architectural damage from construction vibration.

4.11.1.2 EXISTING CONDITIONS

Sensitive Receptors

Certain land uses, such as residences, schools, and hospitals, are particularly sensitive to noise and vibration. Sensitive receptors include residences, senior housing, schools, places of worship, and recreational areas. These uses are regarded as sensitive because they are where citizens most frequently engage in activities which are likely to be disturbed by noise, such as reading, studying, sleeping, resting, working from home, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not particularly sensitive to noise or vibration.

The closest sensitive receptors to the project site are adjacent residences to the south on Bauer Drive, west on Dundee Lane and Glasgow Lane, and north on Coronado Avenue. Additional residences are located further from the project site in all directions. St. Charles School is located to the east across Alameda de las Pulgas, and Highlands Park Playground and Field is located approximately 450 feet to the southwest. Figure 4.11-1 shows nearby sensitive receptor locations.

Ambient Noise Monitoring

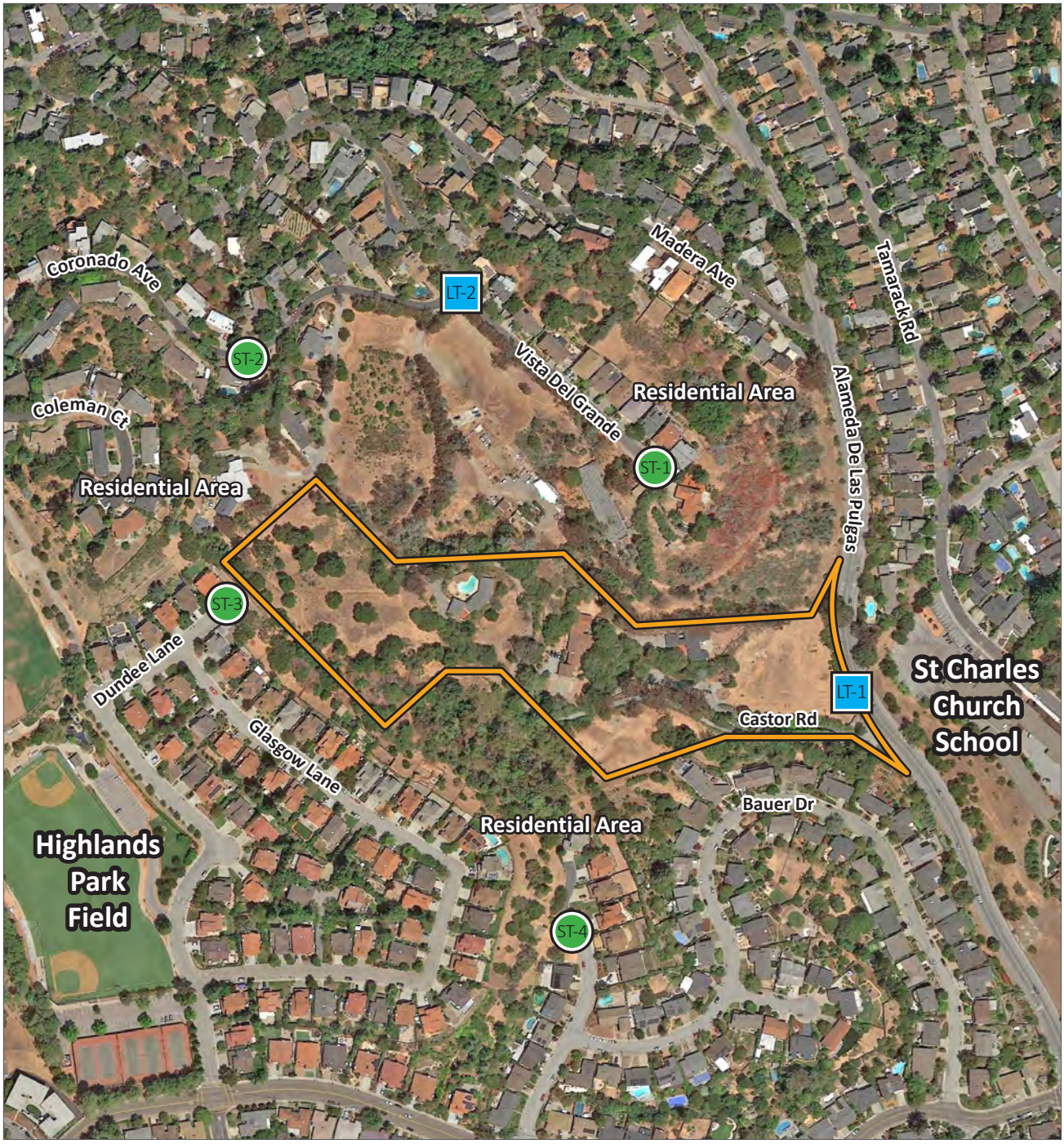
The ambient noise environment in the project area consists primarily of traffic noise from Alameda de las Pulgas. Typical residential noise sources, such as children playing and property maintenance activities, also contribute to existing noise conditions. The San Carlos Caltrain Station, located at the intersection of San Carlos Avenue and El Camino Real, is approximately 0.9 miles northeast of project site. The Union Pacific railroad utilizes the same tracks. While train noise, particularly horns, may be heard periodically at the project site, railroad noise does not contribute substantially to the existing ambient noise environment. The San Carlos Airport is the nearest airport, located approximately 1.5 miles northeast of the project site. According to the San Carlos Airport Noise Contour Map from the General Plan, the project site is outside the 55 CNEL noise contour.

Ambient noise monitoring was conducted by PlaceWorks staff using two long-term (24-hour) measurements and four short-term (15-minute) measurements at locations in the project area. Noise measurement locations are described below and shown in Figure 4.11-1, *Approximate Noise Monitoring Locations*. A summary of the daily trend during long-term noise measurements are provided in Appendix K. The short-term noise measurement results are summarized in Table 4.11-4, *Short-Term Noise Measurements Summary in A-Weighted Sound Levels*.

TABLE 4.11-4 SHORT-TERM NOISE MEASUREMENTS SUMMARY IN A-WEIGHTED SOUND LEVELS

Monitoring Location	Description	15-Minute Noise Level, dBA		
		L_{50}	L_{eq}	L_{max}
ST-1	Vista del Grande Avenue – 4:50 p.m., 3/2/2020	41.8	46.4	64.5
ST-2	Coronado Avenue – 5:15 p.m., 3/2/2020	41.6	45.0	62.5
ST-3	Dundee Lane – 5:40 p.m., 3/2/2020	44.3	55.8	78.7
ST-4	Heather Drive – 6:02 p.m., 3/2/2020	41.6	52.6	66.9

Source: PlaceWorks, 2020.



Source: Google Earth, 2020. PlaceWorks.com, 2020.

0 400
Scale (Feet)

Project Bouandry

ST = Short-term Measurement Location

LT = Long-term Measurement Location

Figure 4.11-1
Approximate Noise Monitoring Locations

The following describes the noise monitoring locations:

- Long-Term Location 1 (LT-1) was approximately 15 feet west of the Alameda de las Pulgas southbound travel lane centerline. A 48-hour noise measurement was conducted, beginning at the 4:00 p.m. hour on Monday, March 2, 2020. The noise environment of this site is characterized primarily by local traffic on Alameda de las Pulgas, and the measured L_{dn} was 67 dBA.
- Long-Term Location 1 (LT-2) was at the intersection of Coronado Avenue and Vista del Grande. A 48-hour noise measurement was conducted, beginning at the 5:00 p.m. hour on Monday, March 2, 2020. The noise environment of this site is characterized primarily by local and distant traffic and typical residential neighborhood noises, and the measured L_{dn} was 51 dBA.
- Short-Term Location 1 (ST-1) was at the end of Vista del Grande adjacent to the project site. A 15-minute noise measurement was conducted at 4:50 p.m. on Monday, March 2, 2020. The noise environment of this site is characterized primarily by low vehicle volumes, distant traffic noise, and wildlife.
- Short-Term Location 2 (ST-2) was on Coronado Avenue northwest of the project site. A 15-minute noise measurement was conducted at 5:15 p.m. on Monday, March 2, 2020. The noise environment of this site is characterized primarily by low vehicle volumes, distant traffic noise, children playing, and wildlife.
- Short-Term Location 3 (ST-3) was at the end of Dundee Lane. A 15-minute noise measurement was conducted at 5:40 p.m. on Monday, March 2, 2020. The noise environment of this site is characterized primarily by low vehicle volumes, distant traffic noise, children playing, and wildlife.
- Short-Term Location 4 (ST-4) was at the end of Heather Drive. A 15-minute noise measurement was conducted at 6:02 p.m. on Monday, March 2, 2020. The evening noise environment of this site is characterized primarily by low vehicle volumes, distant traffic noise, and wildlife.

4.11.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant noise impact if it would:

1. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards.
2. Generate excessive groundborne vibration or groundborne noise levels.
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
4. In combination with past, present, and reasonably foreseeable projects, result in cumulative noise impacts in the area.

The easternmost portion of the project site is within the "Conditionally Acceptable" range for multi-family residential land uses, according to the San Carlos noise and land use compatibility standards (see Table 4.11-1, *San Carlos Land Use Compatibility for Community Noise Environments*). However, as a result of the

California Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources (e.g., Alameda de las Pulgas) is taken into account as part of the baseline condition, the direct effects of exterior noise from nearby noise sources relative to land use compatibility of a proposed project is typically no longer a required topic for impact evaluation under CEQA. Generally, no determination of significance is required except for certain school projects, projects affected by airport noise, and projects that would exacerbate existing conditions (i.e., projects that would have a significant operational impact).

4.11.3 IMPACT DISCUSSION

NOI-1	**The proposed project would generate increases in ambient noise levels during construction and operation that exceed standards established in the general plan, noise ordinance, or standards of other agencies.**

Construction Noise

Construction Vehicles

As discussed above, construction activities are exempt from the Municipal Code noise standards provided that they are limited to the hours between 8:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on weekends. However, to provide for a conservative and quantified assessment of potential construction noise impacts, the Federal Transit Authority (FTA) recommended criterion of 80 dBA $L_{eq(8hr)}$ for residential uses is used in this analysis to evaluate project construction noise impacts.

Construction activity, including worker, material delivery, and large equipment delivery trips to and from the project site, would temporarily increase noise levels along local site access roadways. Individual construction vehicle and haul trucks may create momentary noise levels of up to approximately 85 dBA (L_{max}) at 50 feet from the vehicle, but these occurrences would generally be infrequent and short lived. Construction generates temporary trips from workers, vendors, and haul trucks. The period of site preparation, demolition, and grading phase overlap is anticipated to generate the most trips, with an estimated total of 166 per day. The existing traffic volume on Alameda de las Pulgas is 11,260 daily trips.[1] The addition of 166 trips when compared to the existing traffic volumes in the vicinity of the proposed project would result in a noise increase of approximately 0.1 dBA Ldn or less. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions; changes of 1 to 3 dBA are detectable under quiet, controlled conditions; and changes of less than 1 dBA are usually indiscernible. Therefore, the increase of 0.1 dBA Ldn would not be noticeable.

[1] CHS Consulting Group, 2022, *806 Alameda de las Pulgas Transportation Impact Analysis*.

Construction of the emergency access road connecting to Coronado Avenue (required under Mitigation Measure TRAN-4b) would result in additional construction trips. However, when considered in the context of construction trips from the proposed project as whole, construction of the emergency access road would generate nominal construction vehicle trips. As a result, construction of this emergency access road would not notably affect noise levels associated with construction vehicles. Therefore, impacts from construction vehicles would be *less than significant*.

On-site Construction Equipment

Noise generated during construction is based on the number and type of equipment used, the load and power requirements to accomplish tasks at each construction phase, and the timing and duration of the noise-generating activities. The extent to which construction noise affects receptors varies based on factors such as noise attenuation due to distance, the ambient noise environment, and the location of the construction activity in relation to the receptor (such as intervening barriers and topography). Each phase of construction involves the use of different kinds of construction equipment and therefore has its own distinct noise characteristics. Noise levels from construction activities are dominated by the loudest piece of construction equipment. The dominant noise source is typically the engine, although intermittent events (such as dropping of materials) can also be noticeable. Heavy equipment, such as a dozer or a loader, can have maximum, short-duration noise levels of 85 dBA or greater at 50 feet. Since noise from construction equipment is intermittent and diminishes at a rate of 6 dBA per doubling distance, the average noise levels at noise-sensitive receptors would be lower, because mobile construction equipment would move around the site with different loads and power requirements.

Using information provided by the project applicant and methodologies and inputs employed in the air quality assessment, the RCNM was used to model construction noise from each of the major phases. Construction activities associated with the proposed project would not require blasting or pile driving. During building construction, a bore/drill rig is proposed for the building foundations. Since the RCNM calculations do not account for shielding due to intervening buildings and structures, ground effects, or air absorption, the results of these calculations are conservative (that is, they represent a reasonable worst-case scenario). Table 4.11-5, *Project-Related Construction Noise*, summarizes the estimated construction noise levels for each construction phase at a distance of 50 feet.

TABLE 4.11-5 PROJECT-RELATED CONSTRUCTION NOISE

Construction Activity Phase	Noise Level at 50 feet from Construction Activities (dBA Leq)	Noise Level at 100 feet from Construction Activities (dBA Leq)
Demolition	85	79
Site Preparation	85	79
Grading	84	78
Utilities Trenching	82	76
Building Construction	85	79
Paving	84	78
Architectural Coating	74	68

Notes: Noise levels rounded to the nearest decibel.
Source: PlaceWorks, 2022, Construction Noise Modeling (see Appendix K, *Noise Data*).

Off-site Construction Improvements

As a part of the proposed project, a bus stop and crosswalk would be installed on Alameda de las Pulgas and a new water line would be constructed to connect to the existing CalWater line at the intersection of Dundee Lane and Glasgow Lane. The water line would extend the entirety of the project site under the paved roadways. In addition, an emergency access road connecting to Coronado Avenue (required under Mitigation Measure TRAN-4b) would be paved to provide emergency vehicle access to the project site as well as site evacuation in the event of an emergency.

Construction activities from off-site improvements would not expose surrounding sensitive receptors to prolonged periods of construction noise. Additionally, off-site improvements would progress in a linear fashion, generating less noise at each receptor each day. Noise modeling does not include the project-related noise construction calculations from the construction of these off-site improvements. However, when considered in the context of the noise construction impacts from the proposed project as whole, noise exposure from off-site improvements would be nominal. As a result, construction from these off-site improvements would not expose receptors to excessive construction noise.

Conclusion

The City has not established quantified noise limits for temporary construction activities. However, the FTA recommends a noise level limit of 80 dBA $L_{eq(8hr)}$ for residential receptors, which is used in this analysis to assess construction noise impacts. As shown in Table 4.11-5, construction levels would not exceed the 80 dBA $L_{eq(8\text{-}hr)}$ threshold at distances of 100 feet or greater, but could exceed the threshold at 50 feet. Therefore, noise could be expected to exceed the FTA threshold at distances between approximately 50 and 100 feet. The building construction is anticipated to be at least 100 feet from residences to the west and north and Saint Charles Church School to the east. However, the building construction and grading activity could occur within 100 feet of residences to the south, construction of the emergency access road (required under Mitigation Measure TRAN-4b) would occur within approximately 50 feet of the nearest residence, and construction of the water line would occur within 25 feet of the nearest residence. Therefore, this impact is considered *significant*.

Impact NOI-1.1: The proposed project would generate a substantial temporary increase in ambient noise levels during construction.

Mitigation Measure NOI-1.1: The project applicant shall incorporate the following practices into the construction contract specifications to be implemented by the construction contractor during the entire construction phase of the project. The project applicant and contractors shall prepare a Construction Noise Control Plan that includes the following measures:

- Limit construction to the hours of 8:00 a.m. to 6:00 p.m., Monday through Friday, and between 9:00 a.m. to 5:00 p.m. on weekends.
- At least 21 days prior to the start of construction activities, property owners within a 500-foot radius of the project site shall be notified of the planned construction. The notification shall include a brief description of the project, a description of the construction phases to occur, the construction hours noted above, and the overall construction duration. The notification shall

include the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint.

- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, they shall investigate, take appropriate corrective action, and report the action to the City.
- Prior to the start of construction, the project applicant shall retain a qualified acoustical consultant to conduct construction noise monitoring during the major phases of project construction at select locations in the surrounding neighborhood. The number and location of monitoring positions, and the construction phases during which monitoring shall occur, shall be determined by City staff in consultation with the acoustical consultant. All sound level meters used during monitoring shall satisfy the American National Standards Institute (ANSI) standard of Type 1 instrumentation. All measurements shall be at least 5 feet above the ground and away from reflective surfaces. The noise monitoring data and results shall be submitted in a memorandum to the City on a weekly basis during the construction phases requiring monitoring, along with comparison to the 80 dBA $L_{eq\ (8\text{-}hr)}$ construction noise limit. If exceedances of the construction noise limit are found, the applicant's construction contractor shall modify construction techniques and equipment to reduce the construction noise below the 80 dBA $L_{eq(8\text{-}hr)}$ limit.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. The signs shall note that all other equipment shall be turned off if not in use for more than 5 minutes. The construction manager shall be responsible for enforcing these noise reduction requirements.
- Construction trucks and equipment shall utilize the best available noise control techniques including improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible.
- The contractor shall use impact tools that are hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary noise sources (e.g., generators and air compressors) shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, insulation barriers, or other measures to reduce noise levels.
- Stockpiling of materials shall be located as far as feasible from nearby noise-sensitive receptors.
- During the entire active construction period, the use of noise-producing signals—including horns, whistles, alarms, and bells—shall be for safety warning purposes only. The construction manager shall require the use of smart back-up alarms on equipment. (These devices automatically adjust the alarm level based on the background noise level.) Alternately, equipment back-up alarms may be turned off and replaced with human spotters in compliance with all safety requirements and laws.

Significance with Mitigation: Less than significant. With implementation of Mitigation Measure NOI-1.1, particularly the use of equipment silencers and mufflers, construction noise would be reduced by up to 10 dBA.[2] With Mitigation Measure NOI-1.1, construction noise levels are estimated to be 75 dBA $L_{eq(8\text{-}hr)}$ or less, which would not exceed the threshold of 80 dBA $L_{eq(8\text{-}hr)}$. Construction noise monitoring would ensure that construction noise is below the 80 dBA $L_{eq(8\text{-}hr)}$ threshold.

Traffic Noise

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance similar to those recommended by the Federal Aviation Administration, are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if traffic noise increases the existing noise environment by the following:

- Greater than 1.5 dBA for ambient noise environments of 65 dBA CNEL and higher.
- Greater than 3 dBA for ambient noise environments of 60 to 64 CNEL.
- Greater than 5 dBA for ambient noise environments of less than 60 dBA CNEL.

Table 4.11-6, *Project-Related Increase in Traffic Noise, dBA Ldn*, shows the project and cumulative traffic noise increases, based on traffic volume data along roadway study segments provided by CHS Consulting Group. As shown in Table 4.11-6, traffic noise increases due to the project would be 0.2 dBA L_{dn} or less. In all cases, projected traffic noise increases would be below the 1.5 dBA significance threshold (lowest threshold). Therefore, this would be a *less-than-significant* impact.

TABLE 4.11-6 PROJECT-RELATED INCREASE IN TRAFFIC NOISE, DBA LDN

	ADT Traffic Volumes				
Roadway Segment	Existing	Existing + Project	Vista Del Grande + Project	Project Increase (dBA)	Project + Vista Del Grande Project Increase (dBA)
El Camino Real - North of San Carlos Avenue	18,600	18,670	18,730	0.0	0.0
El Camino Real - South of San Carlos Avenue	17,040	17,040	17,040	0.0	0.0
San Carlos Avenue - West of El Camino Real	9,000	9,070	9,130	0.0	0.1
Alameda De Las Pulgas - South of San Carlos Avenue	11,260	11,330	11,390	0.0	0.0
San Carlos Avenue - East of Alameda De Las Pulgas	17,430	17,500	17,560	0.0	0.0
San Carlos Avenue - West of Alameda De Las Pulgas	15,610	15,610	15,610	0.0	0.0
Alameda De Las Pulgas - North of Brittan Avenue	11,080	11,510	11,810	0.2	0.3
Alameda De Las Pulgas - South of Brittan Avenue	10,270	10,270	10,270	0.0	0.0

[2] Federal Highway Administration, *Special Report – Measurement, Prediction, and Mitigation*, https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/special_report/hcn04.cfm, accessed March 4, 2022.

TABLE 4.11-6 PROJECT-RELATED INCREASE IN TRAFFIC NOISE, DBA LDN

Roadway Segment	ADT Traffic Volumes: Existing	Existing + Project	Vista Del Grande + Project	Project Increase (dBA)	Project + Vista Del Grande Project Increase (dBA)
Brittan Avenue - East of Alameda De Las Pulgas	8,220	8,270	8,310	0.0	0.0
Brittan Avenue - West of Alameda De Las Pulgas	8,290	8,670	8,930	0.2	0.3
El Camino Real - North of Brittan Avenue	18,500	18,500	18,500	0.0	0.0
El Camino Real - South of Brittan Avenue	16,160	16,170	16,180	0.0	0.0
Brittan Avenue - East of El Camino Real	14,600	14,640	14,670	0.0	0.0
Brittan Avenue - West of El Camino Real	8,480	8,530	8,570	0.0	0.0
Old County Road - North of Brittan Avenue	7,710	7,710	7,710	0.0	0.0
Old County Road - South of Brittan Avenue	5,890	5,890	5,890	0.0	0.0
Brittan Avenue - East of Old Country Road	11,180	11,220	11,250	0.0	0.0
Brittan Avenue - Old Country Road to El Camino Real	14,680	14,720	14,750	0.0	0.0

Source: CHS Consulting Group, 2022.

Stationary Noise

Mechanical Equipment

The proposed project would generate stationary-source noise associated with heating, ventilation, and air conditioning (HVAC) units. Mitsubishi model PUMY-P48NKMU1 units are proposed, which generate noise levels of up to 54 dBA at a reference distance of 3 feet from the operating units during maximum heating operations based on manufacturer test data. The nearest sensitive receptor property line to a proposed dwelling unit is approximately 30 feet. At that distance, noise levels from HVAC noise would attenuate to 34 dBA. This would be below both the City's daytime and nighttime noise thresholds of 55 dBA L_{50} and 45 dBA L_{50}, respectively.

Deck Noise

All of the proposed townhome designs include a rooftop deck and cantilevered decks. Operational deck noise modeling was conducted using the SoundPLAN computer model assuming that multiple decks along the project perimeter could operate simultaneously. SoundPLAN uses industry-accepted propagation algorithms based on international standards for outdoor sound propagation. The modeling calculations account for classical sound wave divergence (spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, ground effects, and shielding. Additionally, SoundPLAN provides for other correction factors, including level increases due to reflections, source directivity, and source tonality. SoundPLAN contains an extensive library of reference noise levels. A group of people gathering and talking was modeled based on the surface area of the

proposed decks (that is, it was conservatively assumed that the entire deck would be occupied by people talking). Results of SoundPLAN modeling indicate that future operational noise levels from occupancy and operation of multiple deck gatherings simultaneously could result in noise levels that exceed the nighttime threshold of 40 dBA L_{50} between 10:00 p.m. and 7:00 a.m. (noise standards are adjusted down by 5 dBA for noise consisting of speech) at adjacent sensitive receptors within 150 feet of proposed decks.

Section 9.30.050 of the City's Municipal Code addresses the enforcement mechanisms and notes that the enforcement of the City's standards falls under the jurisdiction of the San Carlos Police Department. The Department investigates alleged violations of the noise standards on a complaint basis. Section 9.30.060 provides penalties for violations of the City's noise standards. These enforcement procedures would apply to situations in which project operational noise poses a nuisance for nearby residences. Nevertheless, because proposed townhomes would be located within 150 feet of existing adjacent residences, deck noise could exceed the City's noise standards, which would be a *significant* impact.

Impact NOI-1.2: The proposed project would include rooftop decks, the usage of which could generate ambient noise levels that exceed the City's noise standards during operation of the project.

> Mitigation Measure NOI-1.2: The project site plan shall be redesigned to remove rooftop decks from townhomes within 150 feet of existing residential properties (as measured from the adjacent property line).
>
> Significance with Mitigation: Less than significant. With implementation of Mitigation Measure NOI-1.2, rooftop decks would be included only on townhomes that are sited farther from existing noise-sensitive properties. A map of the townhomes that would be affected by this mitigation measure are provided in Figure 4.11-2, *Areas of the Project Site within 150 Feet of Existing Residential Properties*.

NOI-2 The proposed project would not generate excessive groundborne vibration or groundborne noise levels.

Increases in groundborne vibration levels attributable to the proposed project would be associated with construction-related activities. Construction on the project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

Source: Lowney Arch, 2022. City of San Carlos, 2022. PlaceWorks, 2022.

Project Boundary

150 Foot Contour from Property Lines

Areas of the Project Site within 150 Feet of Existing Residential Properties

Figure 4.11-2

Areas of the Project Site within 150 Feet of Existing Residential Properties

Table 4.11-7, *Construction Equipment Vibration Levels for Architectural Damage*, identifies vibration levels for typical construction equipment at a reference distance of 25 feet and at 40 feet, which is the estimated distance from construction equipment activity to the closest structures south of the project. The City's Municipal Code does not have quantified limits for potential architectural damage from construction vibration. However, the FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings and structures.[3] A threshold of 0.2 inches per second (in/sec) peak particle velocity (PPV) for non-engineered timber and masonry buildings is used in this analysis to apply to the surrounding residential structures. As shown in Table 4.11-7, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction, including drilling during building construction for foundations, would range from 0.003 to 0.21 in/sec PPV at 25 feet from the source of activity.

TABLE 4.11-7 CONSTRUCTION EQUIPMENT VIBRATION LEVELS FOR ARCHITECTURAL DAMAGE

Equipment	Approximate PPV at 25 feet (inches per second)	Approximate PPV at 40 feet (inches per second)
Large Bulldozer	0.089	0.044
Caisson Drilling	0.089	0.044
Loaded Trucks	0.076	0.038
Jackhammer	0.035	0.017
Vibratory Roller	0.210	0.104
Small Bulldozer	0.003	0.001

Note: PPV, peak particle velocity
Source: Federal Transit Administration, 2018, Transit Noise and Vibration Impact Assessment Manual.

As shown in Table 4.11-7, vibration levels would be well below the FTA's threshold of 0.2 in/sec PPV for most equipment, with exception of vibratory rollers. Vibration levels could reach up to 0.21 in/sec PPV if a vibratory roller is used with 25 feet of the nearest structure, and 0.1 in/sec PPV within 40 feet of the nearest structure. However, vibratory rollers are used for paving and the nearest proposed paving activities from construction of the proposed project would occur approximately 85 feet from nearby structures. Additionally, paving associated with construction of the emergency access road (required under Mitigation Measure TRAN-4b) would be approximately 50 feet from nearby structures. Since the paving activities would not occur within 25 feet of any structure, the FTA threshold of 0.2 in/sec PPV would not be exceeded, and vibration from project construction equipment would result in a *less-than-significant* impact.

Significance without Mitigation: Less than significant.

[3] Federal Transit Administration, 2018, *Transit Noise and Vibration Impact Assessment Manual*.

NOI-3 The proposed project is located within two miles of a public airport but would not expose people residing or working in the project area to excessive noise levels.

The proposed project is not within the vicinity of a private airstrip and the nearest public airport is San Carlos Airport, approximately 1.5 miles to the northeast. Based on Figure 9-2 of the San Carlos General Plan Noise Element, the project would be outside the 55 CNEL noise contour and, therefore, would not expose people residing or working in the project area to excessive noise levels. Therefore, the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

NOI-4 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant construction noise impacts.

A significant cumulative traffic noise increase would be identified if project traffic were calculated to contribute 1 dBA or more under cumulative plus proposed project conditions to a significant traffic noise increase over existing conditions. That is, if a cumulative traffic noise increase of greater than the significance threshold, and the relative contribution from project traffic is calculated to contribute 1 dBA or more to this cumulative impact, it would be considered cumulatively considerable. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande project. Of the cumulative development projects, the nearest cumulative project and the project likely to contribute to localized traffic noise increases in the project site vicinity is the Vista Del Grande housing development, which would be similarly designed with 89 residential units, adjacent to the north of the project site. The other cumulative projects are located farther away from the project than the Vista Del Grande project, closer to downtown and transit and within walking distance to goods and services. Therefore, it is unlikely that traffic generated from these other cumulative projects would result in significant traffic increases along roadway study segments near the project given the predominant residential land use patterns in this area.

As shown in Table 4.11-6, traffic noise increases with development of the proposed project together with the Vista Del Grande project would be 0.3 dBA L_{dn} or less. In all cases, the traffic noise increases would be below the 1.5 dBA significance threshold (lowest threshold). Therefore, the proposed project would not create a cumulatively considerable traffic noise impact.

Preliminary design plans for the Vista Del Grande include private decks for the proposed dwelling units. Similar to the proposed project, the Vista Del Grande project could, at times, produce noise through gatherings on the decks. As with the proposed project, potential operational noise that poses a nuisance to nearby residences would be handled through the City's existing enforcement mechanisms as specified in Section 9.30.050 of the City's Municipal Code. Nuisance events associated with deck usage would be sporadic and geographically scattered. In addition, through implementation of Mitigation Measure NOI-1.2, the proposed project would not include rooftop decks with 150 feet of existing homes, to reduce the

potential exposure of existing residence to nuisance noise associated with deck usage. Therefore, the proposed project would not contribute to any potential cumulative stationary operational noise impacts.

If the construction of the proposed project were to overlap with cumulative projects in the vicinity, construction noise could combine to result in significant cumulative impacts. The only nearby cumulative project that is close enough (i.e., within 1,000 feet of the proposed project) to potentially have a cumulative construction noise impact is the proposed Vista Del Grande residential project adjacent to the north of the project site. It is anticipated that as a similar type of development project, the types of equipment and construction techniques and phasing would be similar to the proposed project. Conservatively assuming that simultaneous construction of the Vista Del Grande project would double the amount of construction equipment in the project vicinity, construction noise could increase by as much as 3 dBA.[4] This would result in construction noise levels as high as 88 dBA $L_{eq(8\text{-}hr)}$ at nearby residences, which would exceed the 80 dBA $L_{eq(8\text{-}hr)}$ threshold. Therefore, this impact is considered *significant*.

Impact NOI-4: Construction of the proposed project, together with the construction of cumulative development, could generate a substantial temporary increase in ambient noise levels during construction.

Mitigation Measure NOI-4: Implement Mitigation Measure NOI-1.1.

Significance with Mitigation: With implementation of Mitigation Measure NOI-1.1, particularly the use of equipment silencers and mufflers, construction noise would be reduced by up to 10 dBA.[5] With Mitigation Measure NOI-1.1, cumulative construction noise levels are estimated to be 78 dBA $L_{eq(8\text{-}hr)}$ or less, which would not exceed the threshold of 80 dBA $L_{eq(8\text{-}hr)}$. Construction noise monitoring would ensure that construction noise under cumulative conditions is below the 80 dBA $L_{eq(8\text{-}hr)}$ threshold, and the project's contribution to cumulative noise impacts would be less than significant.

[4] A doubling of sound energy is needed to cause a 3 dBA increase. It is important that this assumption is very conservative since, in reality, construction equipment from the Vista Del Grande project could not physically be as close as construction to nearby sensitive receptors as construction equipment used for the proposed project. The additional distance would result in noise attenuation.

[5] Federal Highway Administration, *Special Report – Measurement, Prediction, and Mitigation*, https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/special_report/hcn04.cfm, accessed March 16, 2022.

4.12 POPULATION AND HOUSING

This chapter describes the population and housing characteristics of San Carlos, including the project site, and evaluates the potential impacts related to population and housing that could result from development of the proposed project.

4.12.1 ENVIRONMENTAL SETTING

4.12.1.1 REGULATORY FRAMEWORK

This section summarizes key State, regional, and local regulations and policies pertaining to population and housing that are applicable to the proposed project. There are no federal regulations regarding population and housing that are applicable to the proposed project.

State Regulations

California Housing Element law includes provisions related to the requirements for housing elements of local government General Plans.[1] These requirements include an assessment of housing needs and an inventory of resources and constraints relevant to meet these requirements. Additionally, to ensure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, local jurisdictions must plan for, and allow the construction of, a share of the region's projected housing needs.

Regional Regulations

Association of Bay Area Governments Projections

The Association of Bay Area Governments (ABAG) is the official comprehensive planning agency for the San Francisco Bay region, which consists of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 cities. ABAG produces growth forecasts that are used by other regional agencies to make project funding and regulatory decisions.

ABAG projections are the basis for the Regional Transportation Plan (RTP) and the regional Ozone Attainment Plan. In this way, ABAG projections have practical consequences that shape growth and environmental quality. The General Plans, zoning regulations, and growth management programs of local jurisdictions inform ABAG projections. The projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban cores and transit-accessible areas throughout their region.

[1] Government Code Sections 65580 through 65589.8.

Regional Housing Needs Allocation

Housing Element law requires local jurisdictions to plan for, and allow the construction of, a share of the region's projected housing needs. This share is called the Regional Housing Needs Allocation (RHNA). State law mandates that each jurisdiction provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community to meet or exceed the RHNA. As the regional planning agency, ABAG is responsible for taking the overall RHNA provided by the State and preparing a formula for allocating housing needs by income level across its jurisdiction. ABAG calculates the RHNA for individual jurisdictions within San Mateo County, including San Carlos.

Local Regulations

San Carlos 2030 General Plan

General Plan 2030 outlines a vision for San Carlos that includes support for a variety of neighborhoods with housing of various types, densities, and prices, accommodating all income levels and ages, as well as blending new development successfully into existing neighborhoods.

San Carlos Housing Element

The City's Housing Element describes how San Carlos plans to meet the projected housing needs of all economic segments of the community and the City's fair-share allocation of regional housing needs. The Housing Element promotes the maintenance and development of housing to meet residents' needs. In 2015, the City adopted its Housing Element for the 2015-2022 planning period.

4.12.1.2 EXISTING CONDITIONS

Population

According to the California Department of Finance, San Carlos' population as of January 2021 is 29,814, which is a 0.84-percent decrease over the 2020 population of 30,067. San Carlos has an average household size of 2.53 persons, compared to 2.84 persons per household for San Mateo County as a whole.[2]

As of 2021, San Mateo County has a population of 765,245 persons, according to the Department of Finance.[3]

The project site is in one of the two residential neighborhoods east of El Camino Real on Alameda de las Pulgas, an arterial city street traversing north to south through mainly low- to medium-density residential

[2] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[3] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

uses. The neighborhood is predominantly composed of one- or two-story single-family homes set back from narrow residential streets. There is no existing population on the project site.

Housing

As of 2021, there are 12,422 housing units in the City of San Carlos and 282,299 housing units in San Mateo County.[4] In San Carlos, approximately 68 percent of housing units are single-family detached units, compared to 56 percent in San Mateo County.[5]

There are three vacant single-family residences located on the project site.

Projections

The General Plan 2030, adopted October 12, 2009, estimates a population of 32,303 people and a total of 13,396 housing units by 2030.[6]

ABAG projections are released periodically for regional growth planning purposes. *Plan Bay Area 2050* was adopted on October 21, 2021, and provides a regional growth pattern but does not provide projections data at the local level. Therefore, the data in this analysis is from *ABAG Projections 2040*, which was released in 2018.[7] As shown in Table 4.12-1, *ABAG Projections 2040 for San Carlos and San Mateo County*, ABAG predicts that the population in San Carlos is projected to grow to a total of 35,250 by 2040, which represents an increase of approximately 6 percent between 2020 and 2040. The population of the county in 2040 is forecast to increase to 916,590, representing a greater rate of growth of approximately 15 percent from 2020 (796,925 persons).[8]

ABAG projects that by 2040, the number of housing units in San Carlos will grow to 14,060 from 13,725, which represents a growth of 2.4 percent, as shown in Table 4.12-1. The housing stock in the county in 2040 is forecast to increase to 323,755 units, representing a substantially greater rate of growth of approximately 12 percent from 2020 (291,195 units).

[4] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[5] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[6] City of San Carlos, 2009, *General Plan 2030, Land Use Element*, Table 3-3, *Housing, Population and Job Growth Under the General Plan*, page 52.

[7] Association of Bay Area Governments and Metropolitan Transportation Commission, 2018, Plan Bay Area Projections 2040, http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf, accessed February 11, 2022.

[8] Association of Bay Area Governments and Metropolitan Transportation Commission, 2018, Plan Bay Area Projections 2040, http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf, accessed February 11, 2022.

TABLE 4.12-1 ABAG PROJECTIONS 2040 FOR SAN CARLOS AND SAN MATEO COUNTY

						Change 2020-2040	
	2020	2025	2030	2035	2040	Number	Percentage
San Carlos							
Total Population	33,205	33,580	33,915	34,670	35,250	2,045	6.2%
Households	13,575	13,720	13,800	13,955	13,985	410	3.0%
Housing Units	13,725	13,760	13,770	13,975	14,060	335	2.4%
Single-Family	9,105	9,105	9,105	9,355	9,365	260	2.9%
Multifamily	4,620	4,665	4,665	4,620	4,695	75	1.6%
San Mateo County							
Total Population	796,925	816,460	853,260	878,020	916,590	119,665	15.0%
Households	284,260	290,330	302,520	308,410	317,965	33,705	11.9%
Housing Units	291,195	295,215	304,975	312,605	323,755	32,560	11.2%
Single-Family	187,710	187,845	188,250	189,365	190,935	3,225	1.7%
Multifamily	103,485	107,370	116,725	123,240	132,820	29,335	28.4%

Note: *Plan Bay Area 2050* was adopted on October 21, 2021 but does not provide data at the local level. Therefore, this table presents data from ABAG Projections 2040.
a. Calculated by dividing total jobs by employed residents.
Source: Association of Bay Area Governments and Metropolitan Transportation Commission, 2018, Plan Bay Area Projections 2040, http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf, accessed February 11, 2022.

4.12.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant population and housing impact if it would:

1. Induce substantial unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
3. Contribute to cumulative population and housing impacts in the area in combination with past, present, and reasonably foreseeable projects.

4.12.3 IMPACT DISCUSSION

POP-1 The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

The proposed project would result in a significant impact related to population growth if it would lead to substantial unplanned growth either directly or indirectly. The proposed project includes the construction

of a townhome development on undeveloped land, as well as low-density land with few structures. The proposed project includes the construction and operation of a new residential development consisting of 87 townhomes and a residential population of approximately 220 residents, based on an average of a 2.53-person household size within the City of San Carlos.[9] As described in Section 4.12.1.2, *Existing Conditions*, ABAG estimates future population and housing growth for the City of San Carlos. The proposed project would be considered to induce substantial growth if the proposed project would lead to substantial unplanned growth, either directly or indirectly.

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the majority of the project site is designated as Single-Family, a low-density residential land use designation that permits up to six DUs/Ac, generally restricted to detached homes. Additionally, the project site is zoned RS-6: Single Family on the City of San Carlos zoning map.[10] According to the Municipal Code, residential, public, and semi-public development is allowed in the RS-6 District, with density limited to six units per net acre. The proposed project would require Planning Commission approval of a Conditional Use Permit (CUP) for townhome development within the RS-6 District. Therefore, upon approval, the proposed project would be consistent with the City's zoning regulations.

Implementation of the proposed project would introduce 87 affordable and market-rate housing units, resulting in a direct increase of housing on-site. As shown in Table 4.12-1, *ABAG Projections 2040 for San Carlos and San Mateo County*, ABAG predicts that the population in San Carlos is projected to grow by 2,045 between 2020 and 2040. Based on the General Plan's population projections, the city population would be expected to increase by 2,236 between 2020 and 2030.[11] The growth induced by the proposed project is well within the General Plan and ABAG growth projections.

Construction of the proposed project would create temporary construction jobs. It is expected that construction workers already live in the region, and that the number of construction workers would not be substantial enough to generate population growth. Construction industry jobs generally have no regular place of business, and construction workers commute to job sites throughout a given region, with job sites changing several times a year. Additionally, many construction workers are highly specialized (e.g., crane operators, steel workers) and move from job site to job site in the region, as dictated by the demand for their specific skills. Due to the highly specialized nature of these jobs, workers are generally employed on a job site only as long as their skills are needed to complete a particular phase of the construction process. For these reasons, employment opportunities associated with construction of the proposed project would not likely result in any measurable relocation of construction worker households to the city or region.

[9] California Department of Finance, May 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[10] City of San Carlos GIS, 2022. Interactive Zoning Map, https://gis.cityofsancarlos.org/map, accessed February 11, 2022.

[11] 32,303 population projected by 2030– 30,067 population in 2020 = 2,236 population growth. Sources: City of San Carlos, 2009, *General Plan 2030, Land Use Element*, Table 3-3, *Housing, Population and Job Growth Under the General Plan*, page 52. California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

Although the proposed project would directly increase the number of housing units and residential population on the project site and create new on-site infrastructure to support the proposed project, the project site is within an already developed area of the city, on a site currently serviced with infrastructure. Upon completion, housing provided by the proposed project would reduce the demand for additional housing required to accommodate the growth projected within the City of San Carlos. Because the proposed project would provide residences, it would not induce a substantial number of additional housing units required to accommodate population growth. In addition, as described previously, the proposed project would not exceed local and regional growth projections for San Carlos. Therefore, the project would not directly or indirectly create unplanned levels of growth and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

POP-2 The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The project site is currently vacant with remnant buildings and structures from previous on-site uses, which will be demolished; therefore, there would be *no impact* relevant to displacing substantial numbers of existing housing units or people on the project site.

Significance without Mitigation: No impact.

POP-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts regarding population and housing.

As described under impact discussion POP-2, the project site is currently vacant and therefore the project would not have the potential to displace existing people or housing units or contribute to any cumulative displacement effects. Therefore, this cumulative analysis focuses on whether cumulative development would induce substantial unplanned population growth. Analysis of cumulative impacts is based on cumulative development projects assessed in the context of regional growth projections.

Cumulative development projects in the project area include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande project. As shown in Table 4.12-1, *ABAG Projections 2040 for San Carlos and San Mateo County*, ABAG projects that between 2020 and 2040, the number of housing units in San Carlos will grow from 13,725 to 14,060, which is an increase of 335 units. Therefore, based on the data in ABAG's projections, the development of 1,150 housing units (87 units under the proposed project + projected increase 974 units under the General Plan from 2021 conditions + 89 units under Vista Del Grande project) would exceed housing projections. However, as noted in Section 4.12.1.2, *Existing Conditions*, according to 2021 Department of Finance data, there are 12,422 housing units in the City of San Carlos, which is lower than the estimate of 13,725 housing units projected by ABAG for 2020. The 2020 housing unit estimate provided in ABAG's projections was released in 2018 and calculated based on

modeled growth from 2010 and 2015 Department of Finance data.[12] Based on the updated 2021 Department of Finance estimate that San Carlos contains 12,422 housing units, the addition of 1,150 new units would not exceed ABAG's projected 2040 housing unit count of 14,060 (12,422 + 1,150 = 13,572).

Based on an average of a 2.53-person household size within the City of San Carlos, cumulative development projects would increase the City's population by approximately 2,689 residents (1,063 dwelling units x 2.53 persons per unit = 2,689 persons). Together with the proposed project's residential population of 220 residents, the cumulative increase to the city's population would be 2,909 residents. Therefore, the cumulative population increase to which the project would contribute would represent approximately 8 percent of the City's 20-year population growth forecast, exceeding ABAG's projected change of 6.2 percent, as shown in Table 4.12-1, *ABAG Projections 2040 for San Carlos and San Mateo County*. However, similar to the previous discussion of housing units, updated Department of Finance data for 2021 reports a lower population level for San Carlos when compared to ABAG's projections for 2020. Based on the 2021 population data of 29,814 residents, the addition of 2,909 new residents would not exceed ABAG's projected population of 35,250 residents (29,814 + 2,909 = 32,723). Therefore, cumulative population growth would not exceed projected levels when using updated 2021 population data.

Based on the previous discussion, the proposed project, when considered along with cumulative development projects, would not contribute to cumulative growth that could cumulatively exceed planned levels of growth and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

[12] Association of Bay Area Governments and Metropolitan Transportation Commission, 2018. Plan Bay Area Projections 2040, page 9, http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf, accessed February 11, 2022.

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4.13 PUBLIC SERVICES

This chapter describes public services provided in the project vicinity and evaluates the potential impacts to public services that could result from development of the project. In each section, a summary of the relevant regulatory setting and existing conditions are followed by a discussion of project-specific and cumulative impacts. This chapter covers the following public services:

- Fire protection
- Police protection
- Schools
- Libraries

4.13.1 FIRE PROTECTION SERVICES

This section described the current fire protection regulations, resources, and response times for fire protection services in the City of San Carlos.

4.13.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

This section summarizes key State and local regulations related to fire protection services. There are no federal regulations pertaining to fire protection that apply to the proposed project.

State Regulations

Mitigation Fee Act

Enacted as Assembly Bill (AB) 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development plan on which it is to be levied. The Mitigation Fee Act came into force on January 1, 1989.

California Building Code

The California Building Code (CBC), which is in Part 2 of Title 24 of the California Code of Regulations, establishes the minimum State building standards. The CBC is currently updated every three years. The most recent update is the 2019 CBC, effective starting January 1, 2020. It is based on the 2018 International Building Code but has been amended to account for California conditions. The CBC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by City building officials for compliance with the CBC. Typical fire safety requirements of the CBC include installation of sprinklers in all high-rise buildings; establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The California Fire Code (CFC) incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. It is in Part 9 of California Code of Regulations Title 24. The most recent update is effective starting January 1, 2020, and is based on the 2018 International Fire Code. The CFC contains regulations for safeguarding life and property from fire hazards, including setting certain building requirements regarding hazardous materials, storage, and occupancy.

Local Regulations

San Carlos 2030 General Plan

Fire protection services are addressed in Chapter 8, *Community Safety and Services Element*, of the *City of San Carlos 2030 General Plan*. Policies related to fire protection and emergency medical services are included in Table 4.13-1, *Policies of the City of San Carlos 2030 General Plan Relevant to Fire Protection*.

TABLE 4.13-1 POLICIES OF THE SAN CARLOS 2030 GENERAL PLAN RELEVANT TO FIRE PROTECTION

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-3.1	Evaluate fire response needs of the Fire Department as new development and redevelopment continues within city limit.
Policy CSS-3.3	Promote public education and information dissemination on fire safety both in the wildland interface, commercial, industrial, and residential sections of the City of San Carlos.
Policy CSS-3.4	Maintain participation with the Joint Powers Authority Agreement with all fire departments in San Mateo County to ensure required response times for initial emergency deployment personnel and equipment.
Policy CSS-3.5	Preserve the local government agreement with California Department of Forestry and Fire Protection (CAL FIRE) for responses in the Mutual Threat Zone (MTZ) within the Wildland Urban Interface Areas of the city. Continue to provide BSCFD[a] equipment and personnel under the mutual aid agreement, with the State of California Office of Emergency Service (OES) Region II. This continued "reverse support" enables the City of San Carlos to receive "no cost" statewide mutual aid in the event of a declared large-scale emergency.
Policy CSS-3.6	Continue to enforce building code regulations that minimize fire hazards in areas subject to a very high fire severity zone (VHFSZ) risk west of Alameda de las Pulgas and prohibit any structural development in areas where wildland urban fire hazards cannot be mitigated under an agreement addressing alternate means of protection and materials agreement.
Policy CSS-3.8	Provide adequate access for fire and emergency service vehicles to new development in hillside areas, as per the International Fire Code and the Urban Wildland Interface Code.
Policy CSS-3.9	Support "early review" of proposed development by the Belmont-San Carlos Fire Department [a] and institute impact fees to ensure adequate all-risk fire equipment for the community.
Policy CSS-3.10	Continue to require all new development to provide all necessary water service, fire hydrants and road improvements consistent with City standards and the California Fire Code.
Policy CSS-3.11	Ensure that in existing developed areas within the city there is an acceptable level of fire safety and emergency medical/paramedic services.
Policy CSS-3.13	Ensure that property owners maintain property in a manner that minimizes fire hazards through the removal of vegetation, hazardous structures and materials and debris as governed under the City Municipal Code for enforcement.

Notes:
a. Following the 2011 dissolution of the Belmont-San Carlos Fire Department (BSCFD), Belmont Fire Protection District became a standalone department and San Carlos and the City of Redwood City entered into an agreement for fire and emergency services.
Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for the City. The Municipal Code is organized by Title, Chapter, and Section. Title 15, *Buildings and Construction*, of the Municipal Code sets forth the standards for building and construction in San Carlos. The City has adopted by reference the most recent CBC subject to additions and amendments as outlined in Chapter 15.04, *Technical Building Codes*, and Title 24, Part 9 of the CFC 2020 Edition, with all California and local amendments, additions or deletions as outlined in Section 15.04.110, *Title 24, Part 9, California Fire Code*, of the City's Municipal Code.

Existing Conditions

Redwood City–San Carlos Fire Department

The City of San Carlos is served by the Redwood City-San Carlos Fire Department (RC-SCFD). The RC-SCFD, a joint powers and governmental agency, provides fire and emergency response services to the cities of Redwood City and San Carlos. The RC-SCFD is responsible for fire response, vehicle accidents, public assistance, medical emergencies, water rescue, and hazardous material response. In addition, the RC-SCFD is also responsible for disaster preparedness and other services, such as building plan review, fire prevention, and fire hydrant testing.

There are two fire stations within the City of San Carlos. Fire Station 13, on Laurel Street, is 9,000 square feet and was built in 1995, and Fire Station 16, on Alameda de las Pulgas, is 4,500 square feet and was built in 1964. The next two closest fire stations are Fire Station 9, at 755 Marshall Street in Redwood City; and Fire Station 20, at 680 Redwood Shores Parkway in Redwood City. The RC-SCFD has seven fire engines and one truck.[1]

The RC-SCFD goal is to respond to all calls, ranging from emergency medical services (EMS) calls to fire calls, within just above five minutes.[2] The RC-SCFD has been awarded a class-one rating from the Insurance Services Office (ISO), placing the RC-SCFD in the top 1 percent safest of all US municipal-rated fire departments.[3]

The RC-SCFD has 1 battalion chief and over 90 staff members, including firefighters, paramedics, captains, fire prevention staff, training staff, and administrative staff. The RC-SCFD is currently meeting its standard of at least three-person staff at any given time.[4]

[1] Redwood City Fire Department, 2022, About the Department, https://www.redwoodcity.org/departments/fire-department/about-the-department, accessed February 11, 2022.

[2] City of San Carlos, 2018, San Carlos Spotlight: September 2018 Issue, https://www.cityofsancarlos.org/home/showdocument?id=4801, accessed February 7, 2022.

[3] Redwood City Fire Department, 2022, About the Department, https://www.redwoodcity.org/departments/fire-department/about-the-department, accessed February 11, 2022.

[4] Harris, Gareth. Fire Marshall, Redwood City Fire Department. Personal communication with Lindsey Klein, PlaceWorks, December 17, 2018.

The 2021 estimated population of Redwood City is 86,380[5] and the current estimated population of San Carlos is 29,814,[6] for a combined total population of 116,194. This results in an average of one firefighter for every 1,291 persons. The standard set by the National Fire Protection Association recommends that there be one firefighter for every 1,000 population.

Of San Carlos' two fire stations, the RC-SCFD reports that neither facility is currently equipped to provide adequate services to the region.[7] Fire Station 16, over 0.5 miles south of the project site, is slated to be rebuilt over the next few years. Once the construction on the new facility is complete, the fire station expects to provide the same staffing and levels of service to the public but with new, enhanced facilities. The other fire station in San Carlos, Fire Station 13, is less than 1 mile northeast of the project site and also lacks adequate resources to provide suitable services to the public. The RC-SCFD reports that this facility needs modernization in the next few years, but this will be addressed likely after the reconstruction of Fire Station 16.

The RC-SCFD reviews development plans and inspects construction projects to ensure that all new and remodeled buildings and facilities meet State and local Building and Fire Code requirements.[8] In addition, the RC-SCFD implements a vigorous building inspection program to ensure compliance with applicable standards and regulations, including requirements for emergency access.

California Department of Forestry and Fire Protection/San Mateo County Fire Protection Services

The California Department of Forestry and Fire Protection (CAL FIRE) has developed Fire Management Plans to implement the statewide fire plan. Each Fire Management Plan assesses the fire situation within a CAL FIRE-designated unit. The City of San Carlos falls within the San Mateo-Santa Cruz Unit, an approximately 894-square-mile area that protects 572,160 acres of the State Responsibility Area. The Fire Management Plan lists stakeholder contributions and priorities as well as identifies strategic areas for pre-fire planning and fuel treatment.

4.13.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact to fire protection and emergency services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities or a need for new or physically altered fire protection facilities, the

[5] City of Redwood City, About the City, Demographics, https://www.redwoodcity.org/about-the-city/demographics , accessed on February 11, 2022.

[6] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[7] Harris, Gareth. Fire Marshall, Redwood City Fire Department. Personal communication with Lindsey Klein, PlaceWorks, December 17, 2018.

[8] City of San Carlos, Fire Department, Plan Review Information, https://www.cityofsancarlos.org/government/departments/administrative-services/finance/city-fees-cost-of-services/fire-fees, accessed February 11, 2022.

construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.

- In combination with past, present, and reasonably foreseeable projects, result in substantial adverse physical impacts associated with the provision of new or physically altered fire-protection facilities, or a need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.

4.13.1.3 IMPACT DISCUSSION

PS-1	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities or a need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.**

A significant environmental impact could result if implementation of the proposed project would increase demand for fire protection services to the extent that the construction of new or physically altered fire protection facilities would be needed.

The proposed development would be required to comply with the City's Municipal Code, which sets forth the standards for building and construction in San Carlos under Title 15, *Buildings and Construction*. As described previously, the City has adopted the most recent CBC as outlined in Chapter 15.04, *Technical Building Codes,* and Title 24, Part 9 of the CFC 2020 Edition, with all California and local amendments, additions or deletions as outlined in Section 15.04.110, *Title 24, Part 9, California Fire Code*, of the City's Municipal Code. The code includes standards for building and construction in the city, permit processes, and requirements for emergency access, hazardous material handling, and fire protection systems. As described in impact discussion TRAN-4 in Chapter 4.15, *Transportation*, the RC-SCFD has reviewed the proposed project site plans and has identified code compliance issues that require resolution. With the implementation of Mitigation Measures TRAN-4a and TRAN-4b, these code issues would be addressed, and the proposed project would adhere to applicable fire code requirements. These code compliance issues do not have any bearing as to whether or not the RC-SCFD has sufficient facilities to serve the proposed project.

As stated previously in Section 4.13.1.2, *Existing Conditions*, RC-SCFD currently has an average of one firefighter for every 1,291 persons, which is below the standard set by the National Fire Protection Association of one firefighter for every 1,000 population. However, the RC-SCFD is currently meeting its standard of an at least three-person staff at any given time.[9] As stated previously, the RC-SCFD has already

[9]Harris, Gareth. Fire Marshall, Redwood City Fire Department. Personal communication with Lindsey Klein, PlaceWorks, December 17, 2018.

identified a need for improved and expanded services at two fire stations–Fire Stations 16 and 13. Fire Station 16 is slated to be rebuilt over the next few years. The Fire Station 13 facility also needs modernization in the next few years, but this will be addressed likely after the reconstruction of Fire Station 16.[10]

While the proposed project would increase the service population in San Carlos in comparison to existing conditions, as described in Chapter 4.12, *Population and Housing*, the growth resulting from the proposed project would fit well within the amount of development projected by the City's General Plan as well as Association of Bay Area Governments (ABAG) projections. As described above, the RC-SCFD is already planning for updated facilities without the proposed project. Because the proposed project would not generate additional development beyond levels already planned by the City, the project would not increase services need such that RC-SCFD would require additional facility expansion or the construction of a new fire station. Beyond the code compliance issues, the fire department did not have concerns regarding the City's ability to adequately serve the project site with existing department facilities.

Compliance with the CFC and local regulations, fair-share payment of developer impact fees, and continuation of RC-SCFD planning processes, would ensure that the proposed project would have a *less-than-significant* impact on the need for additional future fire facilities.

Significance without Mitigation: Less than significant.

PS-2	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or a need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.**

The cumulative setting for fire protection services takes into account growth resulting from the proposed project, in combination with growth projected by the Association of Bay Area Governments (ABAG) in the service area of the RC-SCFD. A significant cumulative environmental impact would result if this cumulative growth would exceed the ability of RC-SCFD to adequately serve its service area, thereby requiring construction of new facilities or modification of existing facilities.

As described previously, the proposed project would not create a need for new or physically altered facilities in order for the RC-SCFD to provide fire protection services to its service area. The RC-SCFD assesses its ability to service San Carlos through an internal assessment of existing and projected demand throughout its service area and how it will affect stated service levels, which includes staffing, equipment,

[10] Harris, Gareth. Fire Marshall, Redwood City Fire Department. Personal communication with Lindsey Klein, PlaceWorks, December 17, 2018.

and facility needs. All development in the RC-SCFD would be required also to comply with the CBC and CFC.

Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande project adjacent and to the north of the project site. As stated under impact discussion PS-1, the RC-SCFD has indicated that the project alone would not result in an increase in response times for the project site, but the increased development throughout the city will impact response times without increases in staffing and facilities.[11] The developer impact fees collected from each development project by the City are required to cover the additional cost of fire protection service necessitated by each development. The San Carlos General Plan includes policies and strategies that would ensure adequate fire protection services as new development occurs throughout the city. Policy CSS-3.1 would require the City to evaluate fire response needs of the RC-SCFD as new development and redevelopment continues within the city limit of San Carlos. Policy CSS-3.2 would require the City to engage neighboring jurisdictions and other governmental agencies for fire prevention and life safety programs, while Policy CSS-3.4 would allow the City to maintain participation with the Joint Powers Authority Agreement with all fire departments in San Mateo County to ensure adequate response times for initial emergency deployment personnel and equipment. Under Policy CSS-3.8, new development would be required to provide adequate access for fire and emergency service vehicles within hillside areas, as per the International Fire Code and Urban Wildland Interface Code. Additionally, Policy 3.10 would require all new development to provide all necessary water service, fire hydrants, and road improvements consistent with City standards and the California Fire Code. These requirements would be accorded by Policy CS-3.9 that would support "early review" of proposed development by the RC-SCFD and institute impact fees to ensure adequate all-risk fire equipment for the community. In an ongoing manner, Policy CSS-3.13 would ensure that property owners maintain their property in a manner that minimizes fire hazards through the removal of vegetation, hazardous structures, and materials and debris as governed under the City's Municipal Code for enforcement.

As stated previously, the RC-SCFD has already identified a need for improved and expanded services at two fire stations. As described in Chapter 4.12, *Population and Housing*, the growth resulting from the proposed project, when considered along with the Vista Del Grande project as well as growth anticipated under the General Plan, would fit well within the amount of development projected by ABAG projections. Because the proposed project would not generate additional development beyond levels already planned by the City, the cumulative impact on the provision of fire services would be *less than significant*.

Significance without Mitigation: Less than significant.

4.13.2 POLICE PROTECTION SERVICES

This section describes existing conditions related to police protection services and the potential impacts that could result from development of the proposed project.

[11] Harris, Gareth. Fire Marshall, Redwood City Fire Department. Personal communication with Lindsey Klein, PlaceWorks, December 17, 2018.

4.13.2.1 EXISTING SETTING

Regulatory Framework

There are no federal or State regulations regarding police protection services that are applicable to the proposed project.

Chapter 10.12, *Enforcement and Obedience to Traffic Regulations*, of the San Carlos Municipal Code states that it is the duty of officers of the Police Department to enforce all street vehicle and traffic laws applicable to the City. Officers are assigned by the Chief of Police and are authorized to direct traffic as conditions may require. The Municipal Code includes other various sections referring to police duties that generally include enforcement of laws applicable to the city.

Existing Conditions

The San Mateo County Sheriff's Office (SMCSO's) San Carlos Police Bureau (SCPB) serves the City of San Carlos from its station at the City Hall building at 600 Elm Street about 0.6 miles northeast of the project site. It occupies half of a floor in City Hall, as well as a level of the building's underground parking. The SCPB does not operate any remote facilities.

Police service calls are prioritized as follows: Priority 1 calls involve life-threatening situations, Priority 2 calls are not life-threatening but necessitate immediate response, all other calls are designated Priority 3. The average response time to emergency incidents within the City of San Carlos was 4 minutes and 10 seconds in 2019. The average response time to all calls for service, including emergency, was 9 minutes and 8 seconds. The SMCSO reports that these times are within acceptable range.[12]

The SMCSO has 800 employees serving 750,000 residents of San Mateo County.[13] This equates to roughly one officer for every 937 residents. The SCPB provides an average of 1 Deputy Sheriff to every 7,449 residents each shift. The Station has 18 total patrol deputies and sergeants assigned to the station compared to the overall population of San Carlos (29,814), the average is 1 Deputy Sherriff for every 1,656 citizens.[14] The national average can vary; the national rate of sworn officers was 2.4 officers per 1,000 inhabitants in 2019.[15]

4.13.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact to police protection services if it would:

[12] Halley, Dorothy. Management Analyst, San Carlos Bureau, San Mateo County Sheriff's Office. Personal email communication with Allison Dagg, PlaceWorks, March 16, 2020.

[13] San Mateo County Sheriff's Office, 2021, https://www.smcsheriff.com/index.php/, accessed February 11, 2022.

[14] Halley, Dorothy. Management Analyst, San Carlos Bureau, San Mateo County Sheriff's Office. Personal email communication with Allison Dagg, PlaceWorks, March 16, 2020.

[15] FBI Uniform Crime Reporting, 2019 Crime in the United States, https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/topic-pages/police-employee-data, accessed February 11, 2022.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities or a need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.
- In combination with past, present, and reasonably foreseeable projects, result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.

4.13.2.3 IMPACT DISCUSSION

PS-3 **The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities or a need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.**

According to the SCPB, current police response times are within an acceptable range, and the project would not result in the need for a new police station of physical facility. Given the proposed residential use and its similarity to the land uses in the surrounding area, the proposed project would not be expected to result in any notable difference in the types of service calls or overall need for service in the project vicinity, such that the SMCSO would need to provide new facilities or upgrades to existing facilities. Using the Department of Finance's estimate of 2.53 persons per household,[16] the proposed project would add approximately 220 people, and based on response from the SMCSO, this population would be absorbed by projected police services.[17] Therefore, physical expansion or improvement to police facilities would not be required to maintain service levels, and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

[16] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

[17] Halley, Dorothy. Management Analyst, San Carlos Bureau, San Mateo County Sheriff's Office. Personal email communication with Allison Dagg, PlaceWorks. March 16, 2020.

PS-4	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities or need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.**

The proposed project would result in cumulative impacts related to police services if it would, in combination with other projects in the vicinity, result in the need for new or physically altered police protection facilities to maintain service levels. According to correspondence with the SMCSO, the added population from the proposed project would be absorbed by projected police services, as described in impact discussion PS-3. The proposed project and Vista Del Grande project would be compatible with the residential neighborhoods surrounding the two project sites, and would not create any notable difference in the types of service calls or overall need for service in the project vicinity, such that the SMCSO would need to provide new facilities or upgrades to existing facilities. Other cumulative development projects would be scattered throughout San Carlos and would not concentrate new development in such a way that service needs in the city would greatly shift. Therefore, physical expansion or improvement to police facilities would not be required to maintain service levels. Therefore, cumulative impacts in this regard would be *less than significant*.

Significance without Mitigation: Less than significant.

4.13.3 SCHOOLS

This section describes the existing regulations and conditions with regard to schools serving San Carlos, as well as the proposed project's potential impacts to schools.

4.13.3.1 EXISTING SETTING

Regulatory Framework

This section summarizes key State and local regulations related to schools. There are no federal regulations pertaining to schools that apply to the proposed project.

State Regulations

Senate Bill 50

Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available, whether the school district is eligible for State funding and

whether the school district meets certain additional criteria involving bonding capacity, year-round school and the percentage of moveable classrooms in use.

California Government Code, Section 65995(b), and Education Code Section 17620

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. Per California Government Code Section 65995, the payment of fees is deemed to fully mitigate the impacts of new development on school facilities.

Mitigation Fee Act

Enacted as Assembly Bill (AB) 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development plan on which it is to be levied. The Act came into force on January 1, 1989.

Local Regulations

The San Carlos 2030 General Plan contains the Community Safety and Services Element, which presents policies and strategies to encourage school districts to maintain and enhance existing educational opportunities, shown in Table 4.13-2, *Policies of the City of San Carlos 2030 General Plan Relevant to Schools*.

TABLE 4.13-2 POLICIES OF THE CITY OF SAN CARLOS 2030 GENERAL PLAN RELEVANT TO SCHOOLS

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-7.4	Work with all special districts, including the school districts, to ensure that development within the city is coordinated with provision of services.
Policy CSS-7.5	Maintain neighborhood schools wherever possible. Evaluate City potential to acquire any surplus school sites. If redeveloped, sites shall be used for purposes which are compatible with the surrounding neighborhood and consistent with the General Plan Land Use Map and shall strive to retain school recreation facilities for neighborhood use.
Policy CSS-8.2	Support the availability of all types of educational opportunities, both formal and informal, for residents of all ages and abilities.
Policy CSS-8.4	Evaluate through the California Environmental Quality Act (CEQA) process how new development impacts schools, as the quality of San Carlos schools is a primary asset of the city.
Policy CSS-8.5	Participate in the long-range planning activities with San Carlos Unified School District and Sequoia Union High School District.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

Existing Conditions

The City of San Carlos is served by two school districts: the San Carlos School District (SCSD) and the Sequoia Union High School District (SUHSD).

San Carlos School District

The SCSD provides preschool through eighth grade schooling for the City of San Carlos and operates four elementary schools (preschool through third grade), two upper elementary schools (fourth and fifth grade), two middle schools (sixth through eighth grade), and a charter school (kindergarten through eighth grade) within the city limit.[18] Revenues for public schools are provided from Revenue Limit funding, federal funds, and the remainder from local funding, such as parcel tax funds and other monies donated by the San Carlos Education Foundation and the San Carlos Parent-Teacher Association (PTA).

The 2013 SCSD Facilities Master Plan describes enrollment growth the district is experiencing with the increase in housing and population in San Carlos. At the time, the Facilities Master Plan detailed three phases for construction of new schools and improvements to address enrollment growth anticipated for the next 10 years (to 2023).[19] This included construction of two new schools to accommodate grades four and five and thus reconfigure existing elementary and middle schools. These two schools, Arroyo and Mariposa Upper Elementary Schools, opened in 2016 and 2019, respectively.[20, 21]

Sequoia Union High School District

The SUHSD serves San Carlos, Belmont, and Redwood City high school students. Overall, the SUHSD serves approximately 10,327 students on the Midpeninsula with four comprehensive high schools (Carlmont High School, Menlo-Atherton High School, Redwood High School, and Woodside High School), one continuation high school (Sequoia Adult School), one science, technology, engineering, and math-focused high school (TIDE Academy), and one charter school (East Palo Alto High School).[22] Students residing in San Carlos either attend the Carlmont High School or Sequoia High School. Funding for the SUHSD comes from the Revenue Limit funding, federal funds, and from State and local funds.

The SUHSD also collects development impact fees, which fund improvements and new facilities to mitigate impacts from new development. The SUHSD benefits from the Sequoia Union High School

[18] San Carlos School District, Schools, https://www.scsdk8.org/apps/pages/index.jsp?uREC_ID=1136262&type=d&pREC_ID=1384044, accessed February 11, 2022.

[19] San Carlos School District, 2013, Facilities Master Plan, https://1.cdn.edl.io/0VOtuG1njeuyF7VsJVlqtr0MdFFLWZJrLBGmUyKSGW8aHJ92.pdf, accessed February 7, 2022.

[20] California Department of Education, 2021, California School Directory: Arroyo, https://www.cde.ca.gov/schooldirectory/details?cdscode=41690210133645, accessed February 11, 2022.

[21] California Department of Education, 2021, California School Directory: Mariposa, https://www.cde.ca.gov/SchoolDirectory/details?cdscode=41690210138685, accessed February 11, 2022.

[22] California Department of Education, 2020-21 Enrollment By Ethnicity: Sequoia Union High Report (41-69062), https://dq.cde.ca.gov/dataquest/dqcensus/EnrEthGrd.aspx?cds=4169062&agglevel=district&year=2020-21, accessed February 11, 2022.

District School Impact Fee, under the California Education Code Section 17620. As of June 15, 2020, the SUHSD collects $4.08 per square foot for residential construction.[23]

Similar to SCSD, SUHSD's Facilities Master Plan includes plans to accommodate significant increases in student enrollment. The first priority of the Facilities Master Plan is to use funds to provide necessary facilities to support projected growth, which includes adding classrooms and other educational spaces and improvements to supporting services.[24]

4.13.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact related to schools if it would:

- In order to maintain acceptable service ratios or other performance objectives, result in the provision of, or need for, new or physically altered school facilities, the construction or operation of which could cause significant environmental impacts.
- In combination with past, present, and reasonably foreseeable projects, result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for school services.

4.13.3.3 IMPACT DISCUSSION

PS-5	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities or a need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for school services.**

As described in Chapter 4.12, *Population and Housing*, San Carlos's population is projected to increase to a total of 35,250 people by 2040, from a population of 29,814 in 2021.[25,26] Development of the proposed project would add 87 units of additional housing to San Carlos. This would be in line with the projected increase in population and would likely add more students to the local school district. The proposed

[23] Sequoia Union High School District, Maintenance & Operations, Developer Fees, https://www.seq.org/DEPARTMENTS/Administrative-Services/Maintenance--Operations/School-Impact--Developer-Fees/index.html, accessed February 11, 2022.

[24] Sequoia Union High School District, 2015, Facilities Master Plan, https://www.seq.org/documents/Departments/Construction/construction-menlo-atherton/facilities.pdf, accessed May 17, 2021.

[25] Association of Bay Area Governments and Metropolitan Transportation Commission, 2018, Plan Bay Area Projections 2040, http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf, accessed February 11, 2022.

[26] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

project would be required to pay school impact fees, pursuant to SB 50, to reduce impacts to the school system. The school districts collect these fees at the time of issuance of building permits. The 2013 SCSD and SUHSD Facilities Master Plans include accommodations for the district's increasing student enrollment, such as renovations to school services to increase educational spaces. Planned improvements to school facilities would be subject to separate project-level California Environmental Quality Act (CEQA) review to identify potential environmental impacts and mitigation measures as needed. Therefore, impacts in this regard would be *less than significant*.

Significance without Mitigation: Less than significant.

PS-6	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for school services.**

As discussed under impact discussion PS-5, the proposed project would not result in substantial adverse impacts associated with the provision of new or physically altered school facilities, or the need for new or altered school facilities. However, the addition of housing into San Carlos would add to the population and student body attending the local school districts. All cumulative development projects would be subject to SB 50, requiring school impact fees. While one housing development project may not add a significant enough number of students to warrant the need for new or physically altered school facilities, combined with other housing projects, it may cumulatively result in this need. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande development project adjacent and north of the project site. The Vista del Grande project would also add to the student body attending the local districts and would presumably attend the same schools that would serve the proposed project. Development of projects in line with the City's goals for schools would result in cumulative impacts in this regard to be *less than significant*.

Significance without Mitigation: Less than significant.

4.13.4 LIBRARIES

This section describes the existing regulations and conditions regarding library services in San Carlos, as well as the proposed project's potential impacts to libraries.

4.13.4.1 EXISTING SETTING

Regulatory Framework

This section summarizes key State and local regulations related to libraries. There are no federal regulations pertaining to libraries that apply to the proposed project.

State Regulations

The Mello-Roos Community Facilities Act, Government Code Section 53311 et seq., provides an alternative method of financing certain public capital facilities and services through special taxes. This State law empowers local agencies to establish Community Facilities Districts (CFDs) to levy special taxes for facilities such as libraries. The City of San Carlos does not have any CFDs in place at this time.

Local Regulations

San Mateo County Libraries Strategic Plan

The San Mateo County Libraries Strategic Plan (SMCLSP) sets forth a vision, mission, and goals for the libraries to encourage growth, strengthen the community, support discovery, and enrich lives. The Strategic Plan lays out internal goals, including building and updating facilities, creating opportunities to deliver services beyond buildings, and provide an accessible online experience. The goals and objectives are intended to improve the libraries existing services and do not apply to future development in San Carlos.[27]

San Carlos 2030 General Plan

The Community Safety and Services Element of San Carlos's 2030 General Plan contains policies and strategies to encourage adequate library facilities that serve the residents within the city. Applicable policies are listed in Table 4.13-3, *City of San Carlos 2030 General Plan Policies and Strategies Pertaining to Libraries*.

TABLE 4.13-3 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES AND STRATEGIES PERTAINING TO LIBRARIES

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-7.6	Maintain existing library facilities as an important activity center within the community.
Policy CSS-8.3	Ensure that all residents have access to library services including access to computers and other technology.

Source: Source: City of San Carlos, 2009. *2030 General Plan.*

Existing Conditions

As a member of the San Mateo County Library Joint Powers Authority (JPA), the San Carlos branch of the San Mateo County library system offers book circulation, community programs and resources, and conference rooms for reservation. The San Carlos Library is approximately 0.6 miles northeast of the project site.

[27] San Mateo County Libraries, 2022, Strategic Plan, https://smcl.org/strategic-plan/, accessed February 11, 2022.

Library Facility and Services

The San Carlos Library lends books, media, and digital content to all age groups, and provides educational and entertainment programs and events for children, teens, adults, and families. It also offers free internet-enabled public computers, access to database and reference and research service, provides self-service copy machines, a 3D printer for residents, and free local museum passes for patron use. The library provides different learning opportunities and classes, both online and in person, which include, but are not limited to, homework help, social and wellness-related classes, veteran connection services, literacy classes, small business development resources, and high school diploma completion classes. In addition to these classes, the San Carlos Library also has mobile resources, including a fleet of bikes, a Bookmobile, and a Lookmobile.[28]

The San Mateo County Libraries contain nearly three million items in their physical and digital collections and act as one of the largest providers of free Internet access in the county. More than 65 percent of the service population have library cards, and the JPA estimates to have more than 2.2 million annual visitors. In 2020, the San Carlos Library had the fourth-most visitors in San Mateo County.[29] The County staffs and provides materials to the library, while the City of San Carlos is responsible for maintaining the buildings and infrastructure. The San Carlos Library currently has the capacity to meet the needs of the San Carlos community, and trends towards electronic access of library resources paired with the library's intention to improve technology resources indicate the continued ability to meet projected needs of the community in the future.[30]

Library Funding

The San Mateo County Library JPA provides funding for the San Carlos Library as well as the 11 other libraries in nearby cities, including Atherton, Belmont, Brisbane, East Palo Alto, Foster City, Half Moon Bay, Millbrae, Pacifica, Portola Valley, and Woodside. Library services are primarily funded by County property taxes, including Measure K, passed in 2016, which supports essential County services and critical facilities.

4.13.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to library facilities if it would:

- In order to maintain acceptable service ratios or other performance objectives, result in the provision of or need for new or physically altered library facilities, the construction or operation of which could cause significant environmental impacts.
- In combination with past, present, and reasonably foreseeable projects, result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, or need for new or physically altered library facilities, the construction of which could cause significant

[28] San Mateo County Libraries, 2022, Lookmobile, https://smcl.org/mobile-services/lookmobile/, accessed February 11, 2022.

[29] San Mateo County Libraries, Open for Exploration, Annual Report 2019-2020, https://smcl.org/wp-content/uploads/sites/22/2020/09/2019-20-Annual-Report-Booklet.pdf.pdf, accessed February 7, 2022.

[30] San Mateo County Libraries, 2022, About Us, https://smcl.org/about-us/, accessed February 11, 2022.

environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.

4.13.4.3 IMPACT DISCUSSION

PS-7	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities or a need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.**

Development allowed by the proposed project would increase the number of residents and housing in the JPA's service area and would therefore represent a slight increase in demand on library services provided at the San Carlos Library.

The City of San Carlos has two policies pertaining to libraries. Policy CSS-7.6 focuses on maintaining existing library facilities as an important activity center within the community, while Policy CSS-8.3 ensures that all residents have access to library services, including access to computers and other technology. Currently, the San Carlos Library has the capacity to meet the needs of the existing San Carlos community. Trends towards electronic access of library resources paired with the library's intention to improve technology resources indicate the continued ability to meet projected needs of the community in the future.[31]

As stated previously, Library Services are primarily funded by County property taxes. The additional residential uses proposed for the project site would be expected to generate local tax revenues roughly proportional to needs generated by the project site's new residents. These tax revenues would aid the JPA in improving its library facilities and collections. Furthermore, the approximately 220 residents generated by the proposed project represent an increase of only 0.74 percent compared to the City's existing population of 29,814.[32] It is expected that at least some of the future residents of the townhome development will be existing residents of San Carlos and surrounding communities, so it is not anticipated that all new residents will represent new residents or users of the JPA and its services.

Therefore, a *less-than-significant* impact would occur with respect to the need for new or physically altered library facilities.

Significance without Mitigation: Less than significant.

[31] San Mateo County Libraries, 2022, About Us, https://smcl.org/about-us/, accessed February 11, 2022.

[32] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

PS-8	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, or need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.**

The project would result in a significant cumulative impact if the proposed project, in combination with the cumulative development projects evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts in the JPA's service area. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande development project adjacent and to the north of the project site.

As described under impact discussion PS-7, the proposed project would not result in substantial adverse impacts to library services. Although the additional development projects planned for San Carlos would also increase the need for library services at the San Carlos Library, these projects would also contribute local tax funds that would contribute to the library's source funding. Other cumulative development projects would be scattered throughout San Carlos and the JPA's service area and would not concentrate new development in such a way that the needs of library facilities would greatly shift. Accordingly, the proposed project is not anticipated to result in cumulatively significant adverse impacts associated with the expansion of library facilities, and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

4.14 RECREATION

This chapter describes the regulatory framework and existing conditions related to parks and recreation in San Carlos, as well as the proposed project's potential impacts to parks and recreation facilities.

4.14.1 ENVIRONMENTAL SETTING

4.14.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations related to park and recreation services. There are no federal regulations pertaining to park and recreation services that apply to the proposed project.

State Regulations

The 1975 Quimby Act (California Government Code Section 66477) authorizes cities and counties to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (Assembly Bill [AB] 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to inhabitants can set a standard of up to 5 acres per 1,000 persons for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 persons.[1] The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of City-owned parkland.

Local Regulations

San Carlos Park Master Plan

The Master Plan for Parks, Open Space, Buildings and Other Recreational Facilities, adopted in August 2008, expresses a long-term vision for San Carlos' park facilities, identifies specific improvements to the existing park system, and presents a strategy for funding capital improvements, operation, and maintenance. The Master Plan asserts a service ratio goal of 2.5 acres of parks for every 1,000 residents in San Carlos and a walkability standard of having a park or recreation facility within a quarter to half mile of each resident.

San Carlos 2030 General Plan

The Community Safety and Services Element of the San Carlos 2030 General Plan contains policies and strategies to encourage a full range of park and recreational resources, for linking the community, outdoor recreation, preservation of natural resources, and public health and safety. General Plan policies and

[1] California Legislative Information, 2015, Assembly Bill No. 1191, Chapter 276, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1191, accessed February 11, 2022.

strategies relevant to parks and recreation concentrate on how the City of San Carlos will provide open space, parks, trails, and public facilities to meet the diverse needs of its residents. The General Plan identifies potential trail connections throughout San Carlos to link existing trails, parks, and open spaces as well. Policies that address parks and recreation relevant to the project are listed in Table 4.14-1, *City of San Carlos 2030 General Plan Policies Relevant to Parks and Recreation*.

The General Plan asserts the service ratio goal of providing 2.5 acres of park per 1,000 San Carlos residents.

TABLE 4.14-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO PARKS AND RECREATION

Policy Number	Policy Text
Chapter 7, Parks and Recreation (PR) Element	
Policy PR-2.3	Continue to support implementation of trail connections as identified in the City's Master Plan for Parks, Open Space, Buildings and other Recreation Facilities.
Policy PR-2.5	Promote the development of publicly accessible urban trails throughout the city to provide access to the natural environment and facilitate non-motorized transportation options.
Policy PR-2.7	Encourage new development to provide trails and trail connection easements or dedications where feasible and appropriate.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

City of San Carlos Municipal Code

The San Carlos Municipal Code, organized by Title, Article, and Chapter, contains all of the ordinances for the city. Title 12, *Streets, Sidewalks, and Public Places*, of the City's Municipal Code sets regulations and standards for parks and recreation facilities and buildings in the city. In addition, Chapter 3.34, *Park Facility Development Fees*, of the San Carlos Municipal Code requires development impact fees to acquire and maintain parks and recreational facilities to mitigate impacts from new development. The collected fee is for acquisition, improvement, maintenance, rehabilitation, expansion, or implementation of parks and recreational facilities. The fee is calculated by taking the sum of $1,000 for each bedroom proposed by the residential project. The fee is imposed for revenue purposes, irrespective of whether the developer is also required to dedicate land or pay fees in lieu of land pursuant to Chapter 17.32, *Dedications*, of the San Carlos Municipal Code.

4.14.1.2 EXISTING CONDITIONS

The San Carlos 2030 General Plan states that there are 16 public parks totaling approximately 135 acres within the city. The San Carlos Parks and Recreation Department maintains the amenities ranging from athletic fields and courts to hiking trails and passive recreation areas.[2] The Department operates using property taxes collected and set aside from the City's General Fund. In addition, the San Carlos Parks and Recreation Department is funded in part through the City's Park In-Lieu development impact fees. The City's Park In-Lieu fee is collected when a project does not satisfy park requirements or dedicate land intended for open space and is used to fund the acquisition and construction of City parks.

[2] City of San Carlos, 2009, *San Carlos 2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

The San Carlos Municipal Code defines park and recreation facilities as parks, playgrounds, recreation facilities, trails, wildlife preserves, and related open spaces, all of which are noncommercial. This classification also includes playing fields, courts, gymnasiums, swimming pools, picnic facilities, tennis courts, and golf courses, botanical gardens, as well as related food concessions or community centers within the facilities. The City of San Carlos and other public agencies own and operate several facilities, which include parks, community swimming pools, recreational fields, gymnasiums, open spaces, and picnic areas, all of which are open and accessible to the public.

Parks and Open Space

The City of San Carlos has a total of 17 public parks and a variety of open spaces either owned by the City or accessible in partnership with regional organizations, as listed in Table 4.14-2, *Inventory of Existing Parks*. Parks are categorized into one of four categories: open space, undeveloped acreage, developed neighborhood park, or community park. Highlands Park, an 11.2-acre athletic complex, sits less than a quarter mile southwest of the project site and provides fields and courts for baseball, soccer, softball, tennis, and sports camps, as well as for neighborhood recreational activities, including a children's play area. A 1.5-acre park, the Heather Dog Exercise Area, is less than a half mile southwest of the project site and supplies outdoor recreation opportunities for dog owners and their pets. Burton Park is less than 0.5 miles to the east of the project site and provides 10.3 acres and includes a baseball field, basketball tennis courts, a playground, and other amenities. Arguello Park is approximately 0.9 miles north of the project site and, as the largest City park in San Carlos, features public tennis courts, picnic areas, a running trail, and undeveloped hiking trails.

According to the General Plan, the City provides approximately 2.3 acres of parkland per 1,000 residents, which is below the General Plan's ratio goal of providing 2.5 acres of park per 1,000 San Carlos residents.[3] The City has identified the need to expand existing parks and develop new parks to meet this need.

Recreational Facilities

The residents of San Carlos are provided recreational services and programs for all ages. The Adult Community Center, the Burton Park buildings, and the Laureola Park Special Needs Building provide classes and pre-school programs, recreation and socialization activities for special-needs residents, and resources and equipment for youth. The project site is within a half mile of the Adult Community Center.

Trails

The residents are exposed to over 8.7 miles of City-owned recreational trails through five City parks in San Carlos and additional trails in nearby open spaces operated by the Midpeninsula Regional Open Space District and San Mateo County. One prominent trail runs east-west through Highlands Park less than a quarter of a mile west of the project site. The San Carlos 2030 General Plan proposes a potential trail connection through the project, connecting Highlands Park to Alameda de las Pulgas.

[3] City of San Carlos, 2009, *2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 11, 2022.

TABLE 4.14-2 INVENTORY OF EXISTING PARKS

Park Name	Type	Location	Distance from Site	Size
Highlands Park	Community Park	2600 Melendy Drive	0.25 miles southwest	11.3 Acres
Heather Dog Exercise Area	Special Use Park	2700 block of Melendy Drive (west end of Heather School)	0.35 mile southwest	1.5 Acres
Burton Park	Community Park	900 Chestnut Street	0.50 mile northeast	10.3 Acres
Hillcrest Cedar Park	Mini Park	Hillcrest Road and Arundel Road	0.56 miles north	0.2 Acres
City Hall Park	Special Use Park	Elm Street and San Carlos Avenue	0.62 mile northeast	1.3 Acres
San Carlos Avenue Neighborhood Park	Mini Park	2400 block of San Carlos Avenue	0.7 miles northwest	0.3 Acres
Rosek Park	Mini Park	455 Elm Street	0.7 mile northeast	0.2 Acres
Chilton Park	Neighborhood Park	48 Bayview Drive	0.77 mile northwest	1.6 Acres
Laurel Street Park	Mini Park	700 block of Laurel Street	0.78 mile northeast	0.3 Acres
Eaton Park	Open Space Area	West end of Eaton Avenue	0.85 mile south	57.6 Acres
Arguello Park	Community Park	260 Wellington Drive	0.90 mile north	21 Acres
Cedar Street Park	Mini Park	100 Block of Cedar Street	0.98 mile north	0.7 Acres
Big Canyon Park	Open Space Area	3200 block of Brittan Avenue	1 mile southwest	16 Acres
Laureola Park	Neighborhood Park	503 Old Country Road	1 mile northwest	2.6 Acres
Crestview Park	Neighborhood Park	Crestview Drive at Leslie Court	1.14 mile southwest	7 Acres
North Crestview Property	Neighborhood Park	Crestview Drive	2.18 mile southwest	4.3 Acres
Vista Park	Neighborhood Park	401 Crestview Drive	2.22 mile southwest	3.8 Acres

Source: City of San Carlos, 2008, Parks, Open Space, Buildings, and Other Recreational Facilities Master Plan 2009 – 2029.

4.14.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to parks and recreation facilities if it would:

1. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
2. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
3. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to parks or recreation.

4.14.3 IMPACT DISCUSSION

REC-1 The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.

The proposed project would have a significant physical impact on existing parks and recreational facilities if it would significantly increase the demand for and use of those facilities such that the conditions of the facilities would deteriorate. Such an increase in demand is typically generated by development that supports new users, such as new residential development.

The City of San Carlos has a total of 17 public parks and a variety of open plan spaces. The City currently provides approximately 2.3 acres of parkland per 1,000 residents and has identified the need to expand existing parks to meet the General Plan goal of 2.5 acres of parkland per 1,000 residents. As described in Chapter 4.12, *Population and Housing*, the proposed 87 housing units would be expected to accommodate a residential population of 220 residents, based on an average of a 2.53-person household size within the City of San Carlos.[4] Based on the General Plan goal of providing 2.5 acres per 1,000 residents, the proposed project would generate the need for approximately 0.6 acres of additional parkland.

The proposed project's population represents a small increase in comparison to the 29,814 residents currently served by local facilities and, as noted in Chapter 4.12, the population growth associated with proposed project would not represent an unplanned level of growth. The City collects impact fees from new development for parks based upon a fair share basis from the projected impacts of new development. The project applicant would be required to pay the in-lieu parkland fee determined by the City. Payment of the project's in-lieu park fee and development impact fees would contribute to the City's funds to build and maintain parks and recreational facilities, thereby offsetting the proposed project's usage of those facilities. In addition, the proposed outdoor spaces (including decks, rooftop decks, and an on-site trail) included in the proposed project would provide on-site passive recreational space for project residents, reducing demands for City-owned and-maintained parks and recreational uses. As described in Section 4.14.1.2, *Existing Conditions,* the project site is in close proximity to multiple parks, recreational facilities, and open space areas, including Highlands Park, the Heather Dog Exercise Area, and Burton Park within a half mile of the project site, and several other facilities throughout the City and region.

While it would be speculative to predict which of the City's parks and recreational facilities may be most heavily used by future residents of the project site, it is expected that project residents would utilize a variety of park and recreational facilities, and that the number of project residents visiting these facilities would be nominal relative to the existing population that already uses these facilities. Therefore, the

[4] California Department of Finance, May 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

project's additional demands for these facilities would not be substantial enough to result in the physical deterioration of parks and recreational facilities and the impact would be *less than significant*. Additionally, the proposed project includes an on-site trail, consistent with the San Carlos 2030 General Plan trail connection envisioned through the project, connecting Highlands Park to Alameda de las Pulgas via Dundee Lane.

Significance without Mitigation: Less than significant.

REC-2 The proposed project would not include recreational facilities or require the construction or expansion of additional recreational facilities which might have an adverse physical effect on the environment.

As described under impact discussion REC-1, the proposed project would include private passive recreational amenities for the residents, and a trail connection through the project site, and the project's additional demands for the City's recreational facilities would not be substantial enough to result in the physical deterioration of the facilities. Therefore, the increase in potential recreational facility users from the proposed project would not result in the need for new or physically altered recreational facilities, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

REC-3 The proposed project would not result in significant cumulative impacts to parks or recreation in combination with past, present, and reasonably foreseeable projects.

A significant cumulative environmental impact could result if buildout of the proposed project, in combination with cumulative development projects, would exceed the ability of the San Carlos Parks and Community Services Department to adequately serve the vicinity, thereby requiring construction of new facilities or modification of existing facilities. For the purposes of this analysis the area of cumulative effect will be considered the service area of the San Carlos Parks and Community Services Department, which operates as a part of the City of San Carlos. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the Vista Del Grande Development Project adjacent and north of the project site. This project would include 89 residential units and is within its preliminary review process with the City.

As described previously, with payment of the City's in-lieu park and development impacts fees, the proposed project would result less-than-significant impacts to recreational facilities. The proposed project includes private amenities to the project's residential population, which will offset demands for City parks and recreational facilities. In addition, the level of population growth under the proposed project is aligned with the projected population growth for the city as a whole. Therefore, demands for parks and recreational facilities would not contribute to significant cumulative effects on parks and recreational facilities, and there would be a *less-than-significant* cumulative impact.

Significance without Mitigation: Less than significant.

4.15 TRANSPORTATION

This chapter describes the regulatory framework and existing conditions in the project site related to transportation, and the potential impacts on transportation and traffic from development of the proposed project. This chapter is based on the following technical documents:

- *806 Alameda de las Pulgas Transportation Impact Analysis* (TIA), prepared by CHS Consulting Group, dated June 6, 2022. See Appendix L, *Transportation Impact Analysis*, of this Draft Environmental Impact Report (EIR).
- *Transportation Demand Management Plan for the 808 Alameda de las Pulgas Residential Project*, prepared by W-Trans, dated April 11, 2022. See Appendix M, *Transportation Demand Management Plan*, of this Draft EIR.

4.15.1 ENVIRONMENTAL SETTING

4.15.1.1 REGULATORY FRAMEWORK

This section describes federal, State, regional, and local laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process for transportation and circulation.

Federal Regulations

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency of the United States (US) Department of Transportation (DOT) responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network, such as Interstate 280 (I-280) located approximately 1.5 miles west of the project site.

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights of way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. These guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, public transit, and other components of public rights of way.

State Regulations

California Complete Streets Act of 2008 (AB 1358)

Originally passed in 2008, California's Complete Streets Act took effect in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a "complete streets" approach to mobility. "Complete streets" comprises a suite of policies and street design guidelines which provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, the elderly, and the disabled. From 2011 onward, any local jurisdiction—county or city—that undertakes a substantive update of the circulation element of its general plan must consider "complete streets" and incorporate corresponding policies and programs.

Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law.[1] The Legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas emissions (GHG), as required by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB 32]). Additionally, AB 1358, described above, requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32, AB 1358, and SB 743 added Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

Title 24

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations (CCR). The CBC is based on the International Building Code, but has been modified for California conditions. The CBC provides fire and emergency equipment access standards for public roadways in Part 9, Appendix D. These standards include specific width, grading, design, and other specifications for roads, which provide access for fire apparatuses; the CBC also indicates which areas are subject to requirements for such access.

The CBC also incorporates by reference the standards of the International Fire Code (IFC). The California Fire Code (CFC) contains provisions related to emergency vehicle access, including requirements for roadway design, fire hydrants, and other relevant design features. Pursuant to CFC Section 503.1.2, the fire code official is authorized to require more than one fire access road based on the potential for a single access road to be impaired by congestion, condition of terrain, climatic conditions, or other factors that could limit access. CFC Section 4903.1 authorizes the fire code official to require a fire protection plan, prepared to determine the acceptability of fire protection and life safety measures designed to mitigate

[1] An act to amend Sections 65088.1 and 65088.4 of the Government Code, and to amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of, to add Section 21155.4 to, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of, to add and repeal Section 21168.6.6 of, and to repeal and add Section 21185 of, the Public Resources Code, relating to environmental quality.

wildfire hazards presented. The fire protection plan shall address fire department access, egress, and road and address signage, among other topics.

Regional Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including Santa Mateo County. It also functions as the federally mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

As previously stated, the passage of AB 32, the State of California committed itself to reducing statewide GHG emissions. Subsequent to adoption of AB 32, the State adopted SB 375 as the means for achieving regional transportation related GHG targets. Among the requirements of SB 375 is the creation of a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the RTP must be consistent with one other, including action items and financing decisions. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the State.

The MTC and Association of Bay Area Governments' (ABAG) *Plan Bay Area 2050* is the Bay Area's RTP/SCS. *Plan Bay Area 2050* was prepared by MTC in partnership with ABAG, the Bay Area Air Quality Management District, and the San Francisco Bay Conservation and Development Commission and adopted on October 21, 2021.[2] The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board. An overarching goal of *Plan Bay Area 2050* is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle miles traveled and associated greenhouse gas emissions reductions. The project site is not located within a Priority Development Area or Transit Priority Area.[3]

The MTC has established its policy on Complete Streets in the Bay Area. The policy states that projects funded all, or in part, with regional funds (e.g., federal, State Transportation Improvement Program, and bridge tolls) must consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64. These recommendations do not replace locally adopted policies regarding transportation planning, design, and construction. Instead, these recommendations facilitate the

[2] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed February 11, 2022.

[3] Metropolitan Transportation Commission GIS, July 2020, Priority Development Areas (Plan Bay Area 2050), https://opendata.mtc.ca.gov/datasets/priority-development-areas-plan-bay-area-2050/explore?location=37.498313%2C-122.264890%2C16.11, accessed February 11, 2022.

accommodation of pedestrians, including wheelchair users, and bicyclists into all projects where bicycle and pedestrian travel is consistent with current adopted regional and local plans.

City/County Association of Governments (C/CAG) of San Mateo County

The C/CAG of San Mateo County is responsible for providing countywide transportation planning. C/CAG is also the county's designated Congestion Management Agency and is responsible for implementing the Congestion Management Program (CMP). Each CMP must contain several components, including traffic level-of-service standards for freeway segments and standards for CMP Monitoring Intersections on principal arterials.

The CMP requires any new project projected to generate 100 or more net peak hour trips on the CMP roadway network and is subject to CEQA review to follow the CMP policy and guidelines. Additionally, the CMP requires new developments that are projected to add 100 or more peak hour trips to the CMP roadway network to implement Transportation Demand Management (TDM) measures that would reduce project impacts. Draft revised project review thresholds released by C/CAG in 2021 propose to replace the 100-trip threshold with a set of new thresholds that vary based on project size and land use.[4]

Local Regulations

San Carlos 2030 General Plan

The City of San Carlos 2030 General Plan provides a description of the functional classification hierarchy of city streets in Chapter 5, *Circulation and Scenic Highways Element*. This General Plan element identifies goals, policies, and actions related to the city's street network. The City of San Carlos 2030 General Plan policies relevant to transportation and traffic are listed in Table 4.15-1, *City of San Carlos 2030 General Plan Policies Relevant to Transportation*.

TABLE 4.15-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO TRANSPORTATION

Policy Number	Policy
Chapter 5, Circulation and Scenic Highways (SCH) Element	
Policy CSH-2.2	Provide for adequate pedestrian and bicycle facilities as viable transportation alternatives in San Carlos.
Policy CSH-2.3	Access to public transportation facilities should be convenient and designed to encourage use of public transit.
Policy CSH-3.2	Support city-wide efforts to reduce vehicular trips within and through the community.
Policy CSH-3.3	Support the incorporation of Transportation Demand Measures in new development to reduce traffic impacts.
Policy CSH-3.7	Public sidewalks and walkways shall be designed to accommodate access in accordance with the Americans with Disabilities Act and shall be kept clear of obstruction.
Policy CSH-4.2	Reduce potential conflicts, safety hazards and physical obstacles between bicyclists, automobiles and pedestrians and ensure compliance with the Americans with Disabilities Act.

[4] City/County Association of Governments of San Mateo County, 2021, *Transportation Demand Management Policy Update Approach*, https://ccag.ca.gov/wp-content/uploads/2021/03/CCAG_TDM-Policy-Update-Approach-Document_Draft_Abridged_3-24-2021_v10b.pdf, accessed March 1, 2022.

TABLE 4.15-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO TRANSPORTATION

Policy Number	Policy
Policy CSH-6.1	Bicycling and walking facilities should be incorporated into all new development projects to the maximum extent feasible.

Source: City of San Carlos 2030 General Plan, 2009.

San Carlos Climate Mitigation and Action Plan

The City of San Carlos adopted its most recent Climate Mitigation and Action Plan (CMAP) in September 2021. The CMAP takes a comprehensive approach to reducing GHG emissions in San Carlos, and includes 23 measures designed to achieve the State-mandated GHG reduction goals set forth in AB 32. The transportation sector is the largest contributor to San Carlos' GHG emissions and the CMAP seeks to reduce these emissions through a variety of measures, including reducing VMT, transitioning to low-carbon transportation, prioritizing active transportation, supportive transportation, and supporting the transition to electric vehicles.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for the city. The Municipal Code is organized by Title, Chapter, and Section. It includes, among others, the adoption of the 2019 California Building Code. In addition to the below, vehicles and traffic are addressed in Title 10, Vehicles and Traffic, of the Municipal Code.

Title 8, *Health and* Safety, includes Chapter 8.50, *Traffic Impact Fee*, pursuant to the Mitigation Fee Act contained in Government Code Sections 66000 et seq. Traffic Impact Fees are assessed based upon evidence that a new development generates additional residents, employees, and structures, which in turn place an additional cumulative burden upon the local transportation system and should be expected to pay a share of the cost for new facilities. The Traffic Impact Fees were effective as of July 7, 2008, as part of the City of San Carlos Traffic Impact Fee Plan (Ordinance No. 1400, 2008).

Chapter 18.25, *Transportation Demand Management*, sets forth requirements to reduce the amount of traffic generated by new development; promotes more efficient utilization of existing transportation facilities and ensure that new developments are designed in ways to maximize the potential for alternative transportation usage; and establishes an ongoing monitoring and enforcement program to ensure that the City's desired alternative mode use percentages are achieved. The chapter is applicable to new multi-unit developments of ten or more units, among other land uses. Section 18.25.030, *Performance Requirements*, requires projects to incorporate measures to meet vehicle trip generation rates that are 20 percent lower than the standard rates as established in the most recent edition of the Institute of Transportation Engineers (ITE) trip generation manual. However, the project applicant has requested a concession pursuant to the California Density Bonus Law (Government Code Sections 65915 through 65918) for the City's TDM requirement under Section 18.25.030 of the Municipal Code to be waived. Therefore, the requirement for vehicle trip generation rates to be 20 percent lower than standards rates does not apply to the proposed project.

Chapter 18.15, *General Site Regulations*, of the Municipal Code contains site regulations for development throughout the city. Section 18.15.130 of the Municipal Code provides requirements regarding visibility at intersections and driveways, and states that vegetation and structures may not exceed 3 feet within sight distance triangles.

Chapter 18.18 of the Municipal Code contains requirements regarding landscaping in the city. Section 18.18.110, Maintenance, of the Municipal Code establishes that the City bears responsibility for maintaining public trees and landscaping, and that private property owners are responsible for trimming and maintaining private trees and landscaping. Section 18.18.110(D) states, "Any shrubs, trees, or other foliage which, in the opinion of the Sheriff's Captain, obscures safe sight distance from driveways and corners shall be trimmed by the property owner to a condition satisfactory to the Sheriff's Captain."

Complete Streets Policy

The City of San Carlos adopted the Complete Streets Policy in October 2012, expressing its commitment to creating and maintaining Complete Streets that provide safe, comfortable, and convenient travel across streets through a comprehensive, integrated transportation network that serves all categories of users., Departments and agencies are to incorporate Complete Streets practices into routine part of everyday operations, work in coordination with other departments, agencies, and jurisdictions to maximize opportunities for Complete Streets, and maintain sensitivity to local conditions in planning and implementing street projects. Complete Street infrastructure shall be incorporated into all planning, funding, design, approval, and implementation processes and departments and agencies are expected to approach every relevant project, program, and practice as an opportunity to improve streets and the transportation network.

Bicycle and Pedestrian Master Plan

The Bicycle and Pedestrian Master Plan was adopted on June 9, 2020, and establishes a long-term vision for improving walking and bicycling in San Carlos. The ultimate goal of the plan is to promote walking and bicycling through the creation of safe, comfortable and connected networks, and to encourage alternatives to single-occupancy motor trips. This includes maintaining and expanding the pedestrian and bicycle network, increasing support for walking and bicycling, and improving access and safety for pedestrians and bicyclists. The Master Plan provides a strategy to develop a comprehensive bicycling and walking network that provides access to transit, schools, and downtown, and identifies a plan to implement these project and programs through prioritization and phasing to ensure projects are manageable and fundable.

4.15.1.2 EXISTING CONDITIONS

Roadways

Regional Access

The following roadways provide regional access in the vicinity of the project site:

- Interstate 280 (I-280) is a north-south freeway that provides regional access from San Francisco to the Peninsula and the South Bay. Access to I-280 from the project site is provided via the northbound and southbound on-ramps located at Edgewood Road, approximately 2.27 miles southwest of the project site and Ralston Avenue, approximately 4.7 miles northwest of the project site). I-280 is identified as a CMP facility in C/CAG's 2001 *Final Congestion Management Program*.
- US Highway 101 (U.S. 101) is a north-south freeway serving San Carlos, San Francisco, the Peninsula, the North Bay, and the South Bay. The freeway connects to Interstate 80 (I-80) to the north as well as Route 84 and the Dumbarton Bridge to the east, which provides connections to the East Bay. Access to U.S. 101 from the project site is provided via the southbound on-ramp at Brittan Avenue, approximately 1.4 miles northeast of the project site, and via the northbound and southbound on- and off-ramp at Holly Street, approximately 1.6 miles northeast of the project site. U.S. 101 is identified as a CMP facility in C/CAG's 2001 *Final Congestion Management Program*.
- El Camino Real- State Route 82 (SR 82) is a north-south State highway that runs from its connection with Mission Street in Colma to its southern terminus at its intersection with The Alameda in San Jose. In the vicinity of the project site, El Camino Real generally operates with three travel lanes in the southbound direction and two travel lanes in the northbound direction. The San Carlos 2030 General Plan identifies El Camino Real as a State highway. El Camino Real is identified as a CMP facility in C/CAG's 2001 *Final Congestion Management Program*.

Local Access

The City of San Carlos' roadway system is comprised of freeways, State highways, arterial streets, collector streets, and minor streets. The San Carlos 2030 General Plan defers to Caltrans for definitions of freeways and State highways. Consistent with the San Carlos 2030 General Plan, arterials are defined as major streets that link residential, commercial, and industrial districts with freeways and highways, provide convenient access to other transportation facilities, and serve as primary emergency/evacuation routes. Arterial Streets typically include two to four travel lanes, with some parking and access point controls. The San Carlos 2030 General Plan defines collector streets as roadways that transfer traffic from local trip generators and minor streets to arterial streets, typically consisting of two lanes and protected from cross-traffic. The San Carlos 2030 General Plan defines local streets as providing access to abutting properties, locations for easements, open space for light and air, and a firebreak between buildings. Local streets typically accommodate two lanes of traffic, curbside parking, sidewalks, and bicycle lanes, wherever possible.

Local vehicle, bicycle, and pedestrian access to the project site would be from Alameda de las Pulgas. Local access to the project site is provided by nearby arterial and local roadways. Descriptions of these roadways are presented below:

- San Carlos Avenue is an east-west arterial that runs from its connection with Alameda de las Pulgas in San Carlos to its eastern terminus at its intersection with El Camino Real. In the vicinity of the project site, San Carlos Avenue has one travel lane and Class II bikeway in each direction with sidewalks on both sides of the street. On-street parking is available on some segments along both sides of the street. The San Carlos 2030 General Plan identifies San Carlos Avenue as an arterial street.

- Alameda de las Pulgas is a north-south arterial that runs from Crystal Springs Road in Burlingame to Santa Cruz Avenue in West Menlo Park. In the vicinity of the project site, Alameda de las Pulgas has one travel lane and Class II bikeways in each direction with sidewalks on both sides of the street. Alameda de las Pulgas is identified as an arterial street in the San Carlos 2030 General Plan.
- Brittan Avenue is an east-west arterial that runs from the ramps at U.S. 101 to its western terminus near Pulgas Ridge Preserve. In the vicinity of the project site, Brittan Avenue has one travel lane and Class II bikeways in each direction with sidewalks on both sides of the street. On-street parking is available on some segments along both sides of the street. The San Carlos 2030 General Plan identifies Brittan Avenue as an arterial street.
- Old County Road is a north-south arterial that runs from its connection with Pacific Boulevard in San Mateo to its connection with Stafford Street in Redwood City. In the vicinity of the project site, Old County Road has one travel lane in each direction, Class II bikeways south of Bransten Road, and Class Ill bikeways north of Bransten Road. Sidewalks are present on both sides of the street, and on-street parking is provided on much of the east side of the street. San Carlos 2030 General Pion identifies San Carlos Avenue as an arterial roadway. Access to the project site is not available from local roadways to the west (Dundee Lane, Coleman Court), south (Glasgow Lane, Bauer Drive), or north (Coronado Avenue, Vista Del Grande).

Transit Services

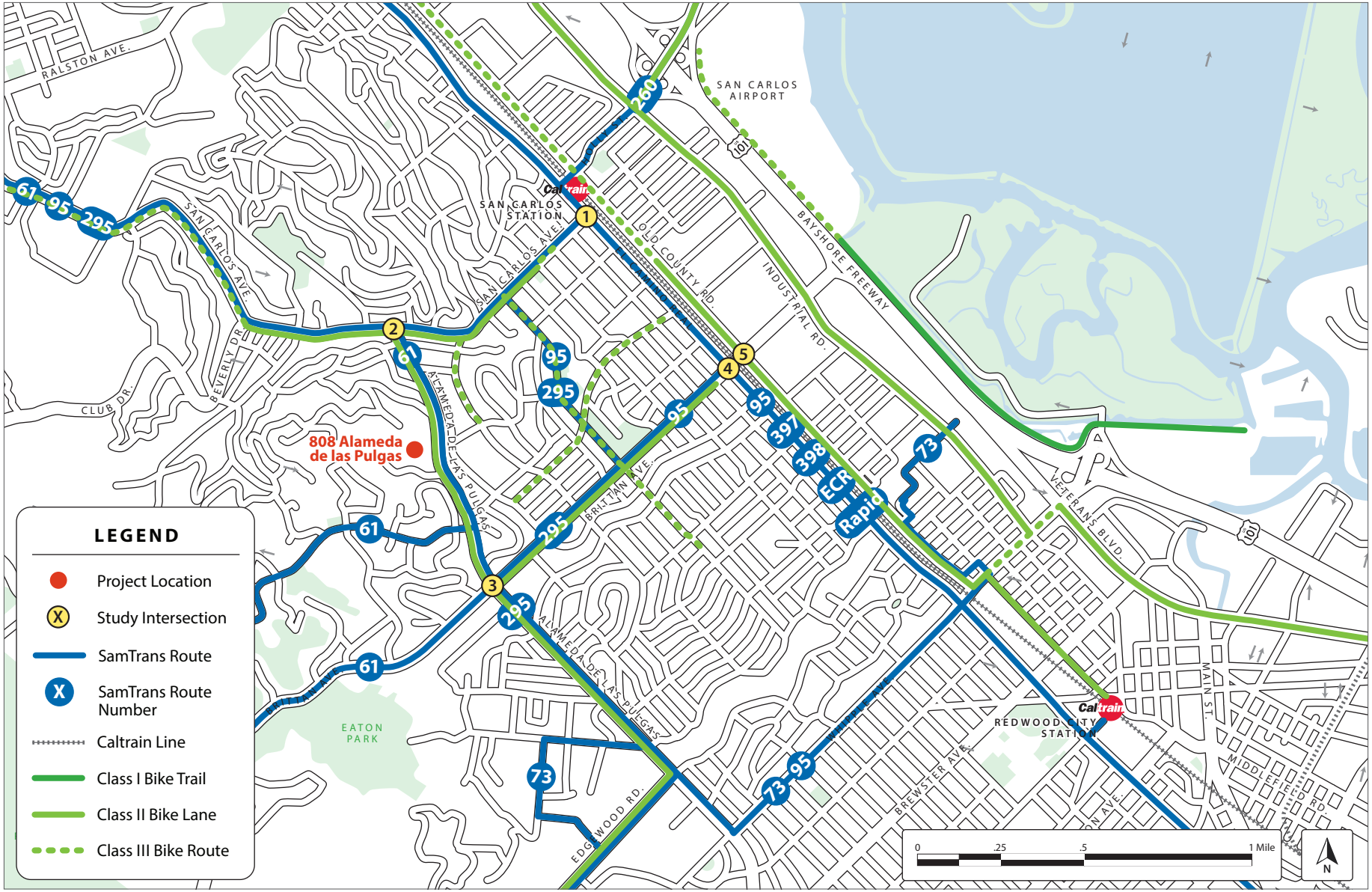
Transit services in the project site vicinity are shown in Figure 4.15-1, *Transit and Bicycle Network*.

SamTrans

The project site is served by local public transit service provided by the San Mateo County Transit District (SamTrans).

SamTrans operates bus lines within San Mateo County, as well as to and from locations in San Francisco and Palo Alto. There is one bus route located within the immediate vicinity of the project site—SamTrans Route 61, which stops on Alameda de las Pulgas near Madera Drive, located approximately 745 feet (0.14 miles) north of the project site; on Alameda de las Pulgas near Melendy Drive, approximately 920 feet (0.17 miles) southeast of the project site; and on Melendy Drive near Sunset Drive, approximately 1,200 feet (0.23 miles) south of the project site.

Route 61 provides service connecting local destinations in San Carlos, and provides transfer connections to additional regional transit services. Route 61 operates two-way service, with northbound service between the San Carlos Caltrain station and the intersection of Alameda de las Pulgas and Ralston Avenue from 7:08 a.m. to 8:50 a.m. on weekday mornings (three to four trips), and southbound service between the Belmont Library on Alameda de las Pulgas and the San Carlos Caltrain stop from 1 :35 p.m. to 3:25 p.m. on weekday afternoons (three trips). Major destinations served by Route 61 include the San Carlos Caltrain Station, Carlmont High School, Belmont Library, and the Tierra Linda School.



Source: CHS Consulting Group, 2022. PlaceWorks, 2022.

Figure 4.15-1
Transit and Bicycle Network

Caltrain

The Peninsula Commute Service (Caltrain) provides rail passenger service on the Peninsula between Gilroy and San Francisco. The most convenient station to the project site is the San Carlos Station, which is located approximately 1.6 miles northeast of the project site. Caltrain currently operates approximately 56 trains each weekday, with a combination of baby bullet, limited-express, and local services. Headways during the AM and PM peak period are approximately 10 to 30 minutes.

Pedestrian Facilities

Most streets in the project site vicinity have sidewalks on both sides. Sidewalks are generally approximately 4 to 8 feet wide. On the west side of Alameda de las Pulgas, sidewalks are approximately 4 feet wide. The sidewalk on the east side of Alameda de las Pulgas is in the range of 4 to 8 feet in width. The sidewalk width on Brittan Avenue is in the range of 4 to 5 feet, and on San Carlos Avenue near El Camino Real the sidewalk width is generally 6 to 8 feet. El Camino Real generally has sidewalks of 8 feet in width.

The Project TIA includes a detailed assessment of pedestrian conditions along Alameda de las Pulgas between Brittan Avenue and San Carlos Avenue and identified areas with lack of sidewalk, lack of curb ramp, and non-ADA-compliant sidewalks due to the presence of poles.

Bicycle Facilities

Bicycle facilities include bicycle lanes, trails, and paths, as well as bicycle parking and bicycle lockers. On-street bicycle facilities include Class I bikeways (trails or shared-use paths with exclusive right-of-way for use by bicyclists or pedestrians); Class II bikeways (bicycle lanes striped within the paved areas of roadways and established for the preferential use of bicycles); Class III bikeways (signed bicycle routes that allow bicycles to share travel lanes with vehicles); and Class IV separated bikeways (on-street bike facilities that are physically separated from traffic by curbs, plant boxes, bollards, grade separation, or parked cars for exclusive right-of-way for use by bicyclists). Several bicycle facilities are provided under existing conditions in the vicinity of the project site. The bicycle network in the project site vicinity is shown in Figure 4.15-1, *Transit and Bicycle Network*. The Project TIA identifies the following bikeways in the project site vicinity:

- Class I bikeways:
  - San Francisco Bay Trail west of U.S.101
- Class II bikeways:
  - Alameda De Las Pulgas (between San Carlos Avenue and Edgewood Road)
  - San Carlos Avenue (between Beverly Drive and Elm Street)
  - Brittan Avenue (between Alameda De Las Pulgas and Laurel Street)
  - Old County Road (between Bransten Road and the south end of San Carlos}
  - Industrial Road
- Class III bikeways:
  - Old County Road (between Bransten Road and north end of San Carlos)

- San Carlos Avenue (between Beverly Drive and north end of San Carlos)
- Arroyo Avenue (between Tamarack Avenue and El Camino Real)
- Cedar Street (between San Carlos Avenue and Park Avenue)
- Cordilleras Avenue (between San Carlos Avenue and Elizabeth Street)

Emergency Vehicle Access

The street network serving the project area accommodates the movement of emergency vehicles to the project site. In the event of an emergency, emergency vehicles can access the project site via Alameda de las Pulgas. Although a private access easement exists at the northwest corner of the project site, connecting to Coronado Avenue, this accessway is not currently used.

4.15.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to transportation if it would:

1. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.
5. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to transportation.

Vehicle Miles Traveled Threshold

In response to SB 743, the Office of Planning and Research (OPR) has updated the CEQA Guidelines (Section 15064.3) to include new transportation-related evaluation metrics, including VMT. In keeping with the new requirements, the City of San Carlos adopted VMT as a measure of project impacts by Council Resolution in October 2020 (2020-066, October 28, 2020). According to the City of San Carlos' guidelines, the City's adopted VMT threshold is 15 percent below the existing citywide average VMT per service population. A project is considered to have a significant impact if the project VMT is expected to exceed 15 percent below the existing average VMT per service population. The baseline citywide average VMT per service population is 27.6, hence the adopted VMT threshold is 23.5 per service population.

4.15.3 IMPACT DISCUSSION

This section analyzes potential project- and cumulative-level impacts of the proposed project on transportation.

TRAN-1 The proposed project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Transportation Demand Management

The City of San Carlos 2030 General Plan and CMAP include several policies and measures to support the City's goals to reduce vehicle trips. Under Chapter 18.25, *Transportation Demand Management*, of the City's Municipal Code, development projects in San Carlos are required to include a TDM plan to reduce project trip generation by 20 percent.

The TDM plan prepared for the proposed project (see Appendix M) identifies project features that reduce vehicle trips and includes a range of strategies suited to the project and location, and estimates that these strategies would potentially reduce the number of vehicle trips generated by approximately 15 to 22 percent.[5] However, the project applicant has requested a concession pursuant to the California Density Bonus Law (Government Code Sections 65915 through 65918) for the City's TDM requirement under Section 18.25.030 of the San Carlos Municipal Code to be waived. Therefore, the requirement for vehicle trip generation rates to be 20 percent lower than standards rates does not apply to the proposed project and there would be *no impact*.

Transit Service

Policy CSH-2.3 of the City of San Carlos 2030 General Plan states that access to public transportation facilities should be convenient and designed to encourage use of public transit. While the project's transit amenities are expected to encourage the use of transit and result in a slight reduction in the project's overall trip generation,[6] transit ridership generated by the proposed project would not be substantial enough to require expanded transit services. The Project TIA finds that existing transit facilities are adequate to accommodate project-generated transit trips, and that existing bus stops are within an acceptable walking distance of the site. The proposed project would construct one northbound and one southbound transit stop near the project entrance where Route 61 can stop during the AM and PM school peak periods. The southbound bus stop would be located along a widened sidewalk and would include a bus shelter. Therefore, the proposed project would not conflict with applicable policies related to transit services and the impact would be *less than significant*.

[5] The TDM Plan estimates that the trip reductions able to be evaluated using the California Emissions Estimator Model (CalEEMod) would reduce trips by 15 percent in the AM peak hour and 17 percent in the PM peak hour, and that additional measures would further reduce trips, by 21 percent in the AM peak hour and 22 percent in the PM peak hour. Source: *Transportation Demand Management Plan for the 808 Alameda de las Pulgas Residential Project*, prepared by W-Trans, dated April 11, 2022, page 11.

[6] *Transportation Demand Management Plan for the 808 Alameda de las Pulgas Residential Project*, prepared by W-Trans, dated April 11, 2022, page 9.

Pedestrian Facilities

The City of San Carlos 2030 General Plan contains several policies that promote safe pedestrian facilities and the incorporation of pedestrian facilities in new development projects. Under existing conditions, pedestrian facilities exist along both sides of the streets in the project site vicinity, with a few exceptions (as noted in Section 4.15.1), and protected crossings with crosswalks and pedestrian phases are provided at nearby intersections. Internal roadways would contain sidewalks on at least one side of the road throughout the site, and recreational trails would be provided. The proposed on-site pedestrian network would connect to the public sidewalk on Alameda de las Pulgas at the project roadway entrance, and the proposed project would fund improvements of the sidewalk along Alameda de las Pulgas as well as two crosswalks and Rectangular Rapid Flashing Beacons at the project entrance intersection. With these the pedestrian facilities directly serving the project site, the proposed project would be consistent with City policies and requirements. However, proposed project plans show that the project proposes to fund, but not construct, the two crosswalks and flashing beacons at the project site entrance. Without the construction of these facilities, pedestrian access would not be consistent General Plan Policy CSH-6.1, which requires pedestrian facilities to be incorporated into all new development projects to the maximum extent feasible. Therefore, this would be a *significant* impact.

Impact TRAN-1: The proposed project does not include construction of pedestrian facilities at the project site entrance.

> Mitigation Measure TRAN-1: Prior to occupancy of the proposed project, the proposed project shall construct all pedestrian facilities shown on the project site plans, including a crosswalk across the project driveway entrance and a crosswalk with Rectangular Rapid Flashing Beacons across Alameda de las Pulgas at its intersection with the project entrance.

Significant with Mitigation: Less than significant.

Bicycle Facilities

The City of San Carlos 2030 General Plan contains several policies that promote bicycle safety and the incorporation of bicycle facilities in new development projects. Under existing conditions, bicycle facilities in the project site vicinity include Class I bike trails, Class II bike lanes, and Class Ill bike paths that provide accessibility from the project site to nearby destinations including Downtown San Carlos, the San Carlos Caltrain Station, and regional bus lines along El Camino Real. The proposed project would include bicycle racks at the proposed bus shelter on southbound Alameda de las Pulgas. The proposed project would provide 18 short-term public bike parking spaces at the entrance to the proposed project. In addition, all townhomes would have a private garage, thereby providing storage space for bicycles. Therefore, the bicycle facilities directly serving the project site would be consistent with City policies and requirements and the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

TRAN-2 The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

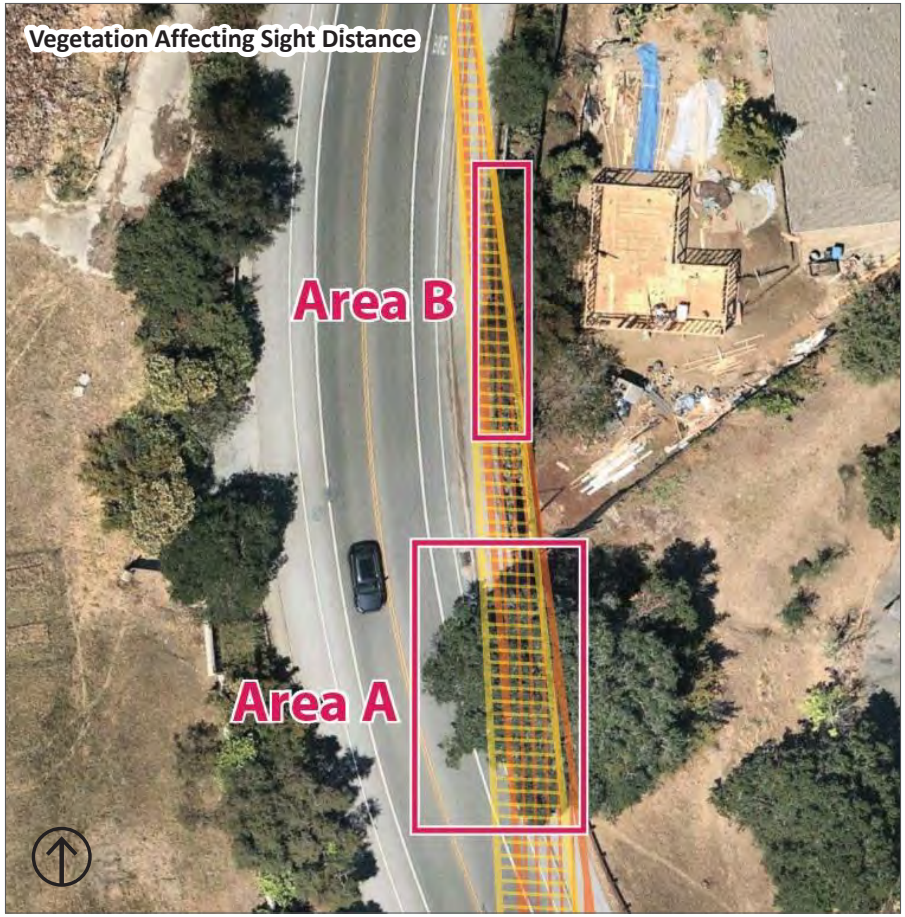
For consistency with City adopted VMT threshold of 23.5 per service population, the project's VMT was calculated using the average VMT per service population. "Service population" includes both residents and employees, and allows for an overall understanding of how the project would impact citywide VMT rates. VMT was calculated in the Project TIA based on data from the current C/CAG VTA travel demand model. The project travel analysis zone would have a total VMT of 73,198 and a service population of 3,460, which represents a VMT of 21.2 per service population. Therefore, the VMT generated by the proposed project would be below the City's threshold. In addition, VMT would be further reduced through implementation of the project's TDM strategies. Therefore, the impact would be *less than significant*.

Significance without Mitigation: Less than significant.

TRAN-3 The proposed project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The Project TIA includes a driveway sight distance analysis for the proposed project roadway where it intersects Alameda de las Pulgas, based on Caltrans Highway Design Manual Section 405.1 guidelines for measuring sight distance. The analysis uses stopping sight distance as the analysis metric. The analysis finds that stopping sight distance for northbound traffic appears to be adequate. However, sight distance for the southbound traffic along Alameda de las Pulgas would be obstructed by existing vegetation on the east side of Alameda de las Pulgas. Under existing conditions, vegetation on the east side of Alameda de las Pulgas within City-owned roadside property obstructs roadway views along the curve of the roadway at this location. Photographs of the roadway at this location is provided in Figure 4.15-2, *Existing Vegetation Affecting Sight Distance along Alameda de las Pulgas*. A diagram showing the sight distance triangles from the stopping sight distance analysis is provided in Figure 4.15-3, *Sight Distance*. The project must comply with San Carlos Municipal Code Section 12.20.040, *Property owner maintenance responsibility—Interference with right-of-way and sidewalk*.

In addition, the City of San Carlos Planning Division has reviewed the proposed project site plans and has identified safety-related concerns associated with on-site driveways. One such concern is associated with the easternmost cluster of townhomes on the south side of the main internal roadway (Lots 15 through 21), where driveways are proposed to be accessed from the main internal roadway. San Carlos Municipal Code Section 18.15.130, *Visibility at intersections and driveways*, requires the visibility of a driveway crossing a street lot line not be blocked above a height of 3 feet by vegetation or structures for a depth of 12 feet, as viewed from the edge of the right-of-way on either side of the driveway at a distance of 12 feet, and the original site plan did not provide adequate site distance for these driveways. The project applicant has responded to the City's plan review comments and, at the time of publication of this Draft EIR, the plan review process is ongoing. Compliance with San Carlos Municipal Code Section 18.15.130 is contingent on verifying that street alignment standards are met, and verification of such standards would occur at the time of grading plan review.



Source: CHS Consulting Group, 2022.

Project Boundary

View Point

Source: © Google Earth, 2022.

Figure 4.15-2

Existing Vegetation Affecting Sight Distance along Alameda de las Pulgas

Source: CHS Consulting Group, 2022.

Figure 4.15-3
Sight Distance

The City has also identified concerns regarding the driveway for the lot on the north side of the main internal roadway, closest to the project entrance (Lot 1), where the proposed driveway may conflict with on-site traffic operations as well as the proposed crosswalk at the adjacent on-site intersection. Verification of compliance with City standards will occur at the time of grading permit issuance.

Through the plan review process, the City will require the applicant to demonstrate that proposed streets, driveways, and pedestrian facilities meet applicable code requirements referenced above related to visibility, stopping distance, safety, and accessibility. Without final site plan approval for compliance with safety-related code requirements, the proposed project would have a *significant* impact.

Impact TRAN-3: Sight distance would be inadequate for southbound traffic on Alameda de las Pulgas approaching the project entrance driveway, and proposed on-site driveways for Lot 1 and Lots 15 through 21 do not comply with applicable safety-related code requirements.

Mitigation Measure TRAN-3a: The proposed project shall be designed to achieve adequate stopping sight distance for both northbound and southbound traffic on Alameda de las Pulgas. This can be achieved through removal of vegetation obstructing roadway views. A qualified traffic engineer shall verify sight distance upon removal to confirm that adequate sight distance has been achieved.

Vegetation along Alameda de las Pulgas off of the project site shall be maintained to ensure it does not exceed 3 feet in height within sight distance triangles. The City of San Carlos shall be responsible for removing and maintaining vegetation within the public right of way, and the private property owner(s) shall be responsible for removing and maintaining vegetation within private property. The City shall enforce this requirement through its existing code enforcement procedures.

Mitigation Measure TRAN-3b: Prior to issuance of grading permits, the project applicant shall demonstrate compliance with the site safety provisions in applicable code requirements (such as Municipal Code Sections 18.15.130 and 12.20.040).

Significance with Mitigation: Less than significant.

TRAN-4 The proposed project would result in inadequate emergency access.

The project site is currently served by emergency response vehicles via Alameda de las Pulgas and Castor Road. The proposed project would include a new internal roadway system that would be required to meet applicable CBC and CFC requirements. The Redwood City-San Carlos Fire Department (RC-SCFD) has reviewed the proposed project site plans and has identified a number of items that require resolution.

Initial proposed project plans did not include a secondary emergency vehicle access road. Pursuant to CFC Section 503.1.2, the fire code official is authorized to require more than one fire access road based on the potential for a single access road to be impaired by factors that could limit access.[7] In this case, the RC-SCFD requires a secondary roadway for emergency vehicle access and emergency evacuation due to the

[7] See letter from Redwood City – San Carlos Fire Department in Appendix O, *Emergency Access*, of this Draft EIR.

terrain of the project site. Access to Coronado Avenue would be created in the future by the proposed Vista Del Grande project; however, given that the timing of the development of the Vista Del Grande project is unknown, it is possible that the proposed project could be constructed prior to the planned connection to Coronado Avenue.

In addition, fire apparatus access exceeds the 10-percent grade limit established in Appendix D, *Fire Apparatus Access Roads*, of the CFC, and some proposed on-site, dead-end streets without approved fire apparatus turnarounds exceed the distances permitted in Appendix D of the CFC. The project applicant has submitted an Alternative Materials and Methods Request (AMMR) to address plan check comments through an alternate approach to meet the intent of code requirements.

At the time of publication of this Draft EIR, the proposed AMMR has been found to be generally acceptable in terms of street grades, but requires revision related to building construction, sprinkler systems, exterior siding, landscaping, building access, final approval of the City Engineer, and CFC Chapter 7A compliance.[8] Without final approval of the AMMR, the proposed project would have a *significant* impact related to emergency access, and mitigation is required.

Impact TRAN-4: The proposed emergency vehicle access does not comply with applicable code requirements related to fire safety, and the project has inadequate emergency access due to the lack of a second emergency egress point.

Mitigation Measure TRAN-4a: Prior to issuance of building permits, the project sponsor shall obtain final approval of an Alternative Materials and Methods Request(s) from the City of San Carlos.

Mitigation Measure TRAN-4b: Prior to the issuance of permits that allow for any combustible construction on the project site (e.g., grading or building permits), the project sponsor shall construct an access road connecting the project site to Coronado Avenue. The Redwood City-San Carlos Fire Department shall review and approve the roadway plans to ensure that the road is adequately designed to accommodate emergency vehicle apparatus. The road shall provide emergency vehicle access to the project site as well as site evacuation in the event of an emergency. Construction of the roadway is not required in the event that a roadway connection to Coronado Avenue has already been established by another party prior to issuance of building permits.

Significance with Mitigation: Less than significant. A figure showing the approximate location of the access road that would potentially be constructed under Mitigation Measure TRAN-4b is provided in Appendix O, *Emergency Access*, of this Draft EIR. The potential secondary impacts associated with the construction of this access road are addressed throughout this Draft EIR.

[8] West Coast Code Consultants, October 10, 2002, Letter Re: Plan Review: New Townhomes – AMMR for Exceed Access Road Grade Limits. (See Appendix O, *Emergency Access*.)

TRAN-5 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in cumulative significant impacts regarding transportation.

A cumulative VMT analysis is not required for CEQA pursuant to OPR's 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA. Therefore, a cumulative transportation impact assessment is not provided regarding consistency with CEQA Guidelines Section 15064.3(b).

The impact assessment related to TDM measures, pedestrian facilities, bicycle facilities, transit services, and sight distance, would be the same as described in impact discussions TRAN-1 through TRAN-3, which would be less than significant with mitigation, because the project's TDM effectiveness, provision of adequate pedestrian and bicycle facilities, and site design to ensure traffic safety would be project specific.

The Vista Del Grande cumulative project is planned to provide a connection between the project site and Coronado Avenue. As described in Chapter 3, *Project Description*, the proposed internal roadway at the northern boundary of the project site has been designed to connect to the Vista Del Grande site at this location to enable emergency vehicle access to the upper portion of the project site. However, as identified in impact discussion TRAN-4, given that the timing of the development of the Vista Del Grande project is unknown, it is possible that the proposed project could be constructed prior to the planned connection to Coronado Avenue. With the implementation of Mitigation Measure TRAN-4b, the proposed project would create the connection to Coronado Avenue in the event that the Vista Del Grande project roadway is not yet constructed. Therefore, with mitigation, the proposed project would not contribute to any cumulative impact associated with emergency access.

Following construction of the Vista Del Grande project, a permanent, public roadway connection would be established between the project site and Coronado Avenue. It is not expected that the proposed project would increase traffic levels on Coronado Avenue given that it is a small residential street connecting to other small residential streets and does not provide direct access to any through streets that cannot be more directly accessed from other routes. Therefore, traffic-related safety hazards associated with project vehicle traffic on Coronado Avenue are not anticipated. Drivers from the proposed project site traveling to destinations to the north or west could travel more efficiently by exiting the project site onto Alameda de la Pulgas. It is more likely that trip pattern changes would occur under cumulative conditions as a result of cut-through traffic entering the project site from Coronado Avenue via the Vista Del Grande site, in order to connect to Alameda de las Pulgas. Therefore, the transportation network under cumulative conditions is not expected to create any impacts associated with traffic as it pertains to safety, and this would be a *less-than-significant* cumulative impact.

Significance without Mitigation: Less than significant.

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4.16 TRIBAL CULTURAL RESOURCES

This chapter describes the potential impacts associated with the development of the proposed project related to tribal cultural resources (TCRs) within the City of San Carlos. Other potential impacts to cultural resources (including potential impacts to prehistoric, historic, and paleontological resources, and the potential disturbance of human remains) are evaluated in Chapter 4.4, *Cultural Resources*. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the proposed project impacts and cumulative impacts.

4.16.1 ENVIRONMENTAL SETTING

4.16.1.1 REGULATORY FRAMEWORK

Federal Regulations

The Archaeological Resources Protection Act (United States Code, Title 16, Sections 470aa–mm) became law on October 31, 1979, and has been amended four times. It regulates the protection of archaeological resources and sites that are on federal and Indian lands.

State Regulations

California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that if human remains are discovered on the project site, disturbance of the site shall halt and remain halted until the coroner has investigated the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and recognizes or has reason to believe the human remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

California Public Resources Code

Archaeological resources are protected pursuant to a wide variety of State policies and regulations enumerated under the California Public Resources Code (PRC). In addition, cultural resources are recognized as a nonrenewable resource and therefore receive protection under the California PRC and California Environmental Quality Act (CEQA).

PRC Sections 5097.9 through 5097.991 provide protection to Native American historical and cultural resources, and sacred sites and identifies the powers and duties of the NAHC. It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.

California Register of Historical Resources

The California Register of Historic Resources is the state version of the National Register of Historic Resources program (see also Chapter 4.2, *Cultural Resources*). It was enacted in 1992 and became official January 1, 1993. The California Register was established to serve as an authoritative guide to the state's significant historical and archaeological resources. Resources that may be eligible for listing include buildings, sites, structures, objects, and historic districts. According to subsection (c) of PRC Section 5024.1, a resource may be listed as a historical resource in the California Register if it meets any of the four National Register criteria.

Assembly Bill 52

AB 52 took effect July 1, 2015, and requires inclusion of a new section in CEQA documents titled Tribal Cultural Resources, which include heritage sites. Under AB 52, a tribal cultural resource is defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. Or the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource.

AB 52 requires consultation with tribes at an early stage to determine whether the project would have an adverse impact on TCRs and define mitigation to protect them. Per AB 52, within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested it. The tribe then has 30 days of receiving the notification to respond if it wishes to engage in consultation. The lead agency must initiate consultation within 30 days of receiving the request from the tribe. Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a tribal cultural resource, or a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on tribal cultural resources and discuss feasible alternatives or mitigation that avoid or lessen the impact.

Local Regulations

The Land Use Element of the City of San Carlos 2030 General Plan contains a Cultural Resources section that includes background information about cultural and historic resources in San Carlos and related goals, policies, and actions. The policies relevant to the proposed project can be found in Table 4.4-1, *City of San Carlos 2030 General Plan Policies Relevant to Cultural Resources,* in Chapter 4.4, *Cultural Resources*.

4.16.1.2 EXISTING CONDITIONS

A sacred lands file search conducted by the NAHC for the project site did not identify any sacred lands. The NAHC identified six local Native American representatives as potentially having local knowledge.

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area

- The Ohlone Indian Tribe

The City notified all six tribal representatives about the proposed project on February 25, 2019, and asked for information about potential resources at or near the project site.

4.16.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant tribal cultural resources impact if it would:

1. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21704 as either a site, feature, place, or 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:
   - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of Historical Resources as defined in Public Resources Code Section 5020.1(k), or
   - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
2. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to tribal cultural resources.

4.16.3 IMPACT DISCUSSION

TCR-1	**The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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 listed or eligible for listing in the California Register of Historic Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).**

The proposed project would result in a substantial adverse change in the significance of a tribal cultural resources if it altered resources listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources or a resource determined to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. As discussed in Chapter 4.4, *Cultural Resources*, no sensitive resources eligible for listing in the California Register of Historical Resources, or in a local register of historical resources have been recorded within the project site or within a half-mile radius.

The City began the consultation process under AB 52 by contacting the NAHC to inform the agency about the proposed project. In response, the NAHC provided a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the proposed project. With the list of tribes, the City contacted local tribal representatives by letter, inviting them to initiate consultation. The purpose of the letter was to inform nearby tribes of the project. As of publication of this Draft EIR, no responses have been received from the tribes.

In addition to the contact letters and the negative NAHC record search, the federal, State, and City historic registers do not indicate any 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 designated on the project site. Furthermore, the project site is not within a historic preservation district, nor is it identified as a historic landmark.

However, it remains possible that a currently unknown tribal cultural resource could be encountered during construction activities. Without mitigation measures, unearthing tribal cultural resources could result in a *significant* impact.

Impact TCR-1.1: Implementation of the proposed project may cause a substantial adverse change in the significance of a TCR, as defined in Public Resources Code Section 21074.

Mitigation Measure TCR-1.1: Implement Mitigation Measure CULT-2.

Significance with Mitigation: Less than significant.

Impact TCR-1.2: Implementation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Mitigation Measure TCR-1.2: Implement Mitigation Measure CULT-3.

Significance with Mitigation: Less than significant.

TCR-2 The proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts to tribal cultural resources.

Cumulative impacts to tribal cultural resources occur when a series of actions leads to adverse effects on local Native American tribes or tribal lands. No tribal cultural resources have been identified on the project site or within the immediate vicinity. Further, in association with CEQA review, future AB 52 consultations with Native American tribes to identify TCRs would be required for projects that have the potential to cause significant impacts to tribal cultural resources.

As discussed in Chapter 4.4, *Cultural Resources*, development of the proposed project would comply with federal and State laws protecting cultural resources. Implementation of Mitigation Measures TCR-1.1 and TCR-1.2 would ensure that archaeological, cultural resources, and tribal cultural resources if discovered on

the project site, are protected, and that discovered human remains, including those associated with Native American tribes, are handled appropriately. Therefore, cumulative impacts to tribal cultural resources would be *less than significant*.

Significance without Mitigation: Less than significant.

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4.17 UTILITIES AND SERVICE SYSTEMS

This chapter describes the potential impacts associated with implementation of the proposed project on utilities and service systems, including water supply and demand, wastewater (sewage) conveyance and treatment, storm drainage systems, solid waste collection and disposal systems, and other utilities. Stormwater and flooding impacts related to hydrology and water quality are addressed in detail in Chapter 4.9, *Hydrology and Water Quality*, of this Draft Environmental Impact Report (EIR); impacts associated with the capacity of the stormwater infrastructure are discussed in this chapter. Energy use, energy providers, and the energy infrastructure also are addressed in detail in Chapter 4.5, *Energy*, of this Draft EIR; this chapter discusses the potential impact of the project on electricity and telecommunications utilities.

In each section of this chapter, a summary of the relevant regulatory framework and existing conditions is followed by a discussion of project impacts and cumulative impacts from implementation of the proposed project.

4.17.1 WATER

4.17.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act authorizes the Unites States Environmental Protection Agency (USEPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and human-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

America's Water Infrastructure Act of 2018

America's Water Infrastructure Act was signed into law on October 23, 2018, and authorizes federal funding for water infrastructure projects; expands water storage capabilities; assists local communities in complying with the Safe Drinking Water Act and Clean Water Act (CWA); reduces flooding risks for rural, western, and coastal communities; and addresses significant water infrastructure needs in tribal

communities.[1] Additionally, the act requires that drinking water systems that serve more than 3,300 people develop or update risk assessments and emergency response plans. Risk assessments and emergency response plans must be certified by the EPA within the deadline specified by the act.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.) was passed in 1969 and amended in 2013. It is the basic water quality control law for California. Under this act, the SWRCB has authority over State water rights and water quality policy. The act divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB), to oversee water quality on a day-to-day basis at the local and regional levels. RWQCBs engage in various water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. San Carlos is overseen by the San Francisco Bay RWQCB (Region 2).

Urban Water Management Planning Act (Senate Bills 610 and 221)

The California Urban Water Management Planning Act and Section 10620 of the Water Code require that all urban water suppliers in California that provide water to more than 3,000 customers or supply more than 3,000 acre-feet per year (AFY)[2] to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. The act is intended to support efficient use of urban water supplies. It requires the UWMP to compare water supply and demand over the next 20 years for normal years, single-dry years, and multiple-dry years and to determine current and potential recycled water uses. Senate Bill (SB) 610 and SB 221 were enacted to 1) ensure better coordination between local water supply and land use decisions and 2) confirm that there is an adequate water supply for new development. Requirements of an UWMP include: [3]

- Plans for water supply and assesses reliability of each source of water over a 20-year period in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled or non-potable water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions were added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 (SBX7-7)), which amends the act and adds new water conservation provisions to the Water Code.

[1] John Barasso, 2018, Congress Passes America's Water Infrastructure Act, https://www.barrasso.senate.gov/public/index.cfm/2018/10/congress-passes-america-s-water-infrastructure-act, accessed June 23, 2021.

[2] One acre-foot is the amount of water required to cover one acre of ground (43,560 square feet) to a depth of one foot.

[3] California Legislative Information, 2020, Urban Water Management Plan - Article 1. General Provisions [10620 - 10621], https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=WAT&division=6.&title=&part=2.6.&chapter=3.&article=1, accessed June 23, 2021.

SB 610 requires the preparation of a Water Supply Assessment (WSA) for certain types of projects subject to California Environmental Quality Act (CEQA). The proposed project does not meet the criterion for preparation of a WSA, because it consists of less than 500 dwelling units.

Water Conservation Act of 2009 (Senate Bill X7 7)

New mandatory requirements for increasing water use efficiency, per State law (SB-X7 7), mandate the reduction of per capita water use and agricultural water use throughout the State by 20 percent by 2020. Requirements included, among others, convening of a task force for developing alternative best management practices, identifying per capita use targets, reporting requirements, and increasing incentives and removing barriers for promotion of regional water resource management practices.

2018 Water Conservation Legislation

In 2018, the California Legislature enacted two policy bills (SB 606 and Assembly Bill [AB] 1668) to establish long-term improvements in water conservation and drought planning to adapt to climate change and longer and more intense droughts in California. The Department of Water Resources and the SWRCB will develop new standards for:

- Indoor residential water use
- Outdoor residential water use
- Commercial, industrial, and institutional (CII) water use for landscape irrigation with dedicated meters
- Water loss

Urban water suppliers are required to stay within annual water budgets based on their standards for their service areas, and to calculate and report their urban water use objectives in an annual water use report. For example, SB 606 and AB 1668 define a 55-gallon-per-person daily standard for indoor residential use until 2025, when it decreases to 52.5 gallons, and further decreases to 50 gallons by 2030. The legislation also includes changes to UWMP preparation requirements.[4]

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) required the Department of Water Resources (DWR) to update the State of California's Model Water Efficient Landscape Ordinance (MWELO), which requires cities and counties to adopt landscape water conservation ordinances.

The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and to build resiliency for future droughts. The 2015 revisions to the MWELO increased water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture and by limiting the portion of landscapes that can be covered in turf.[5]

[4] California Department of Water Resources, 2021, 2018 Water Conservation Legislation, https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation, accessed June 23, 2021.

[5] California Legislative Information, 2006, Assembly Bill No. 1881, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=200520060AB1881, accessed June 23, 2021.

The City of San Carlos has enacted these provisions in the San Carlos Municipal Code (SCMC) Section 18.18.080, *Water-Efficient Landscaping and Irrigation*.

The landscape plan review process requires submittal of the maximum applied water allowance and estimated total water use worksheets as well as grading plans, landscape planting plans, and irrigation design plans.[6]

California Building Code: CALGreen

The California Building Standards Commission adopted the nation's first green building standards in July 2008, the California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), also known as CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California unless otherwise indicated in the code. CALGreen establishes planning and design standards for sustainable site development, including water conservation measures and requirements that new buildings reduce water consumption by 20 percent below a specified baseline. CALGreen is updated every three years to allow for consideration and possible incorporation of new efficiency technologies and methods. The mandatory provisions of CALGreen became effective January 1, 2011, and the latest version, the 2019 California Green Building Standards Code, became effective on January 1, 2020.[7] The building efficiency standards are enforced through the local building permit process. The City of San Carlos adopts CALGreen and its latest updates under Chapter 15.04.125 Title 24, Part 11 of its Municipal Code.[8]

California Plumbing Code

The current version of the California Plumbing Code (California Code of Regulations, Title 24, Part 5) was issued in 2019 and is updated on a three-year cycle. It includes new standards for plumbing fixtures, new provisions for storm drain systems, and design criteria for potable and recycled water systems. The City adopts the California Plumbing Code and latest updates under Chapter 17.04 of the San Carlos Municipal Code.[9]

California Water Code

The California Water Code addresses issues such as water shortage emergencies, on-site wastewater treatment systems, potable water reuse, greywater systems, appropriation of water, water rights, and the establishment of California water districts.

[6] City of San Carlos, 2021, Municipal Code - Chapter 18.18.08, *Water efficient landscaping and irrigation*, https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1818.html#18.18.080, accessed October 11, 2021.

[7] Department of General Services, 2021, CalGreen, https://www.dgs.ca.gov/BSC/CALGreen#codes, accessed June 23, 2021.

[8] City of San Carlos, 2021, Municipal Code - 15.04.125 Title 24, Part 11, California Green Building Standards Code (CALGreen), https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos15/SanCarlos1504.html#15.04.125, accessed June 23, 2021.

[9] City of San Carlos, 2021, Municipal Code - 15.04.070. https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos15/SanCarlos1504.html#15.04.070, accessed June 23, 2021.

Mandatory Water Conservation

Following the declaration of a state of emergency on July 15, 2014, due to drought conditions, the SWRCB adopted Resolution No. 2014-0038 for emergency regulation of Statewide water conservation efforts. These regulations, which went into effect on August 1, 2014, were intended to reduce outdoor urban water use and persuade all California households to voluntarily reduce their water consumption by 20 percent. Water companies with 3,000 or more service connections are required to report monthly water consumption to the SWRCB. The SWRCB readopted the regulations several times, until Governor Brown issued Executive Order B-40-17 in April 2017, ending the drought emergency and directing the SWRCB to rescind portions of its existing drought emergency water conservation regulations but maintain the portions that prohibit wasteful water use practices until permanent requirements are in place. The wasteful water use practices that are still in effect include: 1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; 2) the use of a hose to wash a motor vehicle except where the hose is equipped with a shut-off nozzle; 3) the application of potable water to driveways and sidewalks; 4) the use of potable water in nonrecirculating ornamental fountains; and 5) the application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall. Also, urban water suppliers are still required to submit monthly water monitoring reports to the SWRCB.[10]

Regional Regulations

The California Water Service Company, Mid-Peninsula District (Cal Water), adopted its current 2020 Urban Water Management Plan (UWMP) in June 2021 in compliance with the Urban Water Management Planning Act, the Water Conservation Act of 2009, and Sections 10610 to 10656 of the California Water Code. All urban water suppliers are required to prepare, adopt, and file a UWMP with DWR every five years. The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for normal years, single-dry years, and multiple-dry years. The UWMP also provides water supply contingency planning in case of shortage emergencies, demand management measures to increase water use efficiency, and current and planned water conservation efforts.

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan includes goals, policies, and implementing actions to ensure an adequate water supply and infrastructure in Chapter 6, *Environmental Management Element*. The policies relevant to water supplies and demands are listed below in Table 4.17-1, *City of San Carlos 2030 General Plan Policies Relevant to Water Supplies and Demand*.

[10] Water Resources Control Board, 2014, Resolution No. 2014-0038, https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2014/rs2014_0038_regs.pdf, accessed June 23, 2021.

TABLE 4.17-1 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO WATER SUPPLIES AND DEMAND

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element	
Policy EM-5.3	Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.
Policy EM-5.4	Encourage the use of drought-tolerant plants and efficient watering techniques for all City landscaping.
Policy EM-5.5	Recycled water distribution system (purple pipe) should be used for landscaping and other non-potable water uses for residential, commercial and industrial customers, where technically and financially feasible.
Policy EM-5.6	Continue public education programs on water issues working with water service providers, local non-profits and other environmental organizations, including conservation measures and BMPs for residents, businesses, contractors and City employees.
Policy EM-5.8	Work with water service providers to provide high quality domestic water.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

San Carlos Municipal Code

The following of the City of San Carlos Municipal Code contain provisions pertaining to water service and usage, as explained in the following paragraphs:

- Chapter 15.04.125, *Title 24, Part 11, California Green Building Standards Code (CALGreen)*. This chapter establishes CALGreen's energy and water efficiency mandatory measures for new residential construction.
- Chapter 18.18.080, *Water Efficient Landscaping*. This chapter establishes water-efficient landscape and irrigation guidelines to promote the conservation and efficient use of water and minimize runoff with the use of automatic control systems.

The Municipal Code requires the estimated total water use of a proposed landscaping not to exceed the maximum applied water allowance.

Existing Conditions

Water Supply Sources

Cal Water is a subsidiary of the California Water Service Group and provides water to communities throughout California, organized in districts through the state. The Cal Water Bayshore District is divided into the Mid-Peninsula District (MPD) and the South San Francisco District. The MPD serves central San Mateo County and the communities of San Carlos, San Mateo, parts of unincorporated Redwood City, and adjacent unincorporated portions of San Mateo County, including The Highlands and Palomar Park. MPD purchases all its water from the San Francisco Regional Water System (RWS), which is operated by the San Francisco Public Utilities Commission (SFPUC). Approximately 85 percent of the water supply to the RWS originates in the Hetch Hetchy watershed. The remaining 15 percent of the water supply originates locally

in the Alameda and Peninsula watershed and is stored in six reservoirs in Alameda and San Mateo Counties.[11]

The MPD operates two Public Water Systems (PWS): the San Mateo PWS and the San Carlos PWS. The San Carlos water system includes 17 storage tanks, 23 pressure zones, and 24 booster pumps.[12] The MPD supplied 3,658 acre-feet of water to the San Carlos PWS in 2020 via 10,450 municipal connections. Most of the MPD's service connections are residential customers, who account for 72 percent of the total water use. All the water supplied by MPD is from surface water. There currently is no use of groundwater or recycled water and these sources are not anticipated to be available for future use through 2045.[13]

Water Supply Assurance

The SFPUC has a perpetual commitment (Supply Assurance) to deliver 184 million gallons per day (mgd) to the 24 wholesale customers. The Supply Assurance is allocated through Individual Service Guarantees (ISGs), which represent each wholesale customer's allocation. Cal Water's total ISG for all three districts in San Mateo County is 35.68 mgd.[14]

Water Treatment

Water from Hetch Hetchy Reservoir is treated at the Tesla Treatment Facility near the City of Tracy. The facility uses ultraviolet light for disinfection and has the capacity to treat 315 mgd. All RWS water from sources other than Hetch Hetchy Reservoir is treated at one of two facilities:

- The Sunol Valley Water Treatment Plant (SVWTP) east of the City of Fremont has a 160 mgd capacity and treats water from the San Antonio and Calaveras Reservoirs.
- The Harry Tracy Water Treatment Plant (HTWTP) near the City of Millbrae has a 180 mgd capacity and treats water from Crystal Springs Reservoir and San Andreas Reservoir.[15]

Water Supply and Demand

Water supply and demand was determined in the 2020 UWMP for the MPD for normal years, a single-dry year, and multiple-dry years. Water demand forecasts for 2025 through 2045 were based on population projections prepared by the Association of Bay Area Governments (ABAG).[16] The 2020 water demand for MPD was 14,563 acre-feet.

[11] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

[12] California Water Service, 2021, District Information, Bayshore (Bay Area Region), https://www.calwater.com/district-information/?dist=bay, accessed October 11, 2021.

[13] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

[14] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

[15] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

[16] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

As shown below in Table 4.17-2, *Projected Normal, Dry, and Multiple-Dry Years Supply and Demand Comparisons (afy),* Cal Water forecasts that it will have adequate supplies to meet demands in normal years through 2045. However, demands are expected to exceed supplies for single-dry or multiple-dry years through 2045. Table 4.17-2 provides the projected water demand and water supply comparison for the MPD for normal, single-dry, and multiple-dry years.

TABLE 4.17-2 PROJECTED NORMAL, DRY, AND MULTIPLE-DRY YEARS SUPPLY AND DEMAND COMPARISONS (AFY)

	2025	2030	2035	2040	2045
Normal Year					
Supply Totals	14,418	14,530	14,786	14,977	15,279
Demand Totals	14,418	14,530	14,786	14,977	15,279
Difference	*0*	*0*	*0*	*0*	*0*
Single-Dry Year					
Supply Totals	9,470	9,541	9.708	9,676	8,458
Demand Totals	14,797	14,908	15,168	15,359	15,662
Difference	*(5,327)*	*(5,367)*	*(5,460)*	*(5,683)*	*(7,204)*
Multiple-Dry Year					
First Year					
Supply Totals	9,170	9,146	9,186	9,296	8,081
Demand Totals	15,031	15,143	15,405	15,595	15,900
Difference	*(5,862)*	*(5,996)*	*(6,219)*	*(6,299)*	*(7,819)*
Second Year and Third Year					
Supply Totals	7,863	7,847	7,871	7,975	8,081
Demand Totals	15,031	15,143	15,405	15,595	15,900
Difference	*(7,168)*	*(7,295)*	*(7,534)*	*(7,620)*	*(7,819)*
Fourth Year					
Supply Totals	7,863	7,847	7,871	7,036	6,868
Demand Totals	15,031	15,143	15,405	15,595	15,900
Difference	*(7,168)*	*(7,295)*	*(7,534)*	*(8,559)*	*(9,031)*
Fifth Year					
Supply Totals	7,863	7,847	7,216	7,036	6,868
Demand Totals	15,031	15,143	15,405	15,595	15,900
Difference	*(7,168)*	*(7,295)*	*(8,189)*	*(8,559)*	*(9,031)*

Note: Volumes provided in acre-feet per year (AFY).
Source: California Water Service Company, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*.

Table 4.17-2 shows water supply deficits in future single- and multiple-dry years but represents a worst-case scenario. This assumes the Bay-Delta Plan Amendment is implemented without the SFPUC and SWRCB reaching a Voluntary Agreement and does not account for implementation of SFPUC's Alternative Water Supply Planning Program (AWSP). Without the Bay-Delta Plan Amendment, SFPUC would be able to supply 100 percent of projected RWS demands in all years through 2045, except for the fourth and fifth consecutive dry year in 2045, during which 90 percent of the project RWS demands would be met. Strategies to address dry year supply shortfalls include:

- Calaveras Dam Replacement Project
- Alameda Creek Recapture Project
- Lower Crystal Springs Dam Improvements
- Regional Groundwater Storage and Recovery Project
- 2 MGD Dry-Year Water Transfer between the Modesto Irrigation District, the Oakdale Irrigation District and the SFPUC

The SFPUC is also accelerating efforts to acquire additional water supplies through the AWSP, including projects to purify wastewater from Silicon Valley Clean Water and/or the City of San Mateo that would then be transmitted to Crystal Springs Reservoir and treated again at Harry Tracy Water Treatment Plant. Cal Water also has its own comprehensive water conservation program that will continue to reduce per-capita usage and therefore demands on critical water sources.

Water Shortage Contingency Plan

The MPD Water Shortage Contingency Plan (WSCP) is a company-wide plan for responding to long-term droughts that may be of several months to several years duration, as well as to sudden events including natural disasters, mechanical failures, or chemical contamination. The WSCP prescribes actions in response to six stages of drought and is provided in the 2020 UWMP.

4.17.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact related to water supply if it would:

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple-dry years.
- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
- In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to water supply.

4.17.1.3 IMPACT DISCUSSION

Proposed Water System for Project

According to the water supply memorandum prepared for the project site, there are several potential options for connecting the project to MPD's water supply system.[17] Cal Water has indicated that they are able and willing to serve the project with potable water, as indicated in their will-serve letter, dated March 18,2021.[18] The project is in close proximity to three Cal Water pressure zones and there are large grade changes across the project site so there are various options for supplying the project with the water flow rates and pressures needed for the proposed buildings and hydrants. The preferred option is discussed

[17] BKF, 2022, *Water Supply Memorandum for 808 Alameda de las Pulgas, San Carlos, CA.*
[18] BKF, 2022, Attachments D and E of Water Supply Memorandum for 808 Alameda de las Pulgas, San Carlos, CA.

below; detailed calculations and drawings are in the 2022 BKF memorandum provided in Appendix N, *Utilities*. Implementation of this option would require approval from Cal Water, the Redwood City Fire Department (which services San Carlos), and the City of San Carlos.

Adequate water supply for the project is based on two requirements: a minimum fire flow of 20 pounds per square inch (psi) at 1,500 gallons per minute (gpm) for 2 hours for hydrants and a minimum static pressure of 20 psi for domestic flow at each water meter that connects to the buildings. Cal Water proposes that there be a public water main to serve both domestic and fire flows with two separate points of off-site connection. Cal Water prefers that the system could connect to the Vista del Grande development, which has similar challenges and supply requirements, with potential cost sharing of the upgraded system between the two developments. Cal Water would either install or supervise the installation of the water system at the developers' cost and then accept ownership and long-term maintenance of the system.

As described in detail in the 2022 BKF water supply memorandum, the preferred water supply option is to divide the project into an upper and lower site, based on pressure zones. The lower (eastern) portion of the site would be supplied from the 345 Pressure Zone with a connection to the existing 12-inch water line in Alameda de las Pulgas and would serve 46 units. An on-site 8-inch water distribution pipeline would serve both domestic and fire demands, with 6-inch stubs to each hydrant and smaller connections to serve each cluster's domestic and sprinkler flows. Water meters would be installed at each unit's domestic connection and separate meters could be provided throughout the development for irrigation purposes.

The preferred option for supplying water to the upper (western) portion of the site would be with an 8-inch connection to the 550 Pressure Zone at the intersection of Dundee Lane and Glasgow Lane that would serve 41 units. The 550 Zone is recently constructed and has excellent water flow/pressure. However, a new 20-foot easement would be required through either 120 Dundee Lane or 205 Glasgow Lane to connect the project's new water line to the existing CalWater line at the intersection of Dundee Lane and Glasgow Lane. Obtaining the new easement would be the responsibility of the project applicant. The new water main would include approximately 200 linear feet of an 8-inch line from the Dundee/Glasgow intersection to the boundary of the project site and about 200 linear feet of an 8-inch water main extension on-site to the connection of the 8-inch water distribution line that serves the project.

If it is not possible to obtain the easement, an alternative solution is to install an 8-inch extension from the CalWater line at Alameda de las Pulgas and install two 125- to 150-horsepower vertical turbine pumps in a pump house centrally located on the property and a 2,000-gallon high-pressure hydropneumatic tank to provide adequate pressure for fire flow and domestic uses for the upper site.[19]

[19] A figure showing this scenario is shown as Figure 6 in Appendix N1, *Water Supply Memorandum*, of this Draft EIR.

UTIL-1 The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple-dry years.

The proposed 87 townhomes are estimated to add 220 residents to the project site based on the average household size in the City of San Carlos in 2021 of 2.53 persons.[20] The residential per capita water use rate in 2020 per the Cal Water UWMP was 68 gallons per capita per day.[21] Over 90 percent of the housing stock in San Carlos was built before 1990[22] and therefore does not typically reflect the reduction in water usage associated with low-flow plumbing fixtures that are required for new construction, as per the CalGreen Building Code. The proposed project will comply with the latest CalGreen code requirements, which typically results in a 20 percent reduction in water use. Therefore, the residential indoor water use rate for this project is estimated to be 54 gpcd (68 gpcd x 0.80 = 54 gpcd). The total indoor water use from the proposed project is estimated to be 11,974 gpd. As the existing dwelling units are vacant, the proposed project water demand would represent the net increase in water usage. Table 4.17-3, *Project Water Demand*, summarizes the proposed project water demand.

TABLE 4.17-3 PROJECT WATER DEMAND

Type	Proposed project (gpd)	Proposed project (afy)
Indoor Water Use	11,974	13.4
Outdoor Water Use [a]	3571	4.0
Total Water Use	**15,545**	**17.4**

Notes: gpd: gallons per day; afy: acre-feet per year
a. Preliminary estimate of outdoor water use for the proposed project based on DWR Water Budget spreadsheet for new and rehabilitated residential landscapes assuming 223413 square feet of new landscaping. A landscape and irrigation plan with detailed calculations will be submitted to the City for review and approval prior to the start of construction.
Source: PlaceWorks, 2022.

The proposed project would result in an increase of 17.4.8 afy, which is approximately 0.1 percent of the 2020 MPD water demand of 14,563 acre-feet. The current population of San Carlos is approximately 30,145 and will increase to 35,245 by 2040.[23] The estimated population increase of 220 due to project development is well within the forecast population growth for San Carlos that was assumed in the 2020 UWMP. In addition, Cal Water has issued a will serve letter, stating that there is available water to meet project water demands.

Although water supply within the MPD service area is projected to fall short of water demand for a single-dry year and multiple-dry years, Cal Water anticipates meeting water demands in future dry years by

[20] State of California, Department of Finance, Report E-5, Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed May 14, 2021.

[21] California Water Service, 2021. *2020 Urban Water Management Plan, Mid-Peninsula District*.

[22] California Water Service, 2021. *2020 Urban Water Management Plan, Mid-Peninsula District*, Table 3-2. *Demographic and Housing Characteristics*.

[23] City of San Carlos, 2021. Adopted FY 2020-2021 Budget, Community & Economic Profile, https://www.cityofsancarlos.org/Home/ShowDocument?id=6355, accessed November 10, 2021.

implementing its WSCP. In addition, Cal Water has developed a Conservation Master Plan, which provides the blueprint for education, assistance, and incentives to help customers always use water efficiently.[24] This includes a plumbing fixture replacement program, irrigation equipment and turf replacement rebates, free evaluation of customer's irrigation systems, and water savings calculators and tips. With the implementation of these programs and the current legislation to reduce residential indoor water use to 50 gallons per person by 2030, per capita water use in the service area will continue to decrease despite the increase in population. Compliance with these programs and Cal Water's will serve letter indicates that there is sufficient water available for the proposed project and impacts would be considered *less than significant*.

Significance without Mitigation: Less than significant.

UTIL-2 The project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

The proposed project would connect to an existing 12-inch water main beneath Alameda de las Pulgas to serve the lower (eastern) portion of the project and would involve the construction of approximately 400 linear feet of a new 8-inch water main from the intersection of Dundee Lane and Glasgow Lane to serve the upper (western) portion of the project. The portion of the 8-inch water main that is located in the public street or right-of-way would be owned, operated, and maintained by Cal Water. Additionally, Cal Water submitted a will serve letter for the project.

The Harry Tracy Water Treatment Plant filters and disinfects water supplied from Crystal Springs Reservoir and San Andreas Reservoir before it is delivered to customers in San Carlos. Major upgrades to the treatment plant were completed in 2015. The treatment process includes ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. With completion of the recent improvements, the treatment plant has a sustainable capacity of 140 mgd,[25] which is equivalent to 156,780 afy. This substantially exceeds the water demand for the MPD service area of 15,279 afy in 2045. Therefore, no existing or new water facilities or expansion of existing facilities would be required, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

[24] California Water Service, 2021, *Conservation Master Plan 2021-2025, Mid-Peninsula District*.

[25] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed March 2, 2022.

UTIL-3 The project would not result in significant cumulative impacts regarding water supply, in combination with past, present, and reasonably foreseeable projects.

The area considered for cumulative impacts is MPD's public water systems service areas, which consists of the cities of San Carlos and San Mateo. The population of MPD's service area is forecast to increase from 137,486 in 2020 to 147,802 in 2040, an increase of 10,316 or about 7.5 percent.[26] This is consistent with the future projected growth rate within the City of San Carlos, which is expected to increase by 5,100 residents by the year 2040. The projected increases in population have been accounted for in the 2020 UWMP with respect to water demand. Although water supply within the MPD is projected to fall short of water demand for a single-dry year and multiple-dry years, Cal Water anticipates meeting water demands in future dry years by implementing its WSCP.

Other projects within San Carlos and the MPD service area would increase water demands in the service area. However, all new development would be required to conserve water use and implement water efficiency measures, as per the CalGreen Building Code and the MWELO outdoor irrigation requirements. In addition, future development would be required to pay water service connection fees to Cal Water, which include a meter charge, service line and installation charge, water capacity charge, and water demand offset charge.[27] These charges are used to offset the costs of system maintenance and capital upgrades to support new development within the MPD's service area. In addition, water supply assessments (WSAs) would be required for large development projects to ensure adequate water supply for new development.

Overall, cumulative water demands would not exceed nor require building new water treatment facilities or expanding existing facilities beyond what is currently planned. Water supply deficits in dry years would be met by implementing the WSCP and other water conservative efforts. Existing regulations would result in a reduction in per capita water use over time, which would ensure that cumulative impacts with respect to water supply would be *less than significant*.

Significance without Mitigation: Less than significant.

[26] California Water Service, 2021, *2020 Urban Water Management Plan*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed October 12, 2021.

[27] California Water Service, 2018, Water Service Ordinance 103, Attachment A. Schedule of Rates and Fees.

4.17.2 WASTEWATER

4.17.2.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Clean Water Act

The Clean Water Act (CWA) regulates the discharge of pollutants into watersheds throughout the nation. Under the CWA, the EPA implements pollution control programs, sets wastewater standards, and makes it unlawful to discharge pollutants from a point source into any navigable waters without obtaining a permit. Point sources include any conveyances, such as pipes and man-made drainage channels, from which pollutants may be discharged.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; set prohibitions on discharges not specifically allowed under the permit; and establish provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

State Regulations

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan (SSMP). The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system. The SWRCB has delegated authority to the nine RWQCBs to enforce these requirements within their regions.

The San Francisco Bay RWQCB (Region 2) issues NPDES permits for wastewater treatment plants that serve San Carlos. NPDES permits allow the RWQCB to collect information on where the waste is disposed, what type of waste is being disposed, and what entity is depositing the wastes. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance.

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan includes goals, policies, and actions relevant to wastewater conveyance and treatment in Chapter 8, *Environmental Management Element*. The policies applicable to the proposed project are listed below in Table 4.17-4, *City of San Carlos 2030 General Plan Policies Relevant to Wastewater*.

TABLE 4.17-4 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO WASTEWATER

Policy Number	Policy Text
Chapter 8, Environmental Management (EM) Element	
Policy EM-5.1	Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).
Policy EM-5.9	Sewer service may be extended outside the city limit only as required to protect public health due to failing septic systems in accordance with the following policies: ▪ Extension of sewer service would be denied if there is insufficient capacity in the wastewater collection system. ▪ No change to the land use would occur. ▪ The extension of sewer service could not be used to enable further subdivision. ▪ The property owner would be required to annex as such time as a complete consolidation of properties could be annexed. ▪ The property owner would be required to complete all improvements necessary to meet City building and engineering standards. ▪ Applicant to assure payment of all sewer connection, plan checking and inspection fees.

Source: City of San Carlos, 2009, San Carlos 2030 General Plan.

San Carlos Municipal Code

The San Carlos Municipal Code includes various provisions pertaining to wastewater issues, most of which are found in Title 13, *Public Services*. Chapters pertaining to wastewater issues are:

- Chapter 13.04, *Sewer Connections*. Connection permits are required for all projects that connect to any City sewer and sewer capacity charges are imposed on all new development and redevelopment projects to cover costs for maintaining the City's sewer system infrastructure. The sewer capacity charge is based on the volume of estimated wastewater discharge from each new or expanded connection.
- Chapter 13.05*, Sewer Lateral Inspection, Repair, and/or Replacement*. This chapter establishes requirements for property owners to inspect, maintain, repair, and/or replace sewer laterals, sewer relief valves, and sewer backwater valves on each property that is connected to the City's sewer system.
- Chapter 13.08, *Sewer Use*. This chapter establishes standards and conditions, as well as charges and fees, for the use of the sewer system. The chapter includes protection of the sewer system from damage; prohibitions on discharges; control of fats, oils, and grease; and regulation of encroachments into easements; and wastewater effluent limitations.

City of San Carlos Design Guidelines

The City's Design Guidelines include standards for the City's sewer collection system in Section 7 of this document. These sewer guidelines apply to the construction, repair, and relocation of sanitary sewer facilities in the city, including mains, laterals, services, and all related appurtenances. Sewer Standards provide guidelines for the design, construction, and abandonment of sewer utility projects. The guidelines specify minimum acceptable design criteria. More stringent requirements based on specific project conditions may be imposed at the discretion of the Department of Public Works and Engineering Division.[28]

City of San Carlos Sanitary Sewer Management Plan

The goal of the Sanitary Sewer Management Plan, prepared by the Department of Public Works, is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. The plan aims to reduce and prevent sanitary sewer overflows and mitigate any overflows that do occur.[29]

Silicon Valley Clean Water Wastewater Treatment Plant NPDES Permit

Wastewater from the City's sewer system is conveyed to the Silicon Valley Clean Water (SVCW) wastewater treatment plant located in the Redwood Shores area of Redwood City. The NPDES permit for SVCW was issued by the San Francisco RWQCB (Order No. R2-2018-0005; NPDES No. CA0038369). It was adopted on April 1, 2018 and will expire on March 31, 2023. The permit includes discharge prohibitions, effluent limitations and discharge specifications, receiving water limitations, monitoring and reporting requirements, and a pollution minimization program.[30]

Existing Conditions

Wastewater Collection

The City of San Carlos owns and operates its sewer system, consisting of approximately 104 miles of sewer pipelines, ranging in size from 5 to 36 inches, and six sewer lift stations. The average flow from the city to the SVCW treatment plan is about 2 million gallons per day. The primary material is vitrified clay pipe, with most of the system constructed in the 1940s and 1950s. Plastic pipe is used for newer sewer construction and rehabilitation. The collection system also includes approximately 11,000 private sewer laterals.[31] There are existing 6-inch sewer pipes on the project site that serves the three residences and eventually

[28] City of San Carlos,2014, *Sanitary Sewer Management Plan*, https://www.cityofsancarlos.org/home/showpublisheddocument/850/637565993327530000, accessed June 23, 2021.

[29] City of San Carlos, 2021, *Sanitary Sewer Management Plan*, https://www.cityofsancarlos.org/home/showpublisheddocument/850/637565993327530000, accessed June 23, 2021.

[30] San Francisco Bay Regional Water Quality Control Board, 2018, Order No. R2-2018-0005 - NPDES No. CA0038369, https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/February/5b_final_to.pdf, accessed June 23, 2021.

[31] City of San Carlos, 2021, The City of San Carlos Wastewater System. Accessed at https://www.cityofsancarlos.org/home/showpublisheddocument/848/636571580313500000 on November 12, 2021.

they connect and drain into a 6-inch City sewer main that crosses Alameda de las Pulgas and connects to the City's 6-inch sewer main beneath Tamarack Avenue.[32]

Wastewater Treatment

Wastewater from San Carlos is treated at the SVCW treatment plant in the City of Redwood City. The treatment plant collects and treats wastewater from over 200,000 residents and businesses in the cities of San Carlos, Belmont, Redwood City, Menlo Park, Atherton, Portola Valley, areas of East Palo Alto and Woodside, and parts of unincorporated San Mateo and Santa Clara counties. The SVCW treatment plant has a permitted operating capacity of 29 mgd average dry weather flow, and a design capacity of 71 mgd peak wet weather flow.[33] The City of San Carlos contributes approximately 2 million gallons/day.[34] Treated effluent from the SVCW facility is discharged to a deep-water outfall in San Francisco Bay. The Mid-Peninsula District does not currently use recycled water due to low potential irrigation demand and high cost.[35]

4.17.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact related to wastewater service if it would:

- Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the proposed project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to wastewater.

[32] BKF, 2021, *Black Mountain Property Sanitary Sewer Calculations*.

[33] City of San Carlos, 2021, The City of San Carlos Wastewater System, https://www.cityofsancarlos.org/home/showpublisheddocument/848/636571580313500000, accessed November 12, 2021.

[34] San Francisco RWQCB, 2018, NPDES Permit for Silicon Valley Clean Water Wastewater Treatment Plant, https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/February/5b_final_to.pdf, accessed November 12, 2021.

[34] California Water Service, 2021, *2020 Urban Water Management Plan*, https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed October 12, 2021.

4.17.2.3 IMPACT DISCUSSION

UTIL-4 The proposed project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.

Wastewater generated by the proposed project would be collected by the City of San Carlos sanitary sewer system and conveyed to the SVCW treatment plant for treatment. The proposed project includes the construction of an internal network of 6-inch sewers that collect wastewater from the residential development. The on-site sewer infrastructure would be designed and constructed in compliance with City standards and would tie-in to the City's existing 6-inch sanitary sewer main that is located within the site and then crosses beneath Alameda de las Pulgas and continues to the northeast beneath Tamarack Avenue, which eventually connects to the 8-inch sewer main in Carmelita Drive.

A sewer analysis was prepared by BKF to analyze the impact of the proposed development on the capacity of the existing 6-inch sewer main.[36] The pre-development and post-development wet weather peak flows through the system were evaluated and compared to the overall capacity of the 6-inch sewer main beneath Tamarack Avenue, just upstream of its connection to the 8-inch sewer main in Carmelita Drive. The addition of 87 townhomes, generating 120 gallons per day per unit, was added to the existing flows rates from 69 single-family homes that connect to the 6-inch sewer main beneath Tamarack Avenue. The results are summarized in Table 4.17-5, *Sewer Main Capacity – Tamarack Avenue*.

TABLE 4.17-5 SEWER MAIN CAPACITY – TAMARACK AVENUE

Condition	Residential Peak Dry Weather Flow (cfs)	Rain Dependent I/I Flow (cfs)	Wet Weather Peak Flow (cfs)	6-Inch Pipe Fullness (%)
Pre-Development Flow	0.051	0.143	0.193	49%
Post-Development Flow	0.082	0.077	0.168	42%

Source: BKF, 2021, *Black Mountain Property Sanitary Sewer Calculations*.

The results indicate that there would be a reduction in infiltration/inflow (I/I) with development of the proposed project. Infiltration is water other than wastewater that enters a sewer system from the ground through defective pipes, pipe joints, connections, or manholes, whereas inflow is stormwater that enters the sewer collection systems via roof downspouts, yard drains, catch basins, defective sewer manhole covers, or foundation drains. The highest I/I flows occurs during significant storm events or extended precipitation and I/I rates increase over time as the physical condition of the sewer system deteriorates. Replacement of the existing on-site sewer system with new pipes and connections would significantly reduce the amount of I/I flow. Thus, the project would result in a net reduction in peak wet weather flows as compared to existing conditions. The capacity of the 6-inch sewer main just upstream of the connection with the 8-inch sewer main in Carmelita Drive is at about 42 percent of the total capacity. Therefore, no changes to the existing sewer infrastructure would be required.

[36] BKF, 2021, *Black Mountain Property Sanitary Sewer Calculations*.

The SVCW treatment plant has an average daily treatment capacity of up to 29 mgd and a peak wet weather capacity of 71 mgd. From October 2012 through August 2017, the plant treated a daily average of 13.5 mgd and a maximum instantaneous flow of 50 mgd.[37] Therefore, there is approximately 15.5 mgd of average daily residual capacity at the treatment plant. The proposed project would create approximately 10,440 gallons of wastewater per day (87 units at 120 gpd/unit), which is about 0.07 percent of the residual capacity of the treatment plant. Therefore, the SVCW treatment plant has sufficient capacity to treat project-generated wastewater.

In addition, the proposed project would need to abide with the City's Municipal Code and CalGreen Building Code, which include low-flow plumbing fixtures and water conservation policies that reduce water usage and wastewater generation. The project would be required to pay sewer connection and capacity fees prior to the issuance of building permits, which are used to cover upgrades and maintenance of the City's existing sewer infrastructure. Therefore, project development would not require construction of new sewer infrastructure or expanded wastewater treatment facilities and there would be *less-than-significant* impacts.

Significance without Mitigation: Less than significant.

UTIL-5	**The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the proposed project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

As described under UTIL-4, the SVCW treatment plant is currently operating with a residual capacity of about 15.5 mgd and the proposed project would generate approximately 10,440 gpd of wastewater. Therefore, wastewater generated by the project would not exceed the capacity of the treatment plant and would not result in a determination by the wastewater treatment provider that they do not have adequate capacity to accommodate the proposed project.

Furthermore, the project would be required to comply with CALGreen plumbing codes and the City's residential water conservation ordinance which would result in a reduction in the amount of wastewater generated. Accordingly, implementation of the proposed project would result in *less-than-significant* impacts.

Significance without Mitigation: Less than significant.

[37] San Francisco Bay Regional Water Quality Control Board, 2018, Order No. R2-2018-0005 - NPDES No. CA0038369, https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/February/5b_final_to.pdf, accessed June 23, 2021.

UTIL-6	The proposed project would not result in cumulative wastewater facilities impacts, in combination with past, present, and reasonably foreseeable projects.

This section analyzes potential impacts related to wastewater that could occur from implementation of the proposed project in combination with other reasonably foreseeable projects in the surrounding area. The geographic scope of this analysis is SVCW treatment plant's service area. As described under UTIL-4, there is currently 15.5 mgd of daily residual capacity at the treatment plant. The proposed project would generate approximately 10,440 gpd which accounts for 0.07 percent of the residual capacity. Although other projects in SVCW's service area would generate increased wastewater, there should be sufficient capacity at the treatment plant to serve the entire service area.

The California Department of Finance predicts a 5 percent increase in the population of San Mateo County by 2040.[38] Assuming that there would be a similar 5 percent population increase in SVCW's service area of 220,000, this would result in a population increase to 231,000 by 2040. This would result in an additional wastewater demand of approximately 465,000 gallons/day, which is still well below the current residual capacity of the treatment plant of 15.5 mgd.[39] Therefore, there is sufficient wastewater treatment capacity in the region for the increased wastewater generation in SVCW's service area.[40] Regional growth would not require SVCW to build new or expand existing wastewater treatment facilities. Therefore, the impacts of the project on wastewater infrastructure would be *less than significant*.

Significance without Mitigation: Less than significant.

4.17.3 SOLID WASTE

4.17.3.1 ENVIRONMENTAL SETTING

Regulatory Setting

Federal Regulations

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

[38] California Department of Finance, 2021. Population Projections, https://www.dof.ca.gov/Forecasting/Demographics/projections/, accessed November 12, 2021.

[39] An increase of 11,000 people in the service area / 2.84 persons per dwelling unit x 120 gpd per dwelling unit = 464,700 gallons per day.

[40] California Water Service, 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*, https://www.calwater.com/docs/uwmp2021/MPS_2020_UWMP_Public_Draft-2021-05-07.pdf, accessed June 23, 2021.

State Regulations

Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) requires that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000 through source reduction, recycling, and composting. To help achieve this, this act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is calculated as a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate. Target disposal rates for San Carlos for 2020 were 7.5 pounds per person per day (ppd) for residents and 14.4 ppd for employees; actual disposal rates were much less than the target goals at 5.4 ppd for residents and 8.9 ppd for employees.[41]

Mandatory Commercial Recycling Act (AB 341)

Assembly Bill 341 (Chapter 476) increases the statewide waste diversion goal to 75 percent by 2020, and mandates recycling for businesses producing four or more cubic yards of solid waste per week or multi-family residential dwellings of five or more units. AB 341 is designed to reduce greenhouse gas (GHG) emissions in the state by 5 million metric tons of carbon dioxide. In San Mateo County, businesses and property owners can subscribe to composting and recycling services provided by Recology San Mateo County. In San Carlos, businesses and multi-family dwelling with two cubic yards or more of garbage per week must comply with the City's mandatory commercial recycling and organics ordinance.

Mandatory Organics Recycling Act (AB 1826)

AB 1826, which was enacted in 2014, mandates organic waste recycling for businesses and multifamily dwellings with five or more units. Starting January 1, 2020, all generators of 2 cubic yards or more of garbage, recycling, and compost combined per week must recycle organic waste. Organic waste includes food scraps, food-soiled paper waste, yard trimmings, and landscape materials. Multi-family dwellings do not need to have food-waste recycling on-site but must recycle yard and landscape materials. Recology San Mateo County offers these services to businesses and residences to comply with the requirements of AB 1826:

[41] CalRecycle, 2021, Disposal Rate Calculator, San Carlos 2020, https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator, accessed November 13, 2021.

California Short-Lived Climate Pollutants Act (Senate Bill 1383)

Senate Bill 1383 set targets to achieve a 50 percent reduction in the statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. SB 1383 requires all businesses and residents to divert organic materials (including food waste, yard waste, and soiled paper products) from the landfill. The regulation takes effect on January 1, 2022 and will require that organics collection service be provided to all residents and businesses. Also, an edible food recovery program must be established with the goal to increase edible food recovery to 20 percent by 2025.[42]

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act (AB 1327) requires development projects to be set aside areas for collecting and loading recyclable materials. This act required CalRecycle to develop a model ordinance for adoption by any local agency to provide adequate areas for the collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, that establishes standards, including space allocation, for the collection and loading of recyclable materials.

CALGreen Building Code

The 2019 California Green Building Standards Code (CALGreen Code) took effect January 1, 2020. Section 5.408, *Construction Waste Reduction Disposal and Recycling*, mandates that, in the absence of a more stringent local ordinance, a minimum of 65 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires applicants to submit a waste management plan for on-site sorting of construction debris, which is submitted to the City for approval, or use a waste management company with verifiable documentation. The plan must:

- Identify the materials to be diverted from disposal by recycling, reuse on the project, or salvage for future use or sale.
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected will be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both.

Regional Agencies

San Mateo County Environmental Health Division

San Mateo County Environmental Health Division (SMCEHD) is the State-certified Local Enforcement Agency (LEA) for solid waste in San Mateo County. The Solid Waste Program under the SMCEHD ensures that businesses, garbage collection and disposal companies, and residents follow the federal, State, and local standards and permitting requirements for solid waste. Inspectors from the Solid Waste Program

[42] CalRecycle, 2021, SB 1383 Education and Outreach Resources, https://www.calrecycle.ca.gov/organics/slcp/education, accessed November 20, 2021.

issue permits and regulate four transfer/material recovery facilities (MRFs) and one anaerobic digestion facility, as well as one active landfill, Ox Mountain in Half Moon Bay.[43] These facilities are monitored for compliance with State standards for the proper handling and disposal of solid waste. Seventeen closed landfills in different locations throughout the county are also monitored.

San Mateo County Office of Sustainability: Solid Waste Management

San Mateo County Office of Sustainability: Solid Waste Management administers and implements the solid waste management and resource conservation programs and policies throughout the county. The Waste Reduction Program's mission is to advance environmental sustainability by working with residents, businesses, and institutions throughout San Mateo County to encourage environmental stewardship, implement resource conservation programs and policies, and comply with the California Integrated Waste Management Act, as well as AB 341, AB 1826, and SB 1383, by meeting the mandated diversion goals.

RethinkWaste (South Bayside Waste Management Authority)

RethinkWaste, also known as the South Bayside Waste Management Authority, is a joint powers authority formed by eleven local jurisdictions (Member Agencies) within San Mateo County, including the City of San Carlos. RethinkWaste owns and manages the Shoreway Environmental Center in San Carlos, which receives all the recyclables, green waste, and garbage collected from the Member Agencies. RethinkWaste also provides oversight and management of service providers that collect, process, recycle, and dispose of materials and educates residents and businesses through waste reduction, recycling, and solid waste programs. South Bay Recycling operates the Shoreway Environmental Center on behalf of RethinkWaste and Recology San Mateo County provides recycle, compost, and garbage collection services for residents and businesses in San Mateo County.

Local Regulations

San Carlos 2030 General Plan

The San Carlos 2030 General Plan includes goals, policies and implementing actions relevant to solid waste in Chapter 6, *Environmental Management Element*. The policies relevant to the proposed project are listed below in Table 4.17-6, *City of San Carlos 2030 General Plan Policies Relevant to Solid Waste and Disposal*.

[43] San Mateo County, 2021, San Mateo County Health, Solid Waste Program, https://www.smchealth.org/solidwaste, accessed November 15, 2021.

TABLE 4.17-6 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO SOLID WASTE DISPOSAL

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element	
Policy EM-12.1	Work with the local waste management authority to increase community diversion of solid waste that meets or exceeds the targeted rate in the Climate Action Plan.
Policy EM-12.2	Minimize City government waste by expanding reduction, recycling and composting programs and practicing reuse.
Policy EM-12.3	Encourage the public and private sectors to utilize reusable, returnable, recyclable, environmentally-friendly products and repairable goods through incentives, educational displays and activities, as well as City purchasing policies and practices.

Source: City San Carlos, 2009, San Carlos 2030 General Plan.

San Carlos Municipal Code

The San Carlos Municipal Code includes various provisions pertaining to solid waste issues found in Title 13, *Health and Safety*. Chapters pertaining to wastewater issues are:

- Chapter 8.04, *Solid Waste*. This chapter known as the Solid Waste Ordinance contains provisions for solid waste collection and disposal. The chapter requires all residential, commercial, or industrial properties in the City to contract with a City franchisee for the removal and disposal of solid waste generated by the property. The franchisee is authorized to charge all customers a fee for the collection and transport of the solid waste.
- Chapter 8.05, *Recycling and Diversion of Construction and Demolition Debris*. This chapter establishes diversion rates for construction and demolition debris to meet the AB 939 mandates and reduce the amount of solid waste that is landfilled. In general, projects are required to divert at least 60 percent of all generated tonnage. Every project applicant must submit a waste management plan (WMP) to the Department of Planning and Building as part of the building permit process. The WMP shall include: 1) the estimated volume or weight of project construction and demolition debris, by materials type; 2) the maximum volume and weight of these materials that can feasibly be diverted via reuse or recycling; 3) the vendor or facility that will be used to collect or receive the material; and 4) the estimated volume or weight of construction and demolition debris that will be landfilled.
- Chapter 8.24, *Recycling and Collection of Other Wastes*. This chapter regulates the location, height, size, and design of recycling and trash enclosures and containers to provide adequate space for the collection, storage, and loading of recycled materials at each residential, commercial, institutional, and industrial development. Recycling and trash enclosure design guidelines are included in this chapter.
- Chapter 8.25, *Mandatory Commercial and Multifamily Residential Recycling*. The purposed of this chapter is to establish requirements for the collection, recycling, and processing of recyclable and organic materials generated from commercial facilities, multi-family dwellings, and special events. These requirements are intended to assist the City in meeting the recycling and landfill diversion goals and reduce GHG emissions. Multi-family generators must participate in the programs covered by this chapter and segregate recyclable materials from garbage and deposit them in designated containers provided by the solid waste collector. These requirements apply to all commercial or multi-family solid waste customers that generate two cubic yards or more of garbage per week.

Existing Conditions

Solid Waste Collection

Recology San Mateo County provides recycling, compost, and garbage collection in San Carlos and San Mateo County. Recology offers three bins per customer: 1) one blue bin for single-stream recycling materials including metal, plastic, paper, and glass; 2) one green bin for compost collection, including food, soiled paper products, and yard trimmings; and 3) one gray bin for all other trash and garbage. All waste is transported to the Shoreway Environmental Center in the City of San Carlos, which consists of a transfer station, a materials recovery facility in which recyclable materials are retrieved from the waste stream and shipped to recyclers, and a public recycling facility. The facility also accepts construction and demolition debris. The Shoreway Environmental center has a maximum permitted throughput of 3,000 tons/day.[44]

Waste generation rates in San Carlos in 2020 were 5.3 ppd for residents and 8.9 ppd for employees, which are much lower than the CalRecycle target waste generation rates of 7.5 and 14.4 ppd, respectively.

Solid Waste Disposal

South Bay Recycling (SBR) is the contractor hired by RethinkWaste to operate the Shoreway Environmental Center. SBR is responsible for the marketing and selling of recyclable materials to domestic and overseas markets, transporting loads of organic waste to Blossom Valley Organics in Vernalis and Newby Island in San Jose, transporting garbage to the Ox Mountain Landfill in Half Moon Bay, and delivering construction and demolition debris to Zanker Recycling in San Jose.[45]

Ox Mountain Landfill (Corinda Los Trancos Landfill)

Ox Mountain Landfill currently accepts all the solid waste generated by San Mateo County. The Class III landfill is operated by Browning Ferris Industries of California and accepts non-hazardous municipal solid waste as well as construction/demolition debris. It is located on a 2,786-acre site at 12310 San Mateo Road in Half Moon Bay; however, only 173 acres are dedicated to landfill operations. It has a maximum permitted throughput of 3,598 tons/day and a remaining capacity of 22 million tons. The estimated closure date is January 1, 2034. Details regarding permitted capacity, maximum daily throughout, and average daily disposal rates are provided in Table 4.17-7, *Ox Mountain Landfill Capacity*.

[44] California Department of Resources Recovery and Recycling, 2021, Solid Waste Information System, SWIS Facility Detail: Shoreway Environmental Center, https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3236, accessed May 17, 2021.

[45] RethinkWaste, 2021, Service Providers and Area Map, https://rethinkwaste.org/about/service-area-map-providers/, accessed November 15, 2021.

TABLE 4.17-7 OX MOUNTAIN LANDFILL CAPACITY

Facility and Location	Remaining Capacity (Cubic Yards)	Maximum Permitted Disposal (Tons/Day)	2020 Average Disposal (Tons/Day)[a]	Residual Capacity (Tons/Day)	Estimated Closing Date
Ox Mountain Landfill, Half Moon Bay, San Mateo County	22,180,000	3,598	1,700	1,898	2034

a. Average daily disposal is estimated based on 300 operating days per year, assuming the landfill is open six days per week except certain holidays. Data is based on total 2020 tonnage for this landfill from CalRecycle's Landfill Summary Tonnage Report and SWIS Facility/Site Activity Details.
Source: CalRecycle, 2022. Landfill Tonnage Reports, accessed on November 2, 2022 at https://www2.calrecycle.ca.gov/LandfillTipFees/.

4.17.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact related to solid waste disposal if it would:

- Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- Be out of compliance with federal, State, and local management and reduction statutes and regulations related to solid waste.
- In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to solid waste.

4.17.3.3 IMPACT DISCUSSION

UTIL-7 The proposed project would not generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Project Construction

Site clearance would involve the demolition of three single-family homes. Existing parking spaces, other hardscape, and landscaping would be removed following demolition of the buildings. Per the San Carlos Municipal Code Chapter 8.05, the project would be required to submit a Construction & Demolition Waste Management Plan and would need to divert 60 percent of all generated tonnage for recycling and reuse. The City maintains a list of recognized construction and demolition debris recycling facilities that accept these wastes.[46] Shoreway Environmental Center typically sends construction and demolition debris to Zanker Landfill in San Jose for recycling. There is sufficient capacity at Shoreway Environmental Center to accept project-related construction and demolition debris and there is sufficient capacity at Zanker Landfill for recycling the project-generated waste.

[46] City of San Carlos Building Division, 2021, Construction & Demolition Waste Management Plan Agreement, https://www.cityofsancarlos.org/home/showpublisheddocument/58/637140016812370000, accessed November 17, 2021.

Project Operation

The City contracts with Recology San Mateo County to provide solid waste collection services. Residential trash will be collected in three streams – waste, single-stream recycling, and compost. Future compost collection will be required by San Carlos by 2022. The project would employ a private collection service that will take all materials from the homes to a central compactor enclosure. All waste and recycling materials would be compacted and emptied on a weekly basis for pickup by Recology San Mateo County.

Using the current San Carlos residential waste generation rate of 5.3 ppd, it is estimated that the project would result in 213 tons per year of solid waste (5.3 ppd x 220 residents x 365 days = 425,590 pounds/year, or 212.8 tons/year). This is a conservative (i.e., worst case) estimate because it does not account for the comprehensive recycling plan for the project or the implementation of additional recycling regulations. Over half of the volume of waste generated at the project site would be recycled or composted. The current disposal rate of 5.3 ppd for San Carlos residents is well below the CalRecycle target goal of 7.4 ppd for residents. Therefore, implementation of the project would not exceed State or local standards.

The Ox Mountain Landfill has a maximum disposal capacity of 3,598 tons per day and a current disposal rate of 1,700 tons/day. This equates to a residual capacity of approximately 1,898 tons/day. Conservatively assuming that all of the project's waste is landfilled, this would be about 0.04 percent of the residual capacity. Therefore, there is sufficient capacity at the landfill for project-generated solid waste.

In summary, implementation of the project would not generate solid waste in excess of State or local standards and would not exceed the capacity of existing landfills or other local infrastructure and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

UTIL-8	**The proposed project would be in compliance with federal, State, and local management and reduction statutes and regulations related to solid waste.**

As discussed above, Recology San Mateo County, which serves the project area, complies with State requirements to reduce the volume of solid waste through recycling and organic waste diversion. The per capita disposal rate of 5.3 ppd for San Carlos residents is well below the CalRecycle target of 7.4 ppd per resident. In addition, the project would comply with the City's and CalGreen's requirements for diversion of construction and demolition debris and submit a C&D Waste Management Plan for approval by the City prior to the start of construction. Therefore, the project would comply with all federal, State, and local management statutes and regulations related to solid waste and impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

UTIL-9	**The proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts regarding solid waste.**

The area considered for cumulative impacts to solid waste disposal is San Mateo County. This is the area serviced by Recology San Mateo County and is the jurisdictional area of San Mateo County Environmental Health Division, which issues permits and regulates solid waste providers and recycling facilities within the County. As described in impact discussion UTIL-7, the landfill serving the City has a residual capacity over 2,635 tons/day. Conservatively assuming that all of the solid waste generated by the project is landfilled, the proposed project would generate approximately 0.6 tons/day of landfill waste and, combined with other future projects, the landfill would have sufficient capacity to accommodate future growth within the county.

The population of San Mateo County is forecast to increase from 774,990 in 2021 to 813,098 in 2040, an increase of about five percent.[47] Although growth within the county would lead to increased solid waste generation, Recology San Mateo County and local agencies are working to reduce the amount of landfilled waste through education, recycling, composting, and organic waste collection. If future residents in San Mateo County generate solid waste at the current rate of 5.3 ppd and the waste is not diverted from the landfill by recycling or composting, this would result in an additional disposal quantity of 101 tons/day. This is well below the residual disposal capacity at Ox Mountain Landfill of 1,898 tons/day. Therefore, there is sufficient landfill capacity in the region for regional growth and the cumulative impact regarding solid waste would be *less than significant*.

Significance without Mitigation: Less than significant.

4.17.4 STORMWATER INFRASTRUCTURE

The regulatory framework for stormwater is described in detail in Chapter 4.9, *Hydrology and Water Quality*, of this Draft EIR. The regulatory requirements that pertain solely to storm drain infrastructure are provided below.

4.17.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

The NPDES permit program was established by the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States from their municipal separate storm water systems (MS4s). Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated

[47] California Department of Finance, 2021. County Population Projections (2010 to 2060), https://www.dof.ca.gov/Forecasting/Demographics/Projections/, accessed November 17, 2021.

under this program. The project site lies within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The City of San Carlos is subject to the requirements of the Municipal Regional Stormwater NPDES Permit (MRP; Order No. R2-2015-0049; NPDES Permit No. CAS612008), with the last amendment, Order No. R2-2019-0004, taking effect on January 1, 2019.

State Regulations

On April 7, 2015, the SWQCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California to control trash. In addition, the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California added the section "Part 1 Trash Provisions." They are collectively referred to as "the Trash Amendments." The purpose of the Trash Amendments is to provide statewide consistency for the RWQCBs in their regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in State waters, while focusing limited resources on high-trash-generating areas.[48]

The Trash Amendments apply to all Phase I permittees under the NPDES MS4 permits. Compliance with the Trash Amendment requires municipalities to install certified trash treatment control systems on all catch basins.[49]

Regional Regulations

Water quality in stormwater runoff is regulated locally by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), which includes the C.3 provisions provided in the San Francisco Bay Regional Water Quality Control Board's (RWQCB) MRP. The 2022 MRP includes stricter requirements for incorporating post-construction stormwater control/low impact development (LID) measures into new development and redevelopment projects. Post-construction stormwater requirements are described in the C.3 Regulated Projects Guide (Version 1.0) issued in February 2020.[50]

Local Regulations

City of San Carlos Municipal Code

The City of San Carlos Municipal Code contain provisions pertaining to storm drain issues, as explained in the following paragraphs:

- Chapter 13.14, *Stormwater Management and Discharge Control*. The discharge of non-stormwater discharges to the City storm drain system is prohibited. All projects that will or may result in pollutants

[48] State Water Resources Control Board, 2015, Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, https://www.waterboards.ca.gov/water_issues/programs/trash_control/docs/01_final_sed.pdf, accessed June 23, 2021.

[49] State Water Resources Control Board, 2019, Storm Water Program - Trash Implementation Program, https://www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html, accessed June 23, 2021.

[50] San Mateo Countywide Water Pollution Prevention Program, 2020, C.3 Regulated Projects Guide, https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res_021220_0.pdf, accessed August 17, 2021.

entering the City storm drain system must comply with Section 13.14.110 to reduce such pollutants, including standards for parking lots and similar structures, and BMPs for new development and redevelopment projects. In addition, this chapter provides for watercourse protection (Section 13.14.120) to ensure that all watercourses are kept and maintained reasonably free from pollutants and flow restrictions and for the maintenance of healthy bank vegetation.

- Chapter 17.16.270, *Storm Drainage Facilities*. For any subdivision, the subdivider shall dedicate rights of way for storm drainage purposes that conform to the boundary lines of any natural watercourse, channel, stream, or creek that traverses the subdivision. In addition, the City may require dedication of easements, construction of improvements, or both for the proper disposal of stormwater.

City of San Carlos General Plan

Policies of the San Carlos 2030 General Plan relevant to storm drain infrastructure are listed below in Table 4.17-8, *City of San Carlos 2030 General Plan Policies Relevant to Strom Drain Infrastructure*.

TABLE 4.17-8 CITY OF SAN CARLOS 2030 GENERAL PLAN POLICIES RELEVANT TO STORM DRAIN INFRASTRUCTURE

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element (Hydrology and Water Quality)	
Policy EM-5.1	Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).
Policy EM-5.7	Encourage site designs that manage the quantity and quality of storm water runoff.
Chapter 8, Community Safety and Services (CSS) Element (Flood Hazards)	
Policy CSS-2.1	Improve and maintain City storm drainage infrastructure in a manner that reduces flood hazards.
Policy CSS-2.2	Maintain a healthy riparian corridor in City-maintained flood control channels to reduce the risk of flooding due to erosion, siltation, blockage and heavy undergrowth.
Policy CSS-2.4	Minimize impervious surfaces to reduce stormwater runoff and increase flood protection.
Policy CSS-2.12	Incorporate stormwater drainage systems in development projects to effectively control the rate and amount of runoff, so as to prevent increases in downstream flooding potential.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

City of San Carlos Storm Drain Standards

The City's Storm Drain Standards provide guidelines for the design and construction of storm drain projects. The guidelines establish minimum acceptable design criteria. More stringent requirements based on specific project conditions may be imposed at the discretion of Public Works and Utilities Department.

City of San Carlos Storm Drain Master Plan

The Storm Drain Master Plan provides the results of technical analyses of the capacity and condition of the City's storm drain infrastructure.[51] The City has experienced periodic flooding over the years due to: 1)

[51] City of San Carlos, 2017, *City of San Carlos Citywide Storm Drain System Master Plan*.

storm drain inlet blockages from leaves and debris; 2) stormwater volumes that exceed the capacity of the City's storm drain system; and 3) backwater and overtopping from creeks. In addition, the eastern portion of the City is subject to tidal influences and sedimentation. The Storm Drain Master Plan identifies and prioritizes storm drain improvements that would alleviate flooding in reported flooding areas. A simplified creek analysis was also included in the Plan that recognizes the impact of the creeks within the City on the City's storm drain system due to tidal and backwater effects, as well as potential overtopping due to creek capacity deficiencies or lack of maintenance.

Existing Conditions

The City's storm drain network consists of over 56 miles of pipelines and channels ranging in size from 4-inch pipelines to 72-inch box culverts. The City also operates three pump stations: Pulgas Creek Pump Station, Holly Street Pump Station, and Howard/Brittan Pump Stations that pump water from low-lying areas into Smith Slough and Steinberger Slough. There also are four creeks that flow through or are adjacent to the City that collect stormwater runoff from the City's storm drain system and eventually route the flows into San Francisco Bay.[52]

The project site currently has a small private storm drain collection system that serves the three on-site residences, which eventually drains into a City-owned catch basin and manhole on the property that connects to the City's storm drain system. Stormwater flow is routed via an 18-inch pipe that crosses Alameda de las Pulgas, runs beneath Brittan Acres Elementary School and eventually connects to the storm drain beneath Brittan Avenue. It eventually discharges into a 5-foot by 12-foot box culvert beneath El Camino Real before flowing into the Howard/Brittan Pump Station and discharging into Pulgas Creek.[53]

4.17.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on stormwater infrastructure if it would:

- Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.
- In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to stormwater infrastructure.

4.17.4.3 IMPACT DISCUSSION

UTIL-10	**The proposed project would not require or result in the construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.**

As discussed in detail in Chapter 4.9, *Hydrology and Water Quality,* project development would involve the construction of an internal network of storm drains, catch basins, and drainage swales in six drainage

[52] City of San Carlos, 2017, *City of San Carlos Citywide Storm Drain System Master Plan*.
[53] City of San Carlos, 2015, City of San Carlos Storm Infrastructure Maps.

areas with LID features including four bioretention areas and one flow-through planter to temporarily detain, treat, and then convey on-site flows. In addition, all building units would have flow-through planters installed to treat roof runoff prior to discharge to the storm drain system. Runoff from the bioretention areas and flow-through planters will be diverted to the City's storm drain system in Alameda de las Pulgas along with any runoff from the self-treating landscaped areas. Off-site runoff that enters the project site would be diverted to on-site swales and drainage channels prior to discharge into the storm drain system in Alameda de las Pulgas. Runoff from the off-site drainage areas that do not enter the project site would discharge directly into catch basins and the storm drain system along Alameda de las Pulgas, which is the same as under existing conditions.

As discussed in detail in Chapter 4.9, *Hydrology and Water Quality*, the proposed LID treatment measures, including bioretention areas and flow-through planters, have been designed so that the post-development peak flow rates are less than the pre-development peak flow rates for various storm events (2-year to 25-year storms). This has been confirmed with the BAHM model results provided in the preliminary SWMP. Therefore, the proposed design meets the City's storm drainage policy and the County's hydromodification requirements. Calculations in the SWMP also indicate that there is sufficient capacity in the City's 18-inch storm drain to convey flow from the site and the surrounding area.

The 18-inch storm drain beneath Alameda de las Pulgas and Tamarack Avenue was analyzed to determine if the flow rates from the tributary areas combined with stormwater flows from the proposed development would exceed the flow capacity of the pipe. The proposed project is subject to hydromodification requirements and on-site stormwater detention, which results in peak discharge rates that are approximately 25 percent less than existing conditions. Therefore, the proposed project would not exceed the capacity of the storm drain system and would not require or result in the construction of new or expanded stormwater drainage facilities and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

UTIL-11	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.**

This analysis considers the cumulative impact of existing and future development projects within the city on the City's storm drain system. Cumulative impacts can occur when impacts that are less than significant for a proposed project combine with similar impacts from other past, present, or reasonably foreseeable future projects that result in incremental changes that impact drainage and stormwater infrastructure.

All new development within the city would require conformance with State and local policies that would reduce hydrology and infrastructure impacts. Any new development would be subject to City policies and ordinances, design guidelines, zoning codes, and other applicable City requirements that reduce impact to stormwater drainage facilities. More specifically, potential changes related to stormwater flows, drainage, impervious surfaces, and flooding would be minimized by compliance with the C.3 provisions of the MS4 permit and the implementation of stormwater control measures, retention, and LID measures.

The City's Public Works Department would review and approve all potential stormwater infrastructure projects and ensure that they meet the City's design standards. In addition, all projects must comply with the City's Stormwater Management and Pollution Control Ordinance, as set forth in Chapter 13.14 of the City's Municipal Code. The City's budget includes funds to manage, maintain, repair, and enhance the City's creeks, levees, drains, pipes, and culverts. The program includes inspecting, monitoring and maintaining the storm drain system, levee maintenance and repair, storm drain and culvert cleaning, trash capture device cleaning, sediment removal from drainage ditches, and creek monitoring. Therefore, the proposed project in combination with past, present, and future projects would result in a *less-than-significant* cumulative impact with respect to stormwater infrastructure.

Significance without Mitigation: Less than significant.

4.17.5 OTHER UTILITIES

4.17.5.1 ENVIRONMENTAL SETTING

This section provides a general description of the regulatory setting addressing existing electric and telecommunications infrastructure, supply, and demand in the City of San Carlos. Chapter 4.5, *Energy*, of this Draft EIR analyzes the proposed project's potential impacts associated with energy usage. This section focuses on the infrastructure systems associated with electricity and telecommunication services. The proposed project would be all electric; thus, natural gas supply and delivery infrastructure is not addressed in this section.

Regulatory Framework

The federal and State regulatory framework for energy is described in detail in Chapter 4.5, *Energy*. This section provides a discussion of local regulations related to energy infrastructure.

San Carlos Municipal Code

The City of San Carlos incorporates CALGreen by reference in Municipal Code Section 15.04.125. The types of residential projects in which the municipal code applies include new single and multi-family residences, alterations and additions that increase the size of a residential building, and residential reconstruction.

Chapter 18.24, *Wireless Telecommunications Facilities*, provides standards for the development of telecommunications facilities and the installation of antennas to protect the visual character of the city and protect its residents from the possible adverse health effects associated with electromagnetic exposure.

San Carlos Climate Action Plan

The City of San Carlos adopted its Climate Mitigation and Action Plan (CMAP) on September 27, 2021. The CMAP sets forth 33 strategies to guide the City in meeting reduction goals in energy use, transportation,

land use, water, wastewater, and solid waste. CMAP strategies and actions for energy use reduction are listed below in Table 4.17-9, *Climate Action Plan Strategies for Reducing Energy Use*.

TABLE 4.17-9 CLIMATE MITIGATION AND ADAPTATION PLAN STRATEGIES FOR REDUCING ENERGY USE

Strategy	Component
1. Regional Energy Conservation and Efficiency Programs	1.1 Encourage single-family homeowners to improve energy efficiency and resiliency in their homes by promoting Property Assessed Clean Energy programs, the BayREN Home+ program, BayREN Earth Day Workshops, Green House Calls, Home Energy Score evaluations, and appliance and electrification rebates.
	1.2 Assess energy efficiency in single-family homes by partnering with San Mateo County, PCE, and other partners to promote the BayREN Green Labeling Home Energy Score program.
	1.3 Provide incentives for installation of all-electric appliances in new residential construction and remodels by partnering with PCE and BayREN.
4. Electrification	4.1 Encourage electrification retrofits in residential and commercial development by promoting financing programs through local organizations and agencies.
	4.2 Promote building electrification and retrofitting by working with local organizations and agencies to increase community awareness
	4.3 Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances.
5. Building Codes	5.1 Partner with local industry organizations, community-based organizations, and regional partners to inform and educate community members about the 2021 All-Electric Reach Code requirements and community benefits
	5.2 Evaluate, update, and re-adopt as needed an all-electric reach code upon each update to the California Building Code.
	5.3 Explore and adopt, as feasible, local building code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates
6. Rooftop Solar	6.1 Continue to participate in the SunShares program to increase rooftop and onsite solar energy systems in the community and at City facilities.
7. Peninsula Clean Energy	7.1 Encourage residents and businesses, especially large energy users, to opt into PCE's ECO100 (100 percent renewable energy) program.
	7.2 Encourage those not purchasing energy from PCE to do so.
	7.3 Partner with PCE on programs it develops in the future that benefit the San Carlos community.
8. Battery Storage	8.1 Work with PG&E on its efforts to prepare the community for power outages through battery storage programs and incentives, including the Self-Generation Incentive Program and related energy resilience efforts.
18. Electric vehicles	18.1 Work closely with owners of multi-family dwelling units to install electric vehicle charging stations.
23. Clean-fuel construction and landscaping	23.1 Supply incentives for battery-operated or electric-powered landscaping equipment by collaborating with regional partners, such as the BAAQMD and PCE.
	23.2 Continually track technological advances in clean-fuel construction and landscaping equipment.
	23.3 Consider requirements for use of hybrid or clean-fuel construction equipment in new development when feasible.

Source: City of San Carlos, 2021, *Climate Mitigation and Adaptation Plan*, https://www.cityofsancarlos.org/home/showdocument?id=6727&t=637600587418444510, accessed February 14, 2022.

San Carlos 2030 General Plan

The City of San Carlos 2030 General Plan includes goals, policies and implementing actions in Chapter 6, *Environmental Management*, that are relevant to energy conservation for this project. The policies are listed below in Table 4.17-10, *Policies of the San Carlos 2030 General Plan Relevant to Energy Efficiency*.

TABLE 4.17-10 POLICIES OF THE SAN CARLOS 2030 GENERAL PLAN RELEVANT TO ENERGY EFFICIENCY

Policy Number	Policy Text
Chapter 6, Environmental Management (EM) Element	
Policy EM-9.1	Provide assistance and support efforts for increased energy efficiency for businesses and residences through a combination of incentives and regulations.
Policy EM-9.4	Provide outreach to residents, businesses and property owners on incentives, regulations and programs to in- crease energy efficiency.
Policy EM-9.6	Encourage new private construction and major remodels to be designed to meet or exceed Green Uniform Building Code requirements.

Source: City of San Carlos, 2009, *San Carlos 2030 General Plan*.

Existing Conditions

Electricity

In 2016, San Mateo County and the City of San Carlos shifted to local Community Choice Energy (CCE) program Peninsula Clean Energy (PCE). PCE was formed as a Joint Power Authority (JPA) by San Mateo County and 20 of its cities and operates as a not-for-profit public agency. PCE offers two program options; the ECOplus which provides 51.7 percent renewable and 100 percent greenhouse gas-free; the ECO100 program which provides 100 percent renewable and GHG-free service from solar and wind sources.[54] The electric energy provided by PCE is conveyed to customers through Pacific Gas and Electric's (PG&E) existing infrastructure. PG&E continues to maintain the grid, repair lines, and conduct customer billing within the PCE service area. The total consumption in PG&E's service area was approximately 102,000 gigawatt-hours in 2020.[55] A total of 4,168 GWh of electricity was consumed in San Mateo County in 2020, with the residential sector consuming approximately 40 percent.[56] Additional details regarding PG&E's electric service are provided in Chapter 4.5, *Energy*, of this Draft EIR.

Telecommunications

Wireless communications facilities transmit and receive electromagnetic signals via a system of antenna display, connection cables, and towers. There are several telecommunication companies that serve San

[54] Peninsula Clean Energy, 2021, Power Mix, https://www.peninsulacleanenergy.com/power-mix/, accessed January 24, 2022.

[55] California Energy Commission, 2021. Electricity Consumption by Planning Area, http://ecdms.energy.ca.gov/elecbycounty.aspx, accessed November 19, 2021.

[56] California Energy Commission, 2019, Energy Consumption Data Management System, "Electricity Consumption by County.", http://ecdms.energy.ca.gov/elecbycounty.aspx, accessed August 10, 2021.

Carlos, including AT&T and Xfinity/Comcast, among others. Pursuant to Section 18.24 of the San Carlos Municipal Code, all telecommunications carriers and providers that offer or provide any telecommunications services for a fee directly to the public, either within the City of San Carlos or outside the corporate limits from telecommunications facilities within the city, must be registered with the City to provide service.

4.17.5.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on utilities if it would:

- Require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to other utilities.

4.17.5.3 IMPACT DISCUSSION

UTIL-12	**The proposed project would not require or result in the relocation or construction of new or expanded electric power or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.**

Construction of the proposed project would not require electricity to power most construction equipment. Electricity use during construction would vary during the different phases, but most of the construction equipment would be gas- or diesel-powered. The later stages of construction may require electric-powered equipment for interior construction and architectural coatings, but the overall use would be temporary. Hand tools, such as power drills, table saws, and compressors, and lighting would result in minimal electricity usage.

The operational phase of the project would consume electricity for heating and cooling; water heating; operation of electrical systems, equipment and appliances, and indoor/outdoor lighting. PCE would provide electricity to the townhomes through connections to the existing PG&E electrical grid and new on-site infrastructure.

The proposed project would require electrical services totaling an estimated 2,051,553 kilowatt-hours per year, as described in Chapter 4.5, *Energy*, of this Draft EIR. This electricity consumption level is typical for projects of this size and represents a modest increase in electricity demand when considered in the context of PCE and PG&E's service territories. In addition, the proposed project would be required to comply with energy efficiency standards in Title 24 of the California Administrative Code and the Appliance Efficiency Regulations. The project would also comply with CALGreen requirements related to energy and water conservation. These measures will decrease electricity consumption.

Additionally, the proposed project would connect to existing telecommunication services, which include AT&T and Xfinity/Comcast, among others. All the telecommunications companies are subject to California Public Utility Code and the City's Municipal Code requirements regarding telecommunications facilities. Although underground telecommunications cables would be installed throughout the project site, there are no plans for installation of a cell tower or other large telecommunications infrastructure near or on the site.

The proposed project would not result in a substantial increase in electrical service demands such that PCE would need to expand its supply and transmission facilities. Also, no significant expansion or construction of the telecommunications network is anticipated. Therefore, the impacts to these utilities would be *less than significant*.

Significance without Mitigation: Less than significant.

UTIL-13	**The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to electricity, natural gas, and telecommunication facilities.**

The area considered for cumulative impacts to electricity supply and facilities is PG&E's service area. The electricity consumption for PG&E's service area decreased between 2019 and 2020, partially due to self-generation (solar and wind) within the PG&E planning area. PG&E indicates that they will have sufficient capacity to serve their existing and future customers through 2030.[57]

All projects within PG&E's service area would be required to comply with energy efficiency standards in Title 24 of the California Administrative Code and the Appliance Efficiency Regulations. Projects would also comply with CALGreen requirements related to energy and water conservation. These measures would reduce the overall consumption of electricity.

It is anticipated that electricity demands by other projects are included in the PCE demand forecasts. Furthermore, telecommunication services currently exist to serve the project site. Other projects would be subject to independent CEQA review, including analysis of impacts to electricity and telecommunications. Therefore, cumulative impacts would be *less than significant*, and project effects would not be cumulatively considerable.

Significance without Mitigation: Less than significant.

[57] Pacific Gas & Electric Company, September 1, 2020. *2020 Integrated Resource Plan, Prepared for the California Public Utilities Commission*.

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4.18 WILDFIRE

This chapter provides a general overview of wildfire, describes wildfire hazards and risks in the project region and conditions on-site relevant to wildfire, and analyzes wildfire risk impacts.

4.18.1 ENVIRONMENTAL SETTING

4.18.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations set forth to identify wildfire hazard areas and to reduce wildfire risks to new structures.

State Regulations

CAL FIRE

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Board of Forestry and Fire Protection is a regulatory body within CAL FIRE. It is responsible for developing the general forest policy of the state, determining the guidance policies of CAL FIRE, and representing the state's interest in federal forestland in California. The Board of Forestry and Fire Protection also promulgates regulations and reviews general plan safety elements that are adopted by local governments for compliance with statutes. Together, the Board and CAL FIRE protect and enhance the forest resources of all the wildland areas of California that are not under federal jurisdiction.

CAL FIRE Strategic Plans

CAL FIRE produced the *2019 Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments.[1] The *2019 Strategic Fire Plan for California* focuses on fire prevention and suppression activities to protect lives, property, and ecosystems. In addition, CAL FIRE provides regulatory oversight to enforce State fire laws and delivers a land use planning and defensible space inspection program to local governments across the state.

CAL FIRE Fire Hazard Severity Zone Mapping

CAL FIRE designates fire hazard severity zones (FHSZs) as authorized under California Government Code Section 51175 et seq. CAL FIRE considers many factors such as fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area.

[1] California Department of Forestry and Fire Protection, January 2019, *2019 Strategic Fire Plan*, https://www.fire.ca.gov/media/bo2fdzfs/strategicplan2019-final.pdf, accessed April 26, 2022.

Lands in California fall within one of the following management areas: local responsibility area (LRA), state responsibility area (SRA), or federal responsibility area (FRA). Within each of these areas, a single agency has direct responsibility: local fire departments or fire protection districts are responsible in LRAs; CAL FIRE is responsible in SRAs; and federal agencies, such as the US Forest Service, National Park Service, Bureau of Land Management, US Department of Defense, US Fish and Wildlife Service, or Department of the Interior, are responsible in FRAs.

Within the LRAs, CAL FIRE designates lands as Very High FHSZ or not. The LRA maps also show such areas within the SRA and FRA, but do not differentiate lands within the SRA and FRA from each other (that is, SRA and FRA areas are mapped together).

Within the SRA, CAL FIRE designates Moderate FHSZs, High FHSZs, and Very High FHSZs. The SRA maps show which lands are in the LRA and FRA, but do not show the hazard zones in the LRA and FRA.

California Office of Emergency Services

The California Office of Emergency Services (Cal OES) was established on January 1, 2009, and created by Assembly Bill (AB) 38, which merged the duties, powers, purposes, and responsibilities of the former Cal OES with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of State agency response to major disasters in support of local governments. Cal OES is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, man-made, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. In 2018, Cal OES completed a State Hazard Mitigation Plan, which designates FHSZs and Wildland Urban Interface areas.[2]

California Government Code

The State of California is responsible for the prevention and suppression of wildfires on land outside incorporated boundaries of a city. In 1991, the State Legislature adopted the Bates Bill (Government Code §§ 51175–51189) following the fires in the Oakland Hills. The bill requires CAL FIRE to identify and classify areas in LRAs that have a "very high fire severity" hazard for wildfires. LRAs are areas where local governments have the primary responsibility for preventing and suppressing fires. A local agency is required to adopt CAL FIRE's findings within 120 days of receiving recommendations from CAL FIRE, pursuant to Government Code section 51178(b), or propose modifications in accordance with state law. The Very High FHSZs are currently being updated, due in part to the 2017 fire season. As of December 2021, updated maps were expected in early 2022.[3]

[2] California Governor's Office of Emergency Services, September 2018. *2018 State of California Hazard Mitigation Plan*, https://www.caloes.ca.gov/HazardMitigationSite/Documents/002-2018%20SHMP_FINAL_ENTIRE%20PLAN.pdf, accessed April 26, 2022.

[3] Capital Public Radio, "After Years of Delays, CalFire Says Updated and Expanded Wildfire Hazard Maps Are on Their Way," https://www.capradio.org/articles/2021/12/20/after-years-of-delays-calfire-says-updated-and-expanded-wildfire-hazard-maps-are-on-their-way/, accessed June 9, 2022.

California Public Resources Code

PRC Section 4291 et seq. requires that brush, flammable vegetation, or combustible growth be removed within 100 feet of buildings on or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land covered in flammable materials.

PRC Section 4442 regulates the use of internal combustion engines that use hydrocarbon fuels on forest-covered land, brush-covered land, and grass-covered land. Internal combustion engines, like those used in construction, must be equipped with a spark arrester, which is a device used for removing and retaining carbon and other flammable particles from the exhaust flow for engines that use hydrocarbon fuels. These engines must be maintained in effective working order or be constructed, equipped, and maintained for the prevention of fire.

California Building Code

The California Building Code (CBC), contained in Part 2 of Title 24 of the California Code of Regulations, identifies building design standards, including those for fire safety. Typical fire safety requirements of the CBC include the installation of fire sprinklers in certain buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

Chapter 7A of the CBC, Materials and Methods for Exterior Wildfire Exposure, prescribes building materials and construction methods for new buildings in an FHSZ (referred to in the CBC as a "Wildland-Urban Interface Fire Area"). Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures.

California Fire Code

The California Fire Code (CFC) is a series of building, property, and lifeline codes in the California Code of Regulations, Title 24, Chapter 9. The California Fire Code contains fire-safety-related building standards, such as construction standards, vehicular and emergency access, fire hydrants and fire flow, sprinkler requirements, etc. Specific chapters relevant to wildfire include Chapter 49, *Requirements for Wildland-Urban Interface*, which prescribes construction materials and methods in FHSZs. These requirements generally parallel CBC Chapter 7A. The 2022 CFC takes effect January 1, 2023 and includes changes to Chapter 49. CFC Section 4903 authorizes the fire code official to require projects to include a fire protection plan, prepared to determine the acceptability of fire protection and life safety measures designed to mitigate wildfire hazards presented. The fire protection plan shall be based on a project-specific assessment that includes considerations of location, topography, aspect, and climatic fire history. The plan shall address fire department access, egress, road and address signage, and water supply, in addition to fuel reduction in accordance with PRC 4290, defensible space requirements in accordance with PRC 4291, and applicable building codes and standards for wildfire safety.

County Regulations

The San Mateo County Multijurisdictional Local Hazard Mitigation Plan (MLHMP) includes policies, programs, and projects to alleviate hazards and disasters within San Mateo County. As part of the MLHMP, a hazard risk assessment was conducted for the region, including human-caused hazards. Hazard mitigation principles, goals, and objectives were developed as well as a mitigation action plan designed to reduce or eliminate losses resulting from natural and human-caused disasters. The federal Disaster Management Act requires a local hazard mitigation plan to be updated every five years. The current MLHMP was adopted in 2021.

Volume 2 of the MLHMP contains the local annex for San Carlos and identifies that the city is at high risk of wildfire.[4]

Local Regulations

San Carlos 2030 General Plan

Fire protection services are addressed in Chapter 8, *Community Safety and Services Element*, of the 2030 General Plan. The General Plan 2030 policies related to fire protection and emergency medical services are included in Table 4.18-1, *City of San Carlos 2030 General Plan Policies Relevant to Fire Protection*.

Table 4.18-1 City of San Carlos 2030 General Plan Policies Relevant to Fire Protection

Policy Number	Policy Text
Chapter 8, Community Safety and Services (CSS) Element	
Policy CSS-3.1	Evaluate fire response needs of the Fire Department as new development and redevelopment continues within city limit.
Policy CSS-3.2	Participate in fire prevention and life safety programs with neighboring jurisdictions and other governmental agencies as needed.
Policy CSS-3.3	Promote public education and information dissemination on fire safety both in the wildland interface, commercial, industrial, and residential sections of the City of San Carlos.
Policy CSS-3.4	Maintain participation with the Joint Powers Authority Agreement with all fire departments in San Mateo County to ensure required response times for initial emergency deployment personnel and equipment.
Policy CSS-3.5	Preserve the local government agreement with California Department of Forestry and Fire Protection (CAL FIRE) for responses in the Mutual Threat Zone (MTZ) within the Wildland Urban Interface Areas of the city. Continue to provide BSCFD [a] equipment and personnel under the mutual aid agreement, with the State of California Office of Emergency Service (OES) Region II. This continued "reverse support" enables the City of San Carlos to receive "no cost" statewide mutual aid in the event of a declared large-scale emergency.
Policy CSS-3.6	Continue to enforce building code regulations that minimize fire hazards in areas subject to a very high fire severity zone (VHFSZ) risk west of Alameda de las Pulgas and prohibit any structural development in areas where wildland urban fire hazards cannot be mitigated under an agreement addressing alternate means of protection and materials agreement.
Policy CSS-3.8	Provide adequate access for fire and emergency service vehicles to new development in hillside areas, as per the International Fire Code and the Urban Wildland Interface Code.
Policy CSS-3.10	Continue to require all new development to provide all necessary water service, fire hydrants and road improvements consistent with City standards and the California Fire Code.

[4] San Mateo County, 2021, 2021 Multijurisdictional Local Hazard Mitigation Plan; Volume 2 – Planning Partner Annexes, Table 18-12.

Table 4.18-1 City of San Carlos 2030 General Plan Policies Relevant to Fire Protection

Policy CSS-3.11	Ensure that in existing developed areas within the city there is an acceptable level of fire safety and emergency medical/paramedic services.
Policy CSS-3.12	Incorporate drought-resistant and fire-resistant plants in capital improvement projects in areas that are subject to wildland fires.
Policy CSS-3.13	Ensure that property owners maintain property in a manner that minimizes fire hazards through the removal of vegetation, hazardous structures and materials and debris as governed under the City Municipal Code for enforcement.

Note: Following the 2011 dissolution of the Belmont-San Carlos Fire Department (BSCFD), Belmont Fire Protection District became a standalone department and San Carlos and the City of Redwood City entered into an agreement for fire and emergency services.
Source: City of San Carlos, 2009, *San Carlos 2030 General Plan.*

San Carlos Municipal Code

The City has adopted by reference the most recent CBC subject to additions and amendments as outlined in the San Carlos Municipal Code, Chapter 15.04, *Technical Building Codes*; and Title 24, Part 9 of the CFC 2019 Edition, with all California and local amendments, additions or deletions as outlined in Section 15.04.110, *Title 24, Part 9, California Fire Code*, of the City's Municipal Code.

The project site is within the City's Hillside (H) Overlay District. Per Chapter 18.12, *Hillside (H) Overlay District*, of the San Carlos Municipal Code, the H District applies to all lots and sites that have a footprint slope of 19.9 percent or greater. It is intended to protect residents by establishing regulations for managing the development of hillside areas. One of the purposes of the H District is to "Protect public health and safety by minimizing hazards, including soil erosion and fire danger associated with development on hillsides."

San Carlos Emergency Operations Plan

The City Council adopted the City of San Carlos Emergency Operations Plan (EOP) in March 2014. The EOP establishes the emergency management structure utilized for prevention, protection, response, and recovery of emergencies affecting the City; the operational concepts and procedures associated with day-to-day field response to emergencies by City departments; and the policies and procedures for the San Carlos Emergency Center activities. The plan also identifies the policies, responsibilities, and procedures utilized to protect the health and safety of residents, public and private property, and the environmental effects of natural, technological, and man-made emergencies and disasters, as well as defines the procedures for a disaster recovery process.

4.18.1.2 EXISTING CONDITIONS

Wildfire Background

Types of Wildfires

There are three basic types of wildland fires:

- Crown fires burn trees to their tops; these are the most intense and dangerous wildland fires.

- Surface fires burn surface litter and duff. These are the easiest fires to extinguish and cause the least damage to the forest. Brush and small trees enable surface fires to reach treetops and are thus referred to as *ladder fuels*.
- Ground fires occur underground in deep accumulations of dead vegetation. These fires move very slowly but can be difficult to extinguish.[5]

Many species of native California plants are adapted to fire. Chaparral shrubs recover from fire in either of two ways: 1, woody root crowns or burls below the soil surface that survive a fire and re-sprout; and, 2, shrubs (various species of *Manzanita* and *Ceanothus*) that are killed by fire and produce seeds requiring intense heat from a fire to germinate.[6] Many species of conifers have seed cones requiring fire to open.[7] Between 2010 and 2017, wildfires in California burned about 265,000 acres of forest land, 207,000 acres of shrub vegetation, 99,000 acres of grassland, 18,000 acres of desert vegetation, and 14,000 acres of other vegetation types.[8]

Wildfire Origins

Although the term *wildfire* suggests natural origins, a 2017 study that evaluated 1.5 million wildfires in the United States between 1992 and 2012 found that humans were responsible for igniting 84 percent of wildfires, accounting for 44 percent of acreage burned.[9] The three most common types of causes of human-caused wildfires are debris burning (logging slash, farm fields, trash, etc.); arson; and equipment use.[10,11] Lightning is the major natural cause of wildfire in the United States.[12]

An analysis of US Forest Service wildfire data from 1986 to 1996 determined that 95 percent of human-caused wildfires, and 90 percent of all wildfires, occurred within 0.5 mile of a road; and that about 61 percent of all wildfires and 55 percent of human-caused wildfires occurred within approximately 650 feet (200 meters) of a road. The study concluded that the increase in human-caused ignition from new roads greatly outweighs the benefits of increased access for firefighters.[13]

[5] Natural Resources Canada, 2021, Fire Behavior, https://www.nrcan.gc.ca/forests/fire-insects-disturbances/fire/13145, accessed February 4, 2022.

[6] Rundel, Philip, and Gustafson, Robert, April 2005, *Introduction to the Plant Life of Southern California*.

[7] California Department of Forestry and Fire Prevention, 1999, *Learning to Live with Fire*, https://www.lmfire.org/sites/default/files/fileattachments/prevention/page/1941/92a44bde016842a920f79387ce8f6312.pdf, accessed February 11, 2022.

[8] State Board of Forestry and Fire Protection and California Department of Forestry and Fire Prevention, 2018, *2018 Strategic Fire Plan for California*, https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf, accessed February 4, 2022.

[9] Balch, Jennifer; Bradley, Bethany; Abatzoglou, John, et. al., January 6, 2017. *Human-Started Wildfires Expand the Fire Niche Across the United States*, https://www.pnas.org/content/pnas/114/11/2946.full.pdf, accessed February 4, 2022.

[10] Pacific Biodiversity Institute, 2007, *Roads and Wildfires,* http://www.pacificbio.org/publications/wildfire_studies/Roads_And_Wildfires_2007.pdf, accessed February 4, 2022.

[11] Miscellaneous human activities (unspecified) are ranked above equipment use in percentage of wildfires caused.

[12] Balch, Jennifer; Bradley, Bethany; Abatzoglou, John, et. al., 2017, *Human-Started Wildfires Expand the Fire Niche Across the United States*, https://www.pnas.org/content/pnas/114/11/2946.full.pdf, accessed February 4, 2022.

[13] Pacific Biodiversity Institute, 2007, *Roads and Wildfires*, http://www.pacificbio.org/publications/wildfire_studies/Roads_And_Wildfires_2007.pdf, accessed February 4, 2022.

Power lines can ignite wildfires several ways:

- Downed lines: downed power lines can produce arcing that can ignite vegetation.
- Vegetation contact: a branch contacting two conductors for a sufficient duration may ignite the branch; a tree falling on a line can cause a downed line.
- Conductors can slap together, creating arcing and ejecting hot metal particles that can ignite flammable matter on the ground.
- Equipment failures: As circuit components deteriorate, they can arc and spark and thus ignite nearby flammable matter.[14]

Wildfire Trends in Recent Decades

Wildfire season in the West recently has lengthened from an average of five to seven months, and the number of large wildfires (>1,000 acres) has increased from 140 to 250 per year. This is occurring as average annual temperature in the West has risen by nearly two degrees Fahrenheit since the 1970s and the winter snowpack has declined. Increases in acres burning can now be attributed, in part, to climate change.[15] Wildfires now burn year-round in California.[16] Warming and drying due to human-caused climate change is estimated to have approximately doubled the total area burned by forest fire in the western United States between 1984 and 2015 compared to the total area expected to have burned without climate change.[17] Frequent wildfires reduce recovery of shrubs and trees—especially shrubs and trees that must produce seeds to regenerate after fire—and increase invasion of non-native grasses, that is, tend to convert native shrublands to non-native grassland.[18] Non-native grasses are generally more flammable than the chaparral and sage scrub vegetation that is replaced; thus, such conversion exacerbates wildfire hazards.[19]

Debris Flows After Wildfire

Post-fire landslide hazards include fast-moving, highly destructive debris flows that can occur in the years immediately after wildfires in response to high-intensity rainfall events, and flows that are generated over longer time periods that are accompanied by root decay and loss of soil strength. Post-fire debris flows are particularly hazardous because they can occur with little warning, exert great impulsive loads on objects in

[14] Texas Wildfire Mitigation Project, 2014, How Do Power Lines Cause Wildfires? https://wildfiremitigation.tees.tamus.edu/faqs/how-power-lines-cause-wildfires, accessed February 11, 2022.

[15] GEOS Institute, 2018, Open Letter to Decision Makers Concerning Wildfire in the West, https://world.350.org/climate-convos-ncw-2020/files/2018/08/scientist-letter-wildfire-signers-2018-08-27-1.pdf, accessed February 4, 2022.

[16] State Board of Forestry and Fire Protection and California Department of Forestry and Fire Prevention, 2018, *2018 Strategic Fire Plan for California*, https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf, accessed February 4, 2022.

[17] Abatzoglou, John, and Williams, A. Park, 2016, *Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests*, https://www.pnas.org/content/113/42/11770, accessed February 11, 2022.

[18] United States Geological Survey, 2012, *Fire-Driven Alien Plant Invasion in a Fire-Prone Community*, https://pubs.er.usgs.gov/publication/70124288, accessed February 11, 2022.

[19] Non-native annual grasses are more flammable than trees and shrubs because the grasses complete their life cycle in the winter and spring, leaving highly flammable dead plant material in the summer and fall fire season; and because they burn in a wider variety of weather conditions than native shrubs and trees do. See University of California Division of Agriculture and Natural Resources, 2009, *Invasive Plants and Wildfires in Southern California*, https://anrcatalog.ucanr.edu/pdf/8397.pdf, accessed February 4, 2022.

their paths, strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles.

Fires increase the potential for debris flows in two ways:

- Fires may bake soil into a hard crust that repels water; and
- Destroying vegetation that would slow and absorb rainfall, and whose roots would help stabilize soil.[20]

Post-fire debris flows are most common in the two years after a fire; they are usually triggered by heavy rainfall. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas. In southern California, as little as 0.3 inches of rainfall in 30 minutes has triggered debris flows, and any storm that has intensities greater than about 0.4 inches per hour can produce debris flows.[21] The burning of vegetation and soil on slopes more than doubles the rate that water will run off into watercourses.[22]

Debris flows killed 23 people in Montecito in Santa Barbara County in January 2018 after the Thomas Fire burned near the area in December 2017.[23]

Reducing Wildfire Hazards

Wildfire hazards are reduced by reducing the amount of fuel in the target area. This is done several ways:

- Prescribed burns: An intentionally set fire used to reduce fuel load in an area; the *prescription* is a set of conditions that considers the safety of the public and fire staff, weather, and probability of meeting the burn objectives.
- Allowing naturally occurring wildfires in remote areas to burn.
- Thinning vegetation: Cutting and removal of surface vegetation, shrubs, and small trees and, in some cases, thinning dense stands of trees.[24] Areas where vegetation is reduced include fuel breaks, which are strips of vegetation that have been modified to control a fire burning into it.[25]

However, many scientists assert that vegetation thinning is ineffective at reducing wildfire risk. Thinning large trees can increase the rate of fire spread by opening up the forest to increased wind velocity, damaging soils, introducing invasive species that increase flammable understory vegetation, and impacting wildlife habitat. As the climate changes, most fires will occur in extreme fire-weather, that is,

[20] United States Geological Survey, 2018, New post-wildfire resource guide now available to help communities cope with flood and debris flow danger, https://www.usgs.gov/center-news/post-wildfire-playbook?qt-news_science_products=1#qt-news_science_products, accessed February 11, 2022.

[21] United States Geological Survey, California Water Science Center, 2018, Post-Fire Flooding and Debris Flow, https://ca.water.usgs.gov/wildfires/wildfires-debris-flow.html, accessed February 11, 2022.

[22] United States Geological Survey, 2019, Post-Fire Debris Flow Facts, https://www.conservation.ca.gov/index/Pages/Fact-sheets/Post-Fire-Debris-Flow-Facts.aspx, accessed February 11, 2022.

[23] United States Geological Survey, 2019, Post-Fire Debris Flow Facts, https://www.conservation.ca.gov/index/Pages/Fact-sheets/Post-Fire-Debris-Flow-Facts.aspx, accessed February 11, 2022.

[24] California Department of Forestry and Fire Prevention, 2022, Vegetation Management Program, https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/vegetation-management-program/, accessed February 11, 2022.

[25] California Department of Forestry & Fire Protection, 2019, *CAL FIRE Fuel Breaks and Use During Fire Suppression*, https://www.fire.ca.gov/media/5585/fuel_break_case_studies_03212019.pdf, accessed February 4, 2022.

high winds and temperatures, low humidity, and low vegetation moisture. Fires will affect large landscapes in such weather, regardless of thinning.[26] Such experts also dispute the effectiveness of *forest* thinning at reducing wildfire risk, noting that most of the large wildfires in California in 2017 to 2018 were not in forest habitat.[27] These scientists instead recommend ensuring that existing homes are as fire-resistant as possible—for example, through fire-resistant building materials, spark arresting vents, rain-gutter guards, and creating defensible space within 100 feet of structures; and discouraging further residential growth in ecosystems that evolved with fire.[28]

Wildfire Risks

Wildfire Spread to Structures

Wildfires ignite structures in three ways: burning embers landing on the structure or flammable material next to the structure, direct flame contact, and radiant heat from fire close to the structure.[29] Embers are the most important cause of home ignition. Two out of every three homes destroyed during the 2007 Witch Creek fire in San Diego County were ignited either directly or indirectly by wind-dispersed, wildfire-generated, burning or glowing embers and not from the actual flames of the fire.[30] Embers ignite structures by entering through attic vents; igniting flammable materials around the home (litter in the roof gutter; wood stacks; or wood fencing); or finding their way under roofing materials.[31]

CAL FIRE estimated in 2010 that there were about three million housing units in California in FHSZs and potentially at risk from wildland fire—that is, just over 20 percent of the total housing units in the state.[32]

According to CAL FIRE data, approximately 95 percent of structures seriously damaged in California wildfires from 2013 to 2020 took place in FHSZs in the FRA, SRA, or LRA.[33]

[26] GEOS Institute, 2018, Open Letter to Decision Makers Concerning Wildfire in the West, https://world.350.org/climate-convos-ncw-2020/files/2018/08/scientist-letter-wildfire-signers-2018-08-27-1.pdf, accessed February 4, 2022.

[27] California Chaparral Institute, 2018, It's about Flammable Homes, not Forests, https://californiachaparralblog.wordpress.com/2018/11/17/its-about-flammable-homes-on-flammable-terrain/, accessed February 11, 2022.

[28] GEOS Institute, 2018, Open Letter to Decision Makers Concerning Wildfire in the West, https://world.350.org/climate-convos-ncw-2020/files/2018/08/scientist-letter-wildfire-signers-2018-08-27-1.pdf, accessed February 4, 2022.

[29] Congressional Research Service, 2012, *Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses*, https://fas.org/sgp/crs/misc/RL34517.pdf, accessed February 4, 2022.

[30] FIRESafe MARIN, 2022, Embers, http://www.firesafemarin.org/wildfire-embers, accessed February 11, 2022.

[31] California Chaparral Institute. Protecting Your Home from Fire, https://www.californiachaparral.org/fire/protecting-your-home/, accessed February 11, 2022.

[32] State Board of Forestry and Fire Protection and California Department of Forestry and Fire Prevention, 2018, *2018 Strategic Fire Plan for California*, https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf, accessed February 4, 2022.

[33] CapRadio, 2021, *After years of delays, CalFire says updated and expanded wildfire hazard maps are on their way*, https://www.capradio.org/articles/2021/12/20/after-years-of-delays-calfire-says-updated-and-expanded-wildfire-hazard-maps-are-on-their-way/, accessed March 6, 2022.

Wildland-Urban Interface

A Wildland Urban Interface is any area where structures and other human developments meet or intermingle with wildland vegetative fuels – the shrubs, trees and grasses. These plants and wildland areas have evolved over time to burn.[34]

Developments in the wildland-urban interface exacerbate fire occurrence and fire spread in several ways:

- Increased numbers of human-caused wildfires.
- Wildfires become harder to fight.
- Firefighting resources are diverted from containing the wildfire to protecting lives and homes.
- Letting natural fires burn becomes impossible; leading to buildup of fuel, increasing wildfire hazard further.[35]
- Increased fire frequency tends to eliminate native shrubs, which are replaced by weedy, highly flammable annual grasslands.[36]

Air Pollution from Wildfire

Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. The biggest health threat from smoke is from fine particles. These microscopic particles can penetrate deep into the lungs. They can cause a range of health problems, from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Exposure to particle pollution is even linked to premature death. Some populations are more sensitive than others to smoke: for instance, people with heart or lung diseases; the elderly; children; people with diabetes; and pregnant women.[37]

During the Camp Fire in Butte County, California in November 2018 portions of northern California were identified as having the worst air pollution in the world.[38]

Reducing Wildfire Risks

Design or retrofit features for minimizing wildfire risks to new or existing structures include ember-resistant attic vents, nonflammable roofing, and exterior under-eave or rooftop sprinklers.[39]

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[34] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[35] Radeloff, Volker; Helmers, David; Kramer, H., et al., 2018, *Rapid Growth of the US Wildland-Urban Interface Raises Wildfire Risk*, https://www.pnas.org/content/pnas/115/13/3314.full.pdf, accessed February 4, 2022.

[36] United States Geological Survey, 2012, Why Are Biologists Studying Housing Loss from Wildfires? https://www.usgs.gov/center-news/why-are-biologists-studying-housing-loss-wildfires, accessed February 11, 2022.

[37] Airnow, 2017, How Smoke from Fires Can Affect Your Health, https://www.airnow.gov/air-quality-and-health/how-smoke-from-fires-can-affect-your-health/#:~:text=The%20biggest%20health%20threat%20from,even%20linked%20to%20premature%20death, accessed February 11, 2022.

[38] Vox.com, 2018, Northern California still has dangerous air quality due to wildfire smoke, https://www.vox.com/energy-and-environment/2018/11/16/18098461/aqi-san-francisco-worst-air-quality-world-epa, accessed February 11, 2022.

[39] California Chaparral Institute. Protecting Your Home from Fire, https://www.californiachaparral.org/fire/protecting-your-home/, accessed February 11, 2022.

Nonflammable roofing materials include asphalt fiberglass composition shingles and concrete or clay tiles.[40]

Wildfire risks to structures are also decreased via reduction of vegetation, usually within 100 feet of a structure. CAL FIRE divides this 100-foot buffer into two zones:

- Zone 1 extends within 30 feet of the structure. This zone should be clear of all flammable vegetation and dead or dying plants; all trees and vegetation in this zone should be well pruned and maintained.
- Zone 2 extends the remaining 70 feet. Surface litter—such as fallen leaves, twigs, bark, etc.—in this zone should not exceed a depth of three inches. Horizontal spacing must be maintained between shrubs and trees; the amount of spacing depends on the grade of the slope and the size of the plants.[41]

Wildfire Hazards in the Project Area

San Mateo County is conducive to periodic large wildfire events due to local topography, fuels (forest, chaparral, grasslands) and certain weather conditions. Each year, State, local, and volunteer departments throughout the region respond to numerous wildfires. The vast majority of these wildfires are less than one acre. The reasons for this include early identification and reporting, large fire suppression responses (by both local and State agencies), generally unfavorable fuels and fire weather, and air support. Effective fire suppression over the past 100 years has led to uncharacteristically high fuel loads. When ignitions occur during unfavorable weather, in areas with poor access, fires can rapidly increase to an unmanageable size prior to fire crews' arrival.[42]

A combination of land preservation and residential development in rural areas prone to fire hazard has led to ever-increasing amounts of land where most vegetation is undisturbed, whether by wildfire or resource harvesting. Much of this landscape is overgrown with vegetation of various species. The increased number of homes near flammable vegetation increases wildfire hazards to people and structures in the region.

Wildfire History

The City of San Carlos General Plan mentions hillside wildfires in 1971 and 1976. No additional wildfires in or next to San Carlos between 1950 and 2021 are shown on a CAL FIRE *Fire Perimeters* map.[43]

Wildfires over 100 acres in San Mateo County since 1960 include:

- Two fires, 3,200 acres and 240 acres, respectively, near the southern county line, 1962.

[40] FIRESafe Marin, 2022, Fire Resistant Roofing, https://www.firesafemarin.org/home-hardening/roofs, accessed February 11, 2022.

[41] California Department of Forestry and Fire Prevention, 2019, Defensible Space, https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/, accessed February 11, 2022.

[42] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[43] California Department of Forestry and Fire Prevention, 2021, https://hub.arcgis.com/maps/CALFIRE-Forestry::california-fire-perimeters/explore?location=37.504379%2C-122.195168%2C11.93, accessed March 6, 2022.

- A 1,300-acre fire in the Sky Londa area, 1962.[44]
- A 100+-acre fire on San Bruno Mountain, 2008.[45]
- An 86,553-acre fire, the CZU Lightning Complex fires, in 2020. This fire destroyed 1,490 structures, damaged 140 structures, and caused one injury and one fatality.[46]

Wildfire Hazard Areas

About 35 percent of San Mateo County, or 101,042 acres, is classified as having a high vulnerability to wildfires. About 6,854 acres, or 6.8 percent, of that area is developed with residential or mixed commercial-industrial uses; and the rest is forest land, agricultural land, and rangeland.[47]

About 18 percent of the County, or 51,197 acres, is classified as very high vulnerability. Approximately 4,690 acres, or 9.2 percent, of that area, is developed with residential or mixed commercial-industrial uses; and the rest is forest land, agricultural land, and rangeland.[48]

Approximately 25 percent of San Mateo County, or 70,882 acres, is considered vulnerable to WUI fires. About 79 percent of that area is urbanized.[49]

Wildfire Risks

In San Carlos there were 7,233 residents, about a quarter of the City's population, and 2,451 buildings—nearly all of which were residences—in Very High FHSZs in 2016 according to the San Mateo County Hazard Mitigation Plan.[50]

Project Site

Vegetation

The project consists of a mix of disturbed land, with ruderal exotic species, non-native grasses and forbs, with interspersed oak woodland and ornamental trees. Ornamental trees are mostly planted along

[44] Sky Londa is an unincorporated community west of the City of Portola Valley.

[45] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[46] San Mateo County, 2021, *2021 Multijurisdictional Local Hazard Mitigation Plan*, page 16-8.

[47] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[48] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[49] San Mateo County Sheriff's Office, 2015, *Hazard Vulnerability Assessment*, https://hsd.smcsheriff.com/sites/default/files/downloadables/2%20-%20Hazard%20Vulnerability%20Assessment.pdf, accessed February 11, 2022.

[50] San Mateo County, 2016, *Hazard Mitigation Plan*, https://cmo.smcgov.org/sites/cmo.smcgov.org/files/documents/files/San%20Mateo%20HMP%20-%20Volume%20I%20-%20Final%20APA.pdf, accessed February 11, 2022.

eastern, western, and northern edges of the project site, generally following driveways and access roads, and are associated with the existing residences. The lower portions of the site include a mix of native oak species, and exotic species including eucalyptus and olive trees. The upper portion of the site consists of oak woodland including live oaks, valley oak and buckeye.[51]

Slopes

The upper third of the site consists of a gently sloping long ridge with moderate, planar side-slopes. The lower two-thirds of the site is occupied by a single drainage and has been altered extensively by grading.[52] Slopes on-site have an average grade of 28.5 percent.

Debris Flow Hazard

The geotechnical investigation for the proposed project evaluated a slope next to the south site boundary for potential to generate a debris flow. The investigation report concluded that the slope has low potential to generate a debris flow for the following reasons: the slope is relatively planar and does not concentrate water, the slope is relatively short, and runoff from the top of the slope is controlled in storm drains along Glasgow Lane.[53]

Fire Hazard Severity Zones

The project site is not in a FHSZ. However, a Very High FHSZ is present within the city, with the closest areas of the zone about 900 feet south and 1,200 feet southwest of the project site, as shown in Figure 4.18-1, *Very High Fire Hazard Severity Zones in San Carlos*.[54] In addition, CAL FIRE is currently updating the FHSZ maps, with the updated maps expected in 2022.[55] Construction of the proposed project would be subject to the code requirements in place at the time of permit issuance; therefore, if updated fire hazard maps show the project within a High or Very High FHSZ, prior to permit issuance, the project would be subject to code requirements for development in FHSZs.

[51] FirstCarbon Solutions, 2016, *Biological Resources Due Diligence Report, Black Mountain Property, City of San Carlos, San Mateo County, California*.

[52] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[53] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

[54] California Department of Forestry and Fire Prevention, 2008, Very High Fire Hazard Severity Zones in LRA: San Carlos, https://osfm.fire.ca.gov/media/5987/san_carlos.pdf, accessed February 4, 2022.

[55] Capital Public Radio, "After Years of Delays, CalFire Says Updated and Expanded Wildfire Hazard Maps Are on Their Way," https://www.capradio.org/articles/2021/12/20/after-years-of-delays-calfire-says-updated-and-expanded-wildfire-hazard-maps-are-on-their-way/, accessed June 9, 2022.

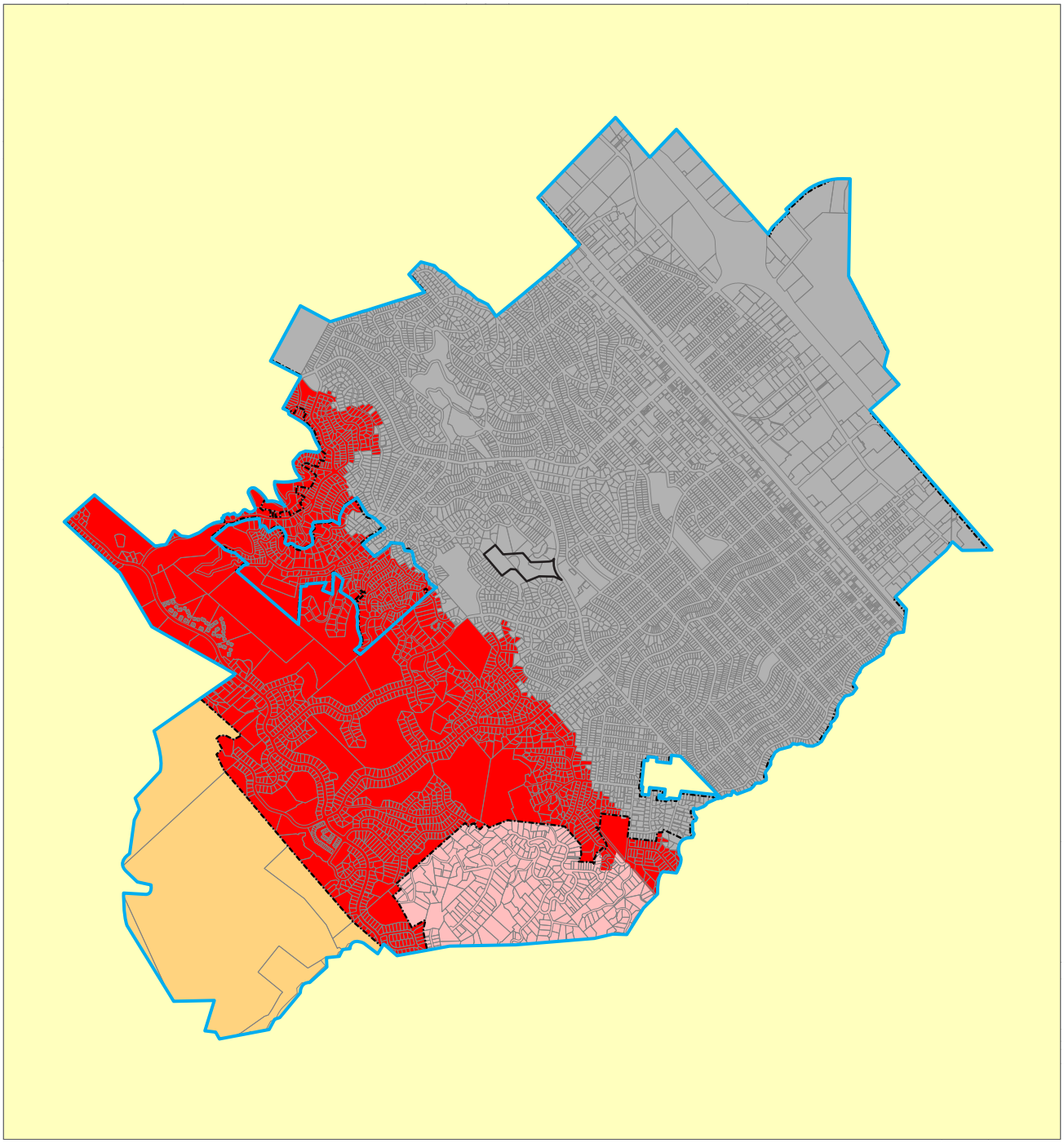


Figure 4.18-1
Very High Fire Hazard Severity Zones in San Carlos

Wildfire Risks

The project site is in an area of moderate risk to development from wildland fires mapped in the City of San Carlos General Plan. Areas of very high to extreme wildfire risk are in the westernmost part of the city, approximately three quarters of a mile west of the project site, as shown in Figure 4.18-2, *Areas in San Carlos at Risk from Wildland Fires*.[56]

CAL FIRE has identified Wildland Urban Interface areas statewide. The CAL FIRE Wildland Urban Interface areas within and around the project site are shown in Figure 4.14-3, *Wildland Urban Interface*. CAL FIRE separates the Wildland Urban Interface areas into "influence," "intermix," and "interface" zones. CAL FIRE maps the project site as being within the interface and influence zones. The interface zone is characterized by dense housing adjacent to vegetation that can burn in a wildfire. The influence zone is characterized by vegetation susceptible to wildfire up to 1.5 miles from the interface or intermix zones.

Of San Carlos's two fire stations, the RC-SCFD reports that neither facility is currently physically equipped to provide adequate services to the region. Fire Station 16, over half a mile south of the project site, is slated to be rebuilt over the next few years. Once the construction on the new facility is complete, the fire station expects to provide the same staffing and levels of service to the public but with new, enhanced facilities. The other fire station in San Carlos, Fire Station 13, is less than one mile northeast of the project site and also lacks adequate resources to provide suitable services to the public. The RC-SCFD reports that this facility is in need of modernization in the next few years, but this will be addressed likely after the reconstruction of Fire Station 16. See Chapter 4.13, *Public Services*, for further details on fire protection services in San Carlos.

Emergency Response Planning

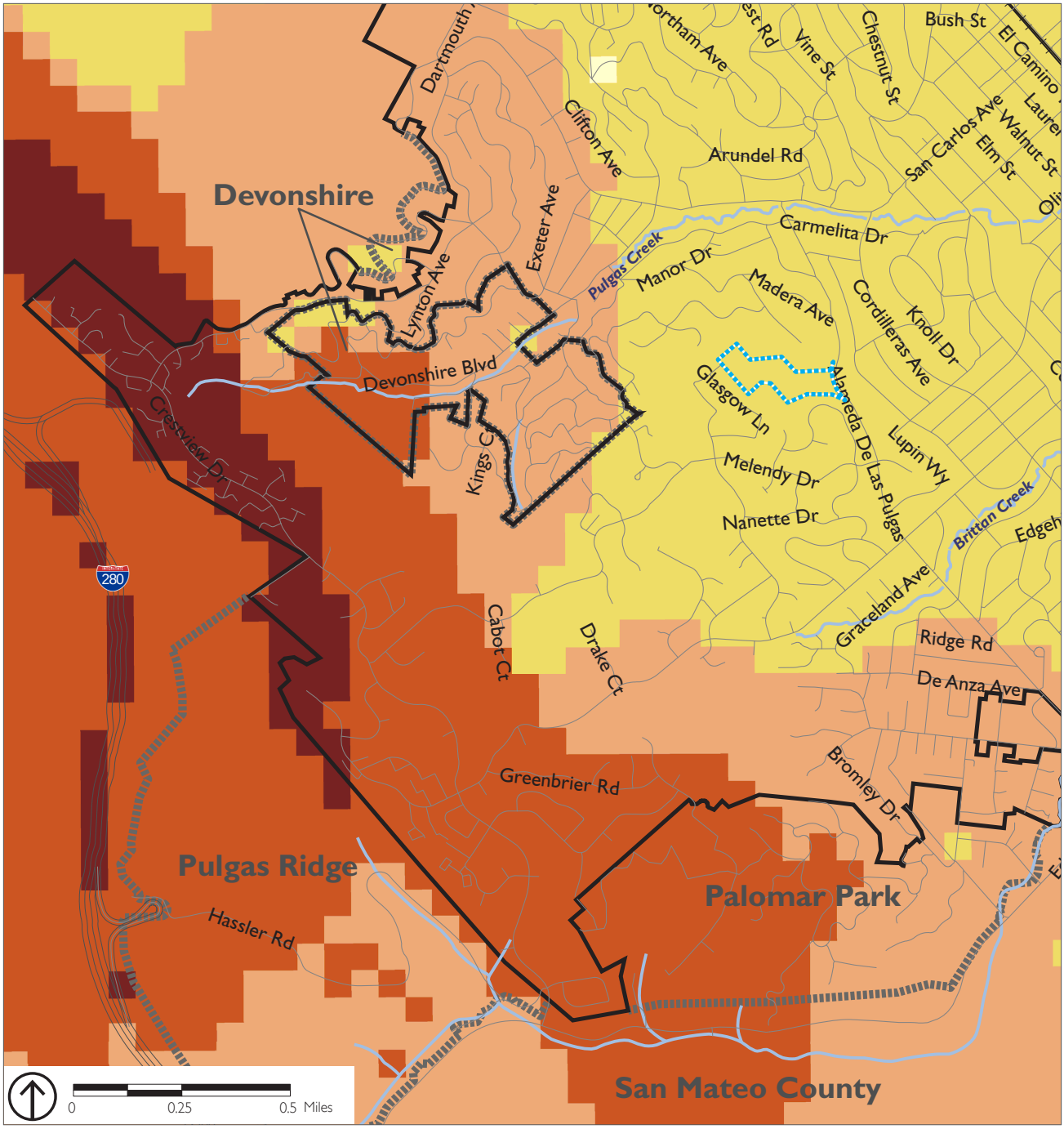
The San Mateo County Sheriff's Department Office of Emergency Services (OES) is responsible for coordinating emergency services in the county. OES operates under a Joint Powers Agreement with the 20 incorporated cities in the county. The San Mateo County Emergency Operations Plan was approved by the County Board of Supervisors in May 2015. San Mateo County would provide mutual aid, as needed, to the City of San Carlos.[57] The County of San Mateo Hazard Vulnerability Assessment, issued by OES in 2015, is an appendix to the Emergency Operations Plan.

Respecting evacuation routes, the nearest arterial roadways to the project site are Alameda de las Pulgas, Brittan Avenue to the southeast, and San Carlos Avenue to the north.[58]

[56] City of San Carlos, 2009, *San Carlos 2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 7, 2022.

[57] City of San Carlos, 2009, *San Carlos 2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 7, 2022.

[58] City of San Carlos, 2009, *San Carlos 2030 General Plan*, https://www.cityofsancarlos.org/Home/ShowDocument?id=1105, accessed February 7, 2022.



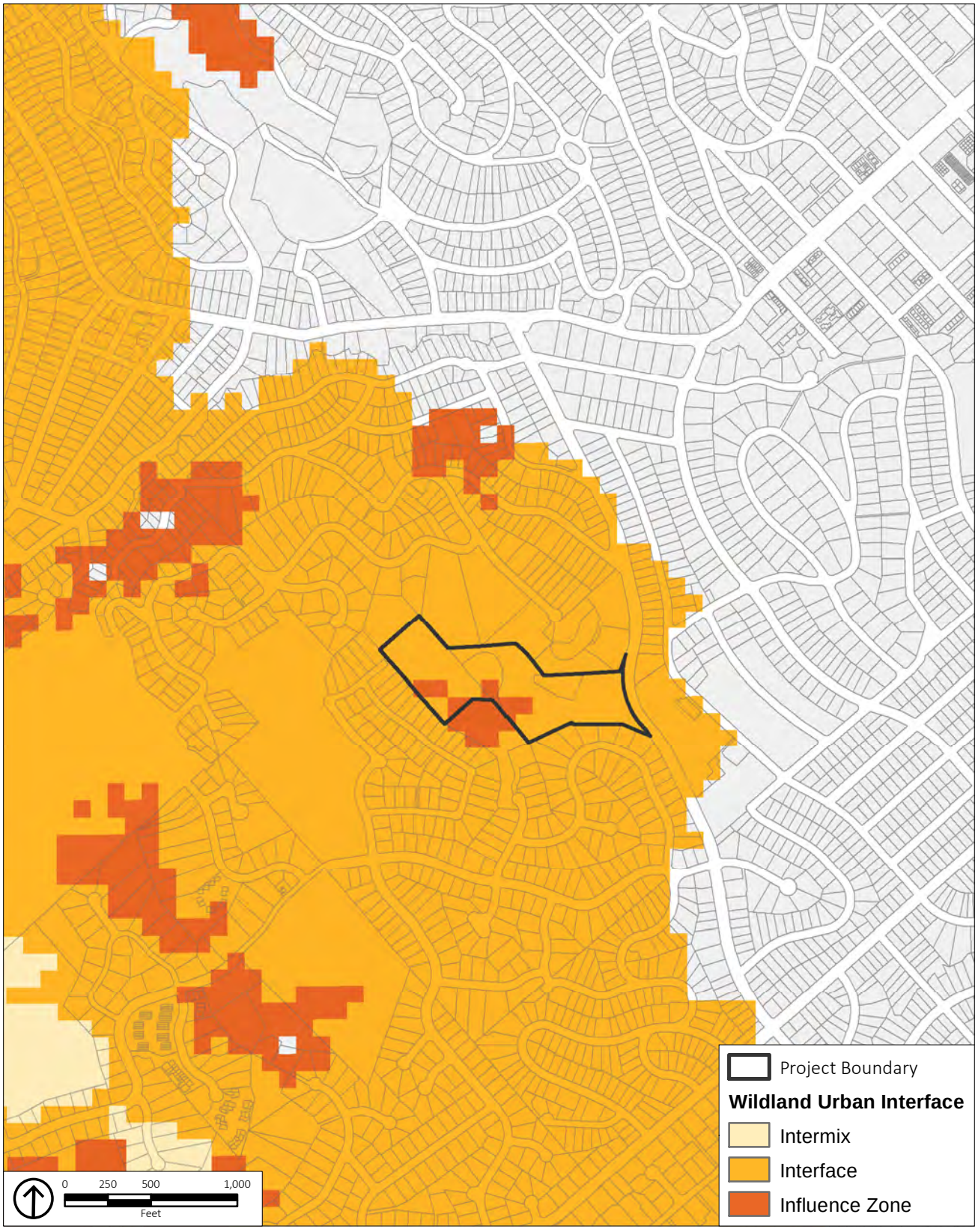
Source: Fire: California Department of Forestry and Fire Protection (CDF), Wildland Urban Interface (WUI) Fire Threat, 2003.

Wildfire Threat

- Little or No Threat to Development
- Moderate Threat to Development
- High Threat to Development
- Very High Threat to Development
- Extreme Threat to Development

- City Limit
- Sphere of Influence Areas
- Project Site

Figure 4.18-2
Areas in San Carlos at Risk from Wildland Fires



Source: CALFIRE, 2015; PlaceWorks, 2022.

Figure 4.18-3
Wildland Urban Interface

San Mateo County is in Region II of the California Fire Service and Rescue Emergency Mutual Aid System, which extends one to two counties inland from the Pacific Coast and from Monterey County to the Oregon border. In the event of a wildfire requiring firefighting resources from outside of San Mateo County, mutual aid is typically first lent from other fire agencies in the affected Region.[59]

4.18.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant wildfire impact if in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, and if it would:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan.
2. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
3. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative wildfire impacts in the area.

4.18.3 IMPACT DISCUSSION

WILD-1 The proposed project development would not impair an adopted emergency response plan or emergency evacuation plan.

The City of San Carlos's EOP provides a framework for the prevention, protection, response, and recovery of the City from emergencies. In the event of an emergency, transportation field units would conduct assessments to identify infrastructure damage and other issues that may affect transportation systems needed for evacuation. The City of San Carlos Parks and Recreation Department would serve as the lead agency for this effort, with support from the Public Works Department, to clear obstructed routes and barricade other routes as necessary; the EOP notes that the Public Works Department has a limited number of vehicles for transporting individuals.[60] The proposed project would create an impact if it would impair the City's ability to implement the EOP in the event of a wildfire event or other emergency.

The project site is currently served by emergency response vehicles via Alameda de las Pulgas and Castor Road, and the proposed project would include a new internal roadway system that would be required to meet applicable CBC and CFC requirements. During construction, all construction staging would be on-site

[59] California Office of Emergency Services, 2019, *California Fire Service and Rescue Emergency Mutual Aid System, Mutual Aid Plan*, https://www.caloes.ca.gov/FireRescueSite/Documents/CalOES_-_Fire_and_Rescue_-_Mutual_Aid_Plan.pdf, accessed February 4, 2022.

[60] City of San Carlos, 2014, *Emergency Operations Plan*, page 284.

and would not block Alameda de las Pulgas. The EOP describes the general responsibilities of City departments during evacuation events but does not identify any specific evacuation routes that would be used during an evacuation event, nor does the EOP prescribe any evacuation-related requirements for development projects. Therefore, the proposed project would not conflict with any requirements of the EOP or interfere with the City's ability to implement its EOP, and the impact would be *less than significant*.

See Chapter 4.15, Transportation, for a more detailed discussion of emergency access and egress. As identified in impact discussion TRAN-4, based on the review of the RC-SCFD, the proposed project does not provide adequate emergency access and egress in the event of a fire event. The proposed project is designed to connect to the adjacent Vista Del Grande project, which would provide a connection to Coronado Avenue, but the possibility exists that the Vista Del Grande project may not be constructed prior to the issuance of any permits allowing for combustible construction for the proposed project. This impact would be less than significant with the implementation of Mitigation Measure TRAN-4b, which requires the installation of a roadway connection to Coronado Avenue prior to the issuance of any permits that allow for combustible construction, if the connection through the Vista Del Grande project has not yet been created.

Significance without Mitigation: Less than significant.

WILD-2	**The proposed project development would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and would thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.**

The project site is in an area of moderate risk to development from wildland fires mapped in the City of San Carlos General Plan (see Figure 4.18-2). The site is not in a FHSZ; the closest areas of the Very High FHSZ in Carlos is about 900 feet south and 1,200 feet southwest (see Figure 4.18-1). The proposed project would not change prevailing winds. However, due to the proximity of the project site to a Very High FHSZ, future residents on the project site, like all residents in proximity to FHSZs, are subject to risks associated with wildfire hazards, including exposure to pollutant concentrations and the potential for the spread of a wildfire. This impact analysis considers whether the proposed project would exacerbate these risks.

Slopes on-site have an average grade of 28.5 percent. In compliance with Chapter 18.12, *Hillside (H) Overlay District,* of the San Carlos Municipal Code, the proposed project has been designed to largely conform to the existing terrain of the project site and would not alter slope conditions such that fire-related hazards would be exacerbated due to changes in slope. In addition, proposed plantings along hillsides have been selected for slope stabilization.

In compliance with the City's Hillside Overlay District requirements, the proposed townhomes have been designed not to include underfloor areas between the lowest floor and the finished grade. In addition, the project landscape plan specifies that fire-resistant, drought-tolerant species shall be used where appropriate, in adherence with SCMC Section 18.12.070(B), *Fire Hazards*, and that proposed plant species

would be selected from the San Mateo Fire Safe List.[61] The project landscape plan shows that the areas around the proposed townhome units would not be planted with trees (see Figure 3-13, *Overall Landscape Planting Plan,* in Chapter 3, *Project Description*), in accordance with State requirements for defensible space.[62] Additionally, existing trees to remain would need be pruned to enhance defensible space.

The proposed buildings would also involve installation of sprinklers in accordance with the National Fire Protection Association 13 Standard for Installation of Sprinkler Systems and the CFC adopted in Section 15.04.110, *Title 24, Part 9, California Fire Code*, of the City's Municipal Code. Section 4902, *Plans*, of the 2022 CFC (effective January 1, 2023) also authorizes the fire code official to require a fire protection plan based on project-specific wildfire hazard assessment that includes considerations of location, topography, aspect, and climatic and fire history.

Adherence to the San Carlos 2030 General Plan, San Carlos Municipal Code, and CFC requirements described above would reduce wildfire risks to structures, wildlife, and/or residents, and reduce the proposed project's potential exacerbate any fire-related risks. However, due to the vegetated condition and terrain of the project site, and the fact that the proposed project would bring people and vehicles to a sloped and vegetated site near the Very High FHSZ, the proposed project's vegetation may have the potential to exacerbate wildfire risks. Regulatory requirements, when adhered to, would minimize the exposure of people to a significant risk of loss, injury, or death due to wildfires. However, the project's proposed landscaping plans do not reflect defensible space requirements or specify vegetation management procedures to ensure that defensible space is maintained during operation of the proposed project. Therefore, the impact would be *significant*.

Impact WILD-2: Proposed project landscaping plans are not consistent with applicable defensible space requirements. Therefore, the project has the potential to exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire.

> Mitigation Measure WILD-2: Prior to issuance of building permits, the applicant shall submit revised landscape plans as well as a vegetation management plan to the Redwood City-San Carlos Fire Department for review and approval. The landscape plans shall reflect that vegetation within 100 feet of structures incorporates vertical and horizontal spacing strategies for reducing fuels. The vegetation management plan shall include strategies such as the trimming of grasses; removal of dead or dying fuels; removal of fallen leaves, needles, etc.; removal of combustible items near or under balconies, decks, stairs, etc.; as well as any additional strategies required to maintain defensible space, as directed by the City of San Carlos and/or the Redwood City-San Carlos Fire Department.
>
> Vegetation management activities shall comply with Public Resources Code Section 4442, which requires that engines that use hydrocarbon fuels be equipped with a spark arrester, and that these engines be maintained in effective working order to help prevent fire.

[61] FIRE SAFE San Mateo County, 2020, Fire Resistant Plant List, https://firesafesanmateo.org/preparedness/defensible-space/fire-resistant-plant-list, accessed March 10, 2022.

[62] California Public Resources Code Section 4291.

The project site plan shall be revised, if necessary, to conform to the revised landscaping plan and vegetation management plan.

Significance with Mitigation: Less than significant.

WILD-3	The proposed project development would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Project development would include construction of infrastructure on-site to support the townhomes, including new paved roads, pedestrian paths, and utility connections. Construction and maintenance of these facilities would introduce new people and equipment to the project site, which could increase the risk of fire hazard. Based on the analysis in Chapter 4.17, *Utilities and Service Systems*, the proposed project requires a new water main connection to serve 41 units on the site. Construction of this connection would include daily construction team briefings, focusing on construction management practices to minimize risk, including fire prevention.

Development of the proposed project would result in new on-site paved roads and pedestrian paths. Roads would include the main on-site road extending from the existing Castor Road with on-site secondary access roads branching from the main road. The proposed project is also designed to connect to the adjacent Vista Del Grande project, which would provide a connection to Coronado Avenue. As described under impact discussion WILD-1, in the event that the Vista Del Grande project is not constructed prior to the issuance of any permits allowing for combustible construction for the proposed project, Mitigation Measure TRAN-4b would require the installation of a roadway connection to Coronado Avenue for emergency access and emergency vehicular egress. Paved areas create an opportunity for vehicles to create accidental wildfires, since dragging chains or vehicle parts, worn brakes, and exposed wheel rims have the potential to create sparks on the roadway. As stated in Mitigation Measure TRAN-4b, the roadway plans would be reviewed by the RC-SCFD to ensure that the road is adequately designed to accommodate emergency vehicle apparatus, and the roadway would provide emergency vehicle access to the project site as well as site evacuation in the event of an emergency. The roadway would provide vehicle access in the event of an emergency but would not be used for non-emergency travel; therefore, its use would be minimal. Because the roadway would increase emergency access and egress without substantially increasing vehicle travel in the project site vicinity, it would not exacerbate wildfire risks.

Equipment use is one of the most common types of human-caused wildfires. Equipment used on grass- or brush-covered areas of the site would be required to comply with PRC Section 4442, which requires that engines that use hydrocarbon fuels be equipped with a spark arrester, and that these engines be maintained in effective working order to help prevent fire.

Development of the proposed project would also require the installation of new electrical connections. Power lines could ignite wildfires if overhead lines fall down and come into contact with vegetation.

However, power distribution within the site would be all electric and would be underground. Power distribution to the site would be connections from nearby existing utility infrastructure.

As mentioned under impact discussion WILD-1, the project site is in an area of moderate risk to development from wildland fires mapped in the City of San Carlos General Plan but is not currently in an FHSZ. Building homes, accommodating vehicles, and bringing new residents onto the project site inherently increases risk of fire hazards, but with the use of fire-resistant landscaping, the creation of defensible space, and an approved roadway design to accommodate emergency vehicles, fire risk would not be exacerbated. Compliance with the requirements described above would ensure the townhomes are built in a way that reduces the risk of impacts to the environment. Impacts in this regard would be *less than significant*.

Significance without Mitigation: Less than significant.

WILD-4	**The proposed project development would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.**

The proposed project would result in a significant impact if downslope or downstream people or structures would be subject to post-fire flooding or landslides from the project site.

As discussed in Chapter 4.9, *Hydrology and Water Quality*, during construction, enforcement of the National Pollution Discharge Elimination System regulations, including implementation of best management practices (BMPs), would minimize erosion, control runoff, and prevent deleterious materials or pollutants from entering the City's storm drain system. BMPs would include retaining eroded sediments and other pollutants on-site, protecting stockpiles of earth and construction materials from being transported from the site by wind or water, and stabilizing slopes with disturbed soils or denuded of vegetation so as to inhibit erosion by wind or water. Down-slope drainage courses, streams, and storm drains would be protected during construction with rock-filled sand bags, temporary drainage swales, slit fences, earth berms, storm drain inlet filters, and straw bales used only in conjunction with properly installed silt fences. The project site design includes bioretention areas that would act as treatment areas and detention ponds for stormwater. Runoff not collected at the bioretention areas would be piped to storm drains along Alameda de las Pulgas.

As described in Chapter 4.6, *Geology and Soils*, the tunnel associated with the on-site artesian spring would be permanently abandoned, while maintaining discharge of the existing spring to the ground surface. The tunnel would be structurally backfilled, and the existing portal would be excavated during mass grading work.[63] A discharge pipe would be installed and any collected runoff would either be used for future landscape irrigation or directed into the storm drain system. The geotechnical investigation for the proposed project identified a slope next to the south site boundary with the potential to generate a

[63] Condor Earth, 2018, Spring Tunnel Mitigation Plan.

debris flow and concluded that the slope has low potential to generate a debris flow, as described in Section 4.18.1, *Environmental Setting*.[64]

Management of stormwater and erosion would help to prevent risk of downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the project would not expose people or structures to significant risks related to runoff, slope instability, or drainage changes, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

WILD-5 The proposed project would not result in cumulative impacts regarding wildfire when combined with past, present, and reasonably foreseeable projects.

The area considered for cumulative impacts regarding wildfire is the City of San Carlos. Current projects in the area are include those evaluated under the City's General Plan 2030 buildout and the Vista Del Grande project. Some other projects in the City of San Carlos may be developed in FHSZs and/or in areas designated at risk from wildfire by the City of San Carlos. The area surrounding the project site (with the exception of the Vista Del Grande property) is already developed, the proposed project and surrounding properties are not within an FHSZ, and the proposed would be required to comply with the CBC, CFC, and related regulations pertaining to safety, the proposed project would not contribute to cumulative impacts regarding wildfire. With development of the Vista Del Grande project, the residential population and amount of development within the surrounding neighborhood would be increased.

As identified in impact discussion WILD-1, the proposed project would not interfere with the City's ability to implement the EOP. Under cumulative conditions, with the construction of the Vista Del Grande project, emergency vehicle access and vehicular egress would be improved for the surrounding community, an additional access and egress routes would be created in the neighborhood, better connecting surrounding properties to Alameda de las Pulgas. As the EOP does not identify specific evacuation routes or prescribe evacuation-related requirements for development projects, cumulative development projects would not be expected to interfere with the City's implementation of the EOP.

As discussed in impact discussion WILD-2, mitigation would be required to address the potential for project site vegetation to exacerbate wildfire risks. The Vista Del Grande project site has generally similar site conditions (e.g., terrain and vegetation) as the proposed project site. With implementation of Mitigation Measure WILD-2, the proposed project would implement a revised landscaping plan that ensures adequate defensible space around on-site structures, and vegetation management activities to maintain defensible space and help prevent the ignition and spread of wildfires.

With implementation of recommended mitigation measures, the proposed project would not result in any cumulatively considerable wildfire effects and impacts would be *less than significant*.

[64] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California.*

WILDFIRE

Significance without Mitigation: Less than significant.

5. Alternatives

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed project that would avoid or substantially lessen any significant effects of the proposed project.

The CEQA Guidelines set forth the intent and extent of alternatives analysis to be provided in an EIR. Section 15126.6(a) of the CEQA Guidelines states:

> An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

The alternatives evaluated in this Draft EIR were developed consistent with Section 15126.6(b) of the CEQA Guidelines, which states:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

5.1 SIGNIFICANT IMPACTS

All of the potential environmental impacts associated with development of the proposed project were found to be either less than significant without mitigation or less than significant with mitigation. No significant and unavoidable impacts were identified as a result of construction and operation of the proposed project. A list of potential impacts is provided in Table 1-1, *Summary of Impacts and Mitigation Measures*, in Chapter 1, *Executive Summary*, of this Draft EIR.

5.2 PROJECT OBJECTIVES

As stated above, the range of potential alternatives must be able to feasibly attain most of the basic objectives of the proposed project. The objectives identified by the project applicant, in coordination with the City, for the proposed project are included in Chapter 3, *Project Description*, and are listed below:

- Develop high-quality, code-compliant and environmentally sustainable residences in a setting that maximizes open space, preserves existing trees and vegetation and limits disturbance to the land.
- Create a small neighborhood dynamic organized around open spaces connected by trails that promote interaction between residents and nature.
- Develop a residential setting that fosters community building and engagement and promotes casual interaction.
- Encourage connectivity between residences and surrounding public amenities, including parks, schools and multiple modes of transport.

5.3 ALTERNATIVES CONSIDERED AND REJECTED

Section 15126.6(c) of the State CEQA Guidelines states:

> The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

According to the State CEQA Guidelines Section 15364, feasibility is defined as:

> [The capability] of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

As described above, Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

5.3.1 ALTERNATIVE LOCATION

An alternative location for the proposed project was considered infeasible due to availability of sites that would support a project of this size. The project site is one of the few parcels of undeveloped land of comparable size in San Carlos. Apart from size, the presence of an alternative location would not necessarily mean that it could be considered for a proposed project, based on land use designations, zoning, other future plans for the site, and property ownership.

5.3.2 REDUCED HOUSING ALTERNATIVE

California's Housing Accountability was passed in 1982 and has been revised in a number of recent years. Under the Housing Accountability Act, so long as a project complies with applicable objective General Plan and zoning standards, a local agency may deny a project or approve it at a lower density only if the agency makes written findings that the project would have specific, adverse, unavoidable impacts on public health or safety. With the project approvals both sought by the proposed project and required through the mitigation measures in this Draft EIR, the proposed project would adhere to applicable objective standards. Therefore, the City is precluded from approving a project alternative with a lower density than proposed. CEQA does not require an evaluation of infeasible alternatives (*Tiburon Open Space Committee, et al. v. County of Marin*, No. A159860) and therefore any alternatives that involve a reduced number of housing units are rejected from this evaluation in this chapter.

5.3.3 MULTI-FAMILY HOUSING ALTERNATIVE

The project site is zoned RS-6: Single Family, and according to Chapter 18.04, *Residential Districts*, of the Municipal Code, residential, public, and semi-public development is allowed in the RS-6 District, with density limited to six units per net acre. Specifically, residential development in the RS-6 District is permitted as single-unit dwellings, accessory dwelling units, and junior accessory dwellings units, and residential development is allowed with a Conditional-Use Permit as small-lot single-unit development, bungalow court development, duplexes, and townhouses. Multi-unit residential development is not permitted in the RS-6 District. Therefore, any alternatives that involve multi-family housing are rejected from evaluation in this chapter.

5.4 OVERVIEW OF PROJECT ALTERNATIVES

In accordance with the CEQA Guidelines, this chapter evaluates two project alternatives.

All of the potential environmental impacts associated with the proposed project were found to be either less than significant without mitigation or less than significant with mitigation. The alternatives were selected because of their potential to reduce and avoid the significant-but-mitigable impacts of the proposed project. The alternatives analyzed in comparison to the proposed project include:

- No Project Alternative. Under the No Project Alternative, the proposed project would not be constructed, and the project site would remain unchanged.

- **Tree Preservation Alternative.** The Tree Preservation Alternative is intended to reduce impacts to biological resources by adjusting the limits of site disturbance in order to reduce the number of trees removed for development.

Table 5-1, *Comparison of Project Alternatives*, compares the impact of each alternative to impacts of the project for each of the environmental topics analyzed in detail in Chapters 4.1 through 4.18 of this Draft EIR. The impacts of each alternative are classified as greater, reduced, or similar to the level of impacts associated with the proposed project.

TABLE 5-1 COMPARISON OF PROJECT ALTERNATIVES

Topic	Proposed Project [a]	No Project Alternative	Tree Preservation Alternative
Aesthetics	LTS/M	<	=
Air Quality	LTS/M	<	=
Biological Resources	LTS/M	<	<
Cultural Resources	LTS/M	<	=
Energy	LTS	<	=
Geology and Soils	LTS/M	<	=
Greenhouse Gas Emissions	LTS	<	=
Hazards and Hazardous Materials	LTS/M	<	=
Hydrology and Water Quality	LTS	<	=
Land Use and Planning	LTS	=	=
Noise	LTS/M	<	=
Population and Housing	LTS	=	=
Public Services	LTS	=	=
Recreation	LTS	=	=
Transportation	LTS/M	<	=
Tribal Cultural Resources	LTS/M	<	=
Utilities and Service Systems	LTS	<	=
Wildfire	LTS/M	<	=

Notes:
a. The impacts listed in this column represent the highest significance determination for each respective standards of significance.

Impact Acronyms:		Symbols:	
LTS	Less-than-Significant without Mitigation	<	Reduced impact in comparison to the proposed project
LTS/M	Less-than-Significant with Mitigation	=	Similar impact in comparison to the proposed project.

5.5 IMPACT ASSESSMENT

5.5.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the proposed project would not be developed, and conditions on-site would remain on the project site and would be occupied. No new development or site improvements associated with the proposed project would occur.

5.5.1.1 AESTHETICS

As discussed in Chapter 4.1, *Aesthetics*, the proposed project would result in significant-but-mitigable aesthetic impacts. Although the proposed project would change the visual appearance of the project site, it would not have a substantial adverse effect on a scenic vista, degrade views from a scenic highway, degrade the existing visual character or quality of public views of the site and its surroundings, or conflict with applicable zoning and regulations governing scenic quality. There is potential for a new source of glare, but impacts would be less than significant after mitigation.

Under the No Project Alternative, there would no change in the aesthetic characteristics of the site and there would be no impacts. Therefore, this alternative would result in slightly *lessened* impacts to aesthetics when compared to the proposed project.

5.5.1.2 AIR QUALITY

As discussed in Chapter 4.2, *Air Quality*, the proposed project would not result in significant air quality impacts after mitigation. The proposed project would not conflict with or obstruct implementation the BAAQMD *2017 Clean Air Plan*. Construction of the proposed project would result in short-term air pollutant emissions that could violate air quality standards and expose off-site sensitive receptors to substantial concentrations of air pollutant emissions, which would be less than significant with proposed mitigation measures. The proposed project would not result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.

Under the No Project Alternative, the proposed project would remain undeveloped and therefore no construction emissions would be generated on-site. The No Project Alternative would generate reduced operational emissions in comparison to the proposed project. While impacts for the proposed project would be less than significant with mitigation, the project would produce emissions due to project construction and operation and vehicular travel to and from the project site. Therefore, the No Project Alternative would result in *lessened* impacts when compared to the proposed project.

5.5.1.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, *Biological Resources*, the proposed project would result in significant-but-mitigable impacts associated with special-status plant and wildlife species, potential waters of the United States (U.S.), and conflict with the local tree preservation policy. The proposed project would not interfere with wildlife movement or the use of native wildlife nursery sites, and would not have an impact on riparian habitats, other sensitive natural communities, or habitat conservation plans.

The No Project Alternative would not involve construction activities that would have the potential to affect on-site special-status plant or wildlife species, and no potential waters of the U.S. would be affected by construction. This alterative would not require the removal of any trees, avoiding conflict with local tree preservation requirements. In addition, no new development and activity would occur on the site that could affect wildlife movement, the use of native wildlife nursery sites, riparian habitats or other sensitive natural communities, or habitat conservation plans. Therefore, this alternative would avoid the

project's significant-but-mitigable impacts to biological resources and therefore impacts would be *lessened* when compared to the proposed project.

5.5.1.4 CULTURAL RESOURCES

As discussed in Chapter 4.4, *Cultural Resources*, the project site is not listed in a register of historical resources. The proposed project would involve ground disturbance and could damage undiscovered archaeological resources and/or human remains; such impacts would be less than significant with mitigation.

Under the No Project Alternative, no ground-disturbing activities would occur that would have the potential to impact archeological resources or human remains that may be buried in site soils. Therefore, the No Project Alternative would avoid the project's significant-but-mitigable impacts and impacts to cultural resources would be *lessened* when compared to the proposed project.

5.5.1.5 ENERGY

As discussed in Chapter 4.5, *Energy*, the proposed project would result in less-than-significant energy impacts. The project would use energy for construction and operation, but it would not be in a wasteful, inefficient, or unnecessary manner, and would not conflict with a State or local plan for renewable energy or energy efficiency.

The project site currently contains three single-family residences, as well as Pacific Gas & Electric (PG&E) gas and electric easements and a series of public and private utility easements. Under the No Project Alternative, the project site would continue to result in minimal energy use related to these infrastructures. The No Project Alternative would generate less energy demand than the proposed project; therefore, impacts under this alternative would be *lessened* when compared to the proposed project.

5.5.1.6 GEOLOGY AND SOILS

As discussed in Chapter 4.6, *Geology and Soils*, the proposed project would result in less-than-significant geological impacts with mitigation. The project site is not located within an earthquake fault zone but is expected to experience "strong" shaking due to location in a seismically active region. Resulting impacts of ground-shaking hazards would be less than significant with mitigation. The proposed project would not be located on an unstable geologic unit or unstable soil and would not directly or indirectly cause potential substantial adverse effects involving liquefaction, landslide, lateral spreading, subsidence, or collapse. The proposed project could result in substantial soil erosion or the loss of topsoil and would be placed on soil that is potentially susceptible to expansion, but impacts would be less than significant with mitigation. The proposed project would not require the use of septic tanks or alternative wastewater disposal systems. While no paleontological resources have been identified on the project site, because the proposed project requires excavation where no such excavation has previously occurred, fossils of potential scientific significance that have not been recorded could be encountered. Ground-disturbing construction associated with development under the proposed project could cause damage to, or destruction of, paleontological resources, but such impacts would be less than significant with mitigation.

Under the No Project Alternative, the site would remain undeveloped and unchanged. It would not include any actions that would disturb geology and soils on- or off-site, and there would be no impacts to geology and soils from the project site. Thus, the No Project Alternative would avoid the significant-but-mitigable impacts of the proposed project and result in *lessened* impacts to geology and soils compared to the proposed project.

5.5.1.7 GREENHOUSE GAS EMISSIONS

As discussed in Chapter 4.7, *Greenhouse Gas Emissions*, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment, nor would it conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. The proposed project would produce greenhouse gas emissions during operation and construction; however, the proposed project would implement measures to reduce GHG emissions in alignment with the San Carlos Climate Mitigation and Adaptation Strategy.

The No Project Alternative would not include construction activities that would generate greenhouse gas emissions, and would generate reduced operational emissions in comparison to the proposed project. Similar to the proposed project, the No Project Alternative would not generate emissions, either directly or indirectly, that may have a significant effect on the environment, nor would it conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. The No Project Alternative would generate a reduced level of greenhouse gas emissions when compared to the proposed project. Therefore, impacts under this alternative would be *lessened* when compared to the proposed project.

5.5.1.8 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.8, *Hazards and Hazardous Materials*, the proposed project would result in a significant-but-mitigable impact associated with potential safety hazards. Construction 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 and through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The proposed project could emit hazardous emission or handle hazardous or acutely hazardous materials, substances, or waste within a quarter mile of schools. Because there is a public airport within two miles of the project site, the proposed project could result in a safety hazard or excessive noise for people residing or working in the project area. All of these hazardous material related impacts would be less than significant with mitigation. The proposed project would not be located on a site which is included on a list of hazardous materials sites and would not create a significant hazard to the public or the environment.

The project site previously contained a 4,000-gallon gasoline underground storage tank (UST) that was removed from the eastern portion of the property in the late 1970s or early 1980s. The UST was replaced with an aboveground storage tank (AST) that was subsequently removed. Due to the lack of fuel tank closure documentation for the UST and AST, it is unknown to what extent testing was completed to determine whether groundwater and/or on-site soils at the property have been impacted. The potentially hazardous site conditions as a result of the former UST and AST would exist with both the proposed project and the No Project Alternative.

The No Project Alternative would not involve demolition activities, including the disposal of materials, could result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site. Therefore, the No Project Alternative would avoid the proposed project's significant-but-mitigable impacts related to demolition activities.

The project site is located within the Federal Aviation Administration (FAA) notification surface area for the San Carlos Airport. Within this area, any proposed project consisting of buildings with more than two floors or structures greater than or equal to 30 feet in height is required to file documentation with the FAA prior to construction. The No Project Alternative would not involve the development of new structures in excess of two stories or 30 feet in height and would therefore avoid the proposed project's significant-but-mitigable impact related to airport-related hazards.

The No Project Alternative would avoid the project's significant-but-mitigable impacts associated with demolition activities and airport-related hazards and therefore would result in *lessened* impacts associated with hazards and hazardous materials.

5.5.1.9 HYDROLOGY AND WATER QUALITY

As discussed in Chapter 4.9, *Hydrology and Water Quality*, the proposed project would result in less-than-significant hydrology impacts. The proposed project would not violate any water quality standards or substantially decrease groundwater supplies. The existing drainage pattern would not be substantially altered by the proposed project in a manner that would result in substantial erosion or siltation, substantially increase the rate or amount of surface runoff in a manner that would result in flooding, exceed the capacity of stormwater drainage systems, or impede or redirect flood flows. The project site is not within a flood hazard, tsunami, or seiche zones and would not involve any impact associated with the release of pollutants due to inundation at the project site. The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Under the No Project Alternative, the project would remain undeveloped. No construction activities or changes to the project site hydrology or drainage would occur. Therefore, the No Project Alternative would not have the potential to result in any impacts to hydrology and water quality. Impacts under this alternative would be *lessened* when compared to the proposed project.

5.5.1.10 LAND USE AND PLANNING

As discussed in Chapter 4.10, *Land Use and Planning*, the proposed project would result in less-than-significant impacts to land use and planning. It would not physically divide an established community, or conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The No Project Alternative would not change the project site's existing land use. The existing single-family development on the project site is consistent with the land use designation and allowable uses for the project site. Therefore, this alternative would not conflict with any land use plan, policy, or regulation. It would also not result in physical division of an established community. Neither the proposed project nor

the No Project Alternative would result in significant impacts; therefore, this alternative would be *similar* when compared to the proposed project.

5.5.1.11 NOISE

As discussed in Chapter 4.11, *Noise*, the proposed project would result in significant-but-mitigable impacts associated with the temporary increase in ambient noise levels during construction and operational noise associated with proposed roof decks. The proposed project's traffic noise and construction vibration impacts would be less than significant.

Under the No Project Alternative, the project would not change existing conditions on-site and no construction activities would occur. Therefore, this alternative would avoid the project's significant-but-mitigable impacts, and noise impacts would be *lessened* when compared to the proposed project.

5.5.1.12 POPULATION AND HOUSING

As discussed in Chapter 4.12, *Population and Housing*, the proposed project would result in a less-than-significant impact associated with growth inducement. The project would not displace existing people or housing, necessitating the construction of replacement housing elsewhere.

Population and housing on the project site would remain unaffected under the No Project Alternative, as the existing homes would remain. The No Project Alternative would not introduce any housing or residents to the project site. Neither the proposed project nor the No Project Alternative would result in adverse impacts; therefore, this alternative would be *similar* when compared to the proposed project.

5.5.1.13 PUBLIC SERVICES

As discussed in Chapter 4.13, *Public Services*, the proposed project would not result in adverse physical impacts associated with the provision of or need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, school, or library services.

Under the No Project Alternative, no residents would be introduced to the project site, and no new development would be created that would require fire, police, school, or library services. Therefore, this alternative would not generate or add to the demand for fire, police, school, or library services. Neither the proposed project nor the No Project Alternative would result in adverse impacts; therefore, this alternative would be *similar* when compared to the proposed project.

5.5.1.14 RECREATION

As discussed in Chapter 4.14, *Recreation*, the proposed project would result in less-than-significant impacts related to parks and recreational facilities. The proposed project would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of

the facility would occur or be accelerated, nor would it require the construction or expansion of additional recreational facilities that might have an adverse physical effect on the environment.

Under the No Project Alternative, there would be no residents introduced to the project site that would use parks or recreational facilities. There would not be an increased use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated. The No Project Alternative would not require the construction or expansion of additional recreational facilities. Neither the proposed project nor the No Project Alternative would result in adverse impacts; therefore, this alternative would be *similar* when compared to the proposed project.

5.5.1.15 TRANSPORTATION

As discussed in Chapter 4.15, *Transportation*, the proposed project would result in significant-but-mitigable impacts regarding conflict with a policy addressing pedestrian facilities, sight distance, and inadequate emergency access. The project would result in less-than-significant impacts associated with vehicle miles traveled (VMT).

The No Project Alternative would not generate any change or increase in vehicular traffic or transportation usage in the area as conditions on-site would not change. Therefore, this alternative would avoid the project's significant-but-mitigable impacts associated with pedestrian facilities and emergency access. As the driveway location would be in a location close to the location on the proposed site plan, the significant impact associated with sight distance would remain. In comparison to the proposed project, the No Project Alternative would result in a lower total VMT. Overall, impacts to transportation under this alternative would be *lessened* when compared to the proposed project.

5.5.1.16 TRIBAL CULTURAL RESOURCES

As discussed in Chapter 4.16, *Tribal Cultural Resources*, the proposed project would involve ground disturbance that could potentially damage unknown tribal cultural resources; such impacts would be less than significant with mitigation.

Under the No Project Alternative, there would be no ground-disturbing activities that could impact tribal cultural resources that may be buried in site soils. Therefore, the No Project Alternative would avoid the project's significant-but-mitigable impacts and impacts to tribal cultural resources would be *lessened* when compared to the proposed project.

5.5.1.17 UTILITIES AND SERVICE SYSTEMS

As discussed in Chapter 4.17, *Utilities and Service Systems*, the proposed project would result in less-than-significant impacts associated with water, wastewater, solid waste, stormwater infrastructure, and other utilities. There would be sufficient water supplies available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years. The project-serving wastewater treatment provider would have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. The proposed project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

The No Project Alternative would not require the use of new or expanded utilities and service systems and would not require changes to existing utilities and service systems. The No Project Alternative would not result in impacts to utilities and service systems; therefore, this alternative would be *lessened* when compared to the proposed project.

5.5.1.18 WILDFIRE

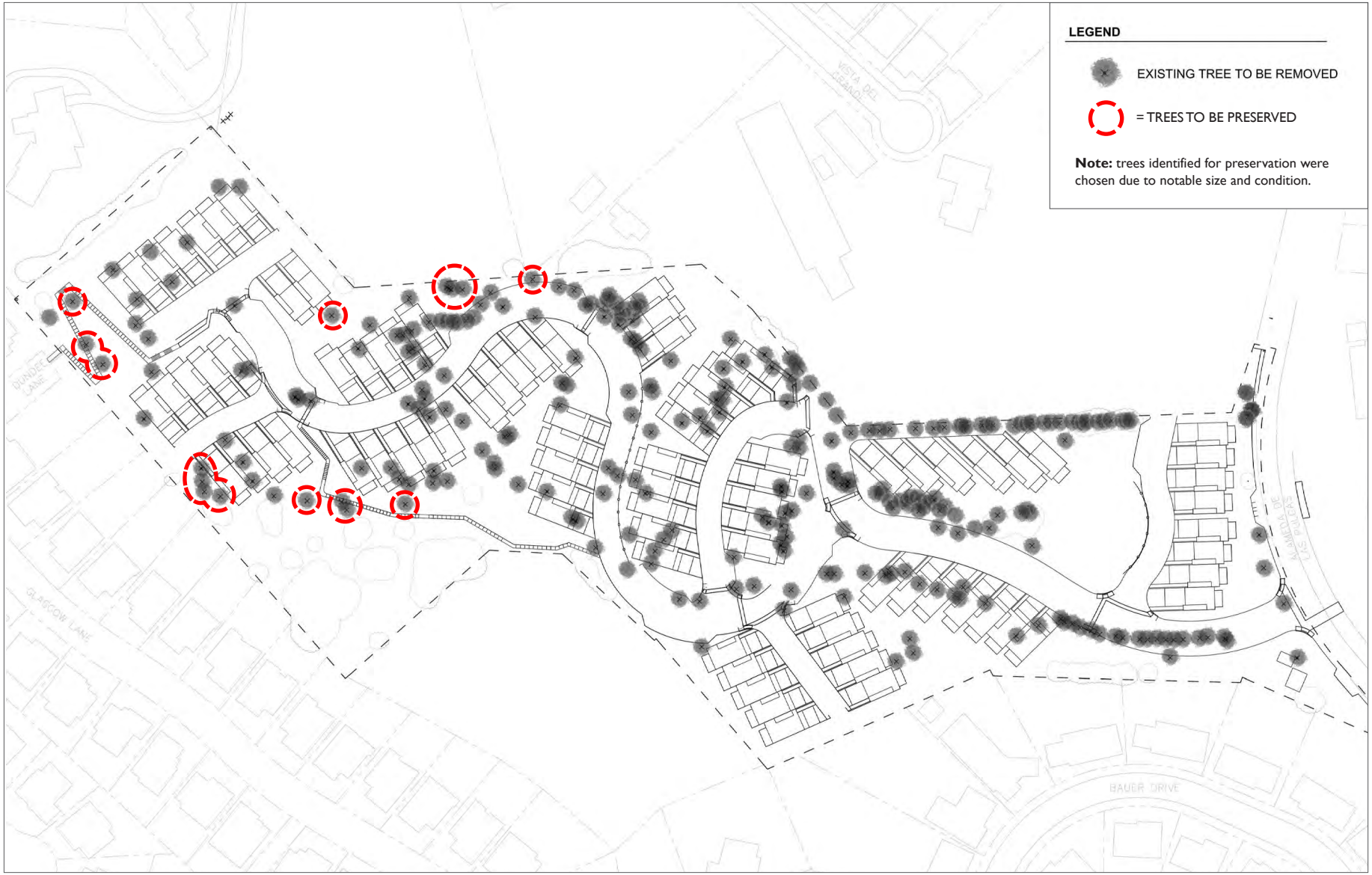
As discussed in Chapter 4.18, *Wildfire*, the proposed project would result in significant-but-mitigable impacts regarding exacerbation of wildfire risks due to vegetation. The proposed project would not impair the City's emergency evacuation plan, expose project occupants to pollutant concentrations from a wildfire, require the installation or maintenance of associated infrastructure that may exacerbate fire risk, or expose down-slop or downstream people or structures to post-fire people or structures to post-fire flooding or landslides from the project site.

Under the No Project Alternative, the project site as is would not change. The No Project Alternative would not introduce any changes to the existing conditions of the project site that could increase wildfire hazards. However, it is unknown what vegetation management activities or defensible space provisions would be implemented under the No Project Alternative. Overall, wildfire-related impacts would be *lessened* when compared to the proposed project.

5.5.2 TREE PRESERVATION ALTERNATIVE

The Tree Preservation Alternative is intended to reduce impacts to biological resources by reducing the number of trees removed for development. Under the Tree Preservation Alternative, the overall development footprint would be similar to the proposed project, but the project site plan would be adjusted (including relocation of units, reduced unit size for some units, and rerouting of the proposed trail) to preserve approximately 17 heritage trees on-site, selected due to notable size and conditions. A conceptual plan of the Tree Preservation Alternative is provided in Figure 5-1, *Tree Preservation Alternative Conceptual Plan, Trees to be Retained*.

Preservation of half of these trees would require rerouting the segments of the proposed trail to connect back to the internal roadway instead of traversing the site along a single trail. Preservation of one of the largest native trees on-site (42-inch diameter at breast height) at the northern border of the project site would require removing two on-street parking spaces, relocating a retaining wall, and constructing a wall on the street side of the tree. Preservation of one of the trees at the northwest corner of the project site would require the adjacent unit to be reduced in size. Several trees in the southwest portion of the project site could also be preserved if the adjacent unit were to be removed. A replacement unit would need to be developed elsewhere on the site by reducing the unit sizes in one of the townhome clusters to accommodate the additional unit. Further refinement of the limits of grading and development under this Tree Preservation Alternative would be accomplished with input from the project applicant's and City arborist, to further refine consideration of preserving additional trees, as specified in Mitigation Measure BIO-5b.



Source: Creo Landscape Architecture, 2022. PlaceWorks, 2022.

0 200
Scale (Feet)

Figure 5-1
Tree Preservation Alternative Conceptual Plan, Trees to Be Retained

As described in Chapter 4, *Environmental Analysis*, and summarized in Chapter 1, *Executive Summary*, mitigation measures would be required to reduce construction- and operation-related impacts of the proposed project. This analysis assumes that all applicable mitigation measures identified in this EIR for the proposed project would be implemented for the Tree Preservation Alternative.

5.5.2.1 AESTHETICS

As described in Section 5.5.1.1, the proposed project would not result in any significant aesthetic impacts.

Under the Tree Preservation Alternative, much of the project characteristics would remain the same but the number of trees removed would be reduced. The design and layout of the project would need to be modified to accommodate the trees preserved; however, it is assumed that the overall design layout and building concepts (building styles and materials) would remain the same. Therefore, the Tree Preservation Alternative would result in *similar* impacts to aesthetics when compared to the proposed project.

5.5.2.2 AIR QUALITY

As discussed in Section 5.5.1.2, the proposed project would result in significant-but-mitigable impacts on air quality.

In comparison to the proposed project, the Tree Preservation Alternative would result in a similar amount of air emissions. Therefore, the Tree Preservation Alternative would not conflict with the *2017 Clean Air Plan* or result in other emissions, such as those leading to odors. Construction of this alternative would still result in short-term air pollution emissions that could violate air quality standards and expose off-site sensitive receptors to substantial concentrations of air pollutant emissions; however, impacts would be less than significant with proposed mitigation measures. Therefore, the Tree Preservation Alternative would result in *similar* impacts when compared to the proposed project.

5.5.2.3 BIOLOGICAL RESOURCES

As explained in Section 5.5.1.3, impacts of the proposed project to biological resources would be less than significant with mitigation.

The Tree Preservation Alternative would involve construction activities that would have the potential to affect on-site special-status plant or wildlife species and potential waters of the U.S. As under the proposed project, these impacts would be less than significant with mitigation. Similar to the proposed project, this alternative would not affect wildlife movement, the use of native wildlife nursery sites, riparian habitats or other sensitive natural communities, or habitat conservation plans.

The Tree Preservation Alternative would preserve an additional 17 heritage trees on-site through the rerouting of the trail, relocation of a unit, and reduction of unit size for some units. Although additional trees are preserved under this alternative, there would still be a significant loss of heritage trees. As under the proposed project, impacts of tree loss would be less than significant with mitigation. Overall, impacts would be slightly *lessened* when compared to the proposed project.

5.5.2.4 CULTURAL RESOURCES

As discussed in Section 5.5.1.4, the proposed project would not result in significant impacts to cultural resources after mitigation.

Under the Tree Preservation Alternative, the project would be composed of roughly the same components as the proposed project and would involve ground disturbance that could damage undiscovered archeological resources and/or human remains. However, impacts would remain less than significant with mitigation. Therefore, impacts of the Tree Preservation Alternative to cultural resources would be *similar* when compared to the proposed project.

5.5.2.5 ENERGY

As stated in Section 5.5.1.5, the proposed project would result in less-than-significant energy impacts.

Like the proposed project, the Tree Preservation Alternative would use energy for construction and operation. Although this alternative would involve a slight reduction in the size of some units, the overall amount of energy required would remain similar. Similar to the proposed project, energy would not be in a wasteful, inefficient, or unnecessary manner, and would not conflict with a State or local plan for renewable energy or energy efficiency under the Tree Preservation Alternative. Therefore, this alternative would result in *similar* energy impacts when compared to the proposed project.

5.5.2.6 GEOLOGY AND SOILS

As detailed in Section 5.5.1.6, impacts of the proposed project to geology and soils would be less than significant with mitigation.

Under the Tree Preservation Alternative, the project site location would not change. The project site is not located within an earthquake fault zone, unstable geological unit, or unstable soil, and would not directly or indirectly cause potential substantial adverse effects involving liquefaction, landslide, lateral spreading, subsidence, or collapse. As under the proposed project, impacts of ground-shaking hazards, soil erosion or loss of topsoil, and adverse effects to paleontological resources would be less than significant with mitigation. The Tree Preservation Alternative would not require the use of septic tanks or alternative wastewater disposal systems. Thus, this alternative would result in *similar* impacts to geology and soils compared to the proposed project.

5.5.2.7 GREENHOUSE GAS EMISSIONS

As mentioned in Section 5.5.1.7, the proposed project would not result in any significant impacts related to greenhouse gas emissions.

In comparison to the proposed project, the Tree Preservation Alternative would result in a similar amount of greenhouse gas emissions. Similar to the proposed project, the Tree Preservation Alternative would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment, nor would it conflict with an applicable plan, policy, or regulation adopted for the purpose

of reducing greenhouse gas emissions. The Tree Preservation Alternative would include construction or operation phases that would produce emissions, but measures to reduce GHG emissions would be implemented in alignment with the San Carlos Mitigation and Adaptation Strategy. Therefore, this alternative would have *similar* greenhouse gas emissions impacts compared to the proposed project.

5.5.2.8 HAZARDS AND HAZARDOUS MATERIALS

As detailed in Section 5.5.1.8, the proposed project would result in significant-but-mitigable impacts to hazards and hazardous materials.

As described under Section 5.5.1.8, the project site previously contained a UST and AST. Due to the lack of fuel tank closure documentation for the UST and AST, it is unknown to what extent testing was completed to determine whether groundwater and/or on-site soils at the property have been impacted. The potentially hazardous site conditions as a result of the former UST and AST would exist with both the proposed project and the Tree Preservation Alternative.

The Tree Preservation Alternative would involve the same demolition activities, including the disposal of materials, as the proposed project, and could therefore result in the release of asbestos-containing materials and/or lead-based paint due to the age of existing structures on-site. Therefore, the Tree Preservation Alternative would result in the same significant-but-mitigable impacts related to demolition activities as the proposed project.

As described under Section 5.5.1.8, the project site is located within the FAA notification surface area for the San Carlos Airport, an area within which any project with buildings greater than or equal to 30 feet in height is required to file documentation with the FAA. Like the proposed project, the Tree Preservation Alternative would involve the development of new structures in excess of 30 feet in height and would therefore result in the same significant-but-mitigable impact related to airport-related hazards.

The Tree Preservation Alternative would result in the same significant-but-mitigable impacts as the proposed project and therefore would result in *similar* impacts associated with hazards and hazardous materials.

5.5.2.9 HYDROLOGY AND WATER QUALITY

As explained in Section 5.5.1.9, impacts of the proposed project to hydrology and water quality would be less-than-significant.

The Tree Preservation Alternative would be designed to accommodate the same number of units as the proposed project. As under the proposed project, the existing drainage pattern would not be substantially altered in a way that would result in substantial erosion or siltation, substantially increase the rate or amount of surface runoff in a manner that would result in flooding, exceed the capacity of stormwater drainage systems, or impede or redirect flood flows. The project site location would remain the same and would not be within a flood hazard, tsunami, or seiche zones or involve any impact associated with the release of pollutants due to inundation. The Tree Preservation Alternative would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan,

violate any water quality standards, or substantially decrease groundwater supplies. Thus, this alternative would result in *similar* impacts to hydrology and water quality when compared to the proposed project.

5.5.2.10 LAND USE AND PLANNING

As described in Section 5.5.1.10, the proposed project would not result in significant impacts to land use and planning.

Under the Tree Preservation Alternative, much of the project characteristics would remain the same but the number of trees removed would be reduced. This alternative would not result in physical division of an established community or conflict with any land use plan, policy, or regulation. Therefore, the Tree Preservation Alternative would result in no land use and planning impacts and impacts would be *similar* compared to those of the proposed project.

5.5.2.11 NOISE

As stated in Section 5.5.1.11, the proposed project would result in significant-but-mitigable impacts associated noise.

Under the Tree Preservation Alternative, traffic noise and construction vibration impacts would be less than significant. There would be a temporary increase in ambient noise levels during construction, and noise associated with roof decks, but impacts would be less than significant with mitigation. Therefore, noise impacts under this alternative would be *similar* when compared to the proposed project.

5.5.2.12 POPULATION AND HOUSING

As mentioned in Section 5.5.1.12, impacts of the proposed project regrading population and housing would be less than significant.

Under the Tree Preservation Alternative, the project would be designed to accommodate the same number of units and residential population as the proposed project. Like the proposed project, there would be no displacement of people or housing requiring the construction of replacement housing. Therefore, under the Tree Preservation Alternative, impacts would be *similar* when compared to the proposed project.

5.5.2.13 PUBLIC SERVICES

As described in Section 5.5.1.12, the proposed project would result in less-than-significant public services impacts.

Under the Tree Preservation Alternative, the project would be designed to accommodate the same number of units and residential population as the proposed project. As under the proposed project, this alternative would not result in adverse physical impacts associated with the provision of or need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire

protection, police protection, school, or library services. Impacts to public services under the Tree Preservation Alternative would be *similar* when compared to the proposed project.

5.5.2.14 RECREATION

As explained in Section 5.5.1.14, the proposed project would not result in significant impacts related to parks and recreational facilities.

Under the Tree Preservation Alternative, the project would be composed of the same components as the proposed project and would generate the same level of usage of existing neighborhood parks or other recreational facilities. As under the proposed project, the Tree Preservation Alternative would not require the construction of expansion of additional recreational facilities. Therefore, impacts of this alternative would be *similar* to those of the proposed project.

5.5.2.15 TRANSPORTATION

As stated in Section 5.5.1.15, the proposed project would result in significant-but-mitigable impacts regarding transportation.

Under the Tree Preservation Alternative, the project would be designed to accommodate the same number of units and residential population as the proposed project. The Tree Preservation Alternative would involve an overall similar site plan as the proposed project, with some adjustments that would not affect the overall circulation or transportation demand of the project. Therefore, this alternative would result in the same significant-but-mitigable impacts as the proposed project and impacts would be *similar* when compared to the proposed project.

5.5.2.16 TRIBAL CULTURAL RESOURCES

As described in Section 5.5.1.16, tribal cultural resource impacts of the proposed project would be less than significant with mitigation.

Under the Tree Preservation Alternative, there would be ground-disturbing activities that could impact tribal cultural resources that may be buried in site soils, but impacts would be less than significant with mitigation. Therefore, under the Tree Preservation Alternative, impacts to tribal cultural resources would be *similar* when compared to the proposed project.

5.5.2.17 UTILITIES AND SERVICE SYSTEMS

As discussed in Section 5.5.1.17, the proposed project would result in less-than-significant impacts related to utilities and service systems

Under the Tree Preservation Alternative, the project would be designed to accommodate the same number of units and population as the proposed project. Similar to the proposed project, there would be sufficient water supplies and the project-serving wastewater treatment provider would have capacity to serve the project's projected demand. The Tree Preservation Alternative would also comply with federal,

State, and local management and reduction statutes and regulations related to solid waste. Therefore, impacts of this alternative would be *similar* when compared to the proposed project.

5.5.2.18 WILDFIRE

As mentioned in Section 5.5.1.18, impacts of the proposed project regarding wildfire would be less than significant after mitigation.

Although more trees would be preserved under this alternative, and some site plan adjustments would be implemented to accommodate the preserved trees, this alternative would result in an overall similar site plan as the proposed project. The same mitigation measures would be required as under the proposed project in order to ensure that the Tree Preservation Alternative would not exacerbate wildfire risks. Therefore, wildfire related impacts would be *similar* when compared to the proposed project.

5.5.3 OBJECTIVES ASSESSMENT

5.5.3.1 NO PROJECT ALTERNATIVE

The No Project Alternative would not meet any of the project objectives.

5.5.3.2 TREE PRESERVATION ALTERNATIVE

As most of the project components would remain the same under the Tree Preservation Alternative, this alternative would fulfill all the project objectives, increasing the available housing supply in the City of San Carlos via the development of a medium-density residential development. The alternative involves developing high-quality, code-compliant, and environmentally sustainable residences in a setting that maximizes open space, preserves existing trees and vegetation, and limits disturbance to the land. The Tree Preservation Alternative would better meet the objective of preserving existing trees and vegetation, preserving an additional 17 heritage trees on-site when compared to the proposed project. The alternative would create a small neighborhood dynamic organized around open spaces connected by trails that promote interaction between residents and nature and develop a residential setting that fosters community building and engagement and promotes casual interaction. It would also encourage connectivity between residences and surrounding public amenities, including parks, schools, and multiple modes of transport.

5.5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative is the alternative that would be expected to generate fewer significant impacts. In addition to the discussion and comparison of impacts of the project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an “environmentally superior” alternative be identified. Identification of the environmentally superior alternative is an informational

procedure and the alternative identified may not be the alternative that best meets the goals or needs of the project applicant or the City of San Carlos.

As shown in Table 5-1, the No Project Alternative would result in fewer impacts than the proposed project. Although the No Project Alternative would not meet the objectives of the proposed project, it is considered the environmentally superior alternative. However, in accordance with State CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the No Project Alternative, the Draft EIR shall also identify an environmentally superior alternative among the other alternatives. In the case of this analysis, the Tree Preservation Alternative would be the next environmentally superior alternative. In comparison to the proposed project, this alternative would result in overall similar level of impact as the proposed project, although it would result in a slight reduction in the extent of the project's significant-but-mitigable impact associated with tree removal.

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6. CEQA-Mandated Sections

This chapter provides an overview of the impacts of the proposed project based on the analyses presented in Chapters 4 and 5 of this Draft EIR. The topics covered in this chapter include significant unavoidable impacts, significant irreversible changes to the environment, and growth inducement. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Chapters 4.1 through 4.18.

6.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the State CEQA Guidelines states:

> An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.

Development of the proposed project would not result in significant environmental impacts to the environmental impact topics listed below and therefore, are not discussed in detail in Chapters 4.1 through 4.18 of this Draft EIR.

6.1.1 AGRICULTURAL AND FORESTRY RESOURCES

According to the San Carlos General Plan Land Use Map, the proposed project site is designated as Single-Family, a low-density residential land use designation that permits up to six Dwelling Units/Acre (DUs/Ac). The General Plan, General Plan land use map, and zoning map do not identify any agriculture or forestry resources in the city. In addition, maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency categorize most land in San Carlos as Urban and Built-Up Land.[1] There are no agricultural lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the City of San Carlos. The project site is not under a Williamson Act Contract, and there are no agricultural land uses adjoining the site.[2] Therefore, approval and implementation of the proposed project would not conflict with lands under Williamson Act contract. For these reasons, there would be no impacts to agricultural or forestry resources under CEQA, and no mitigation would be required.

[1] California Department of Conservation, 2018, California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed February 21, 2022.

[2] County of San Mateo, 2022, Williamson Act Parcels, https://data.smcgov.org/Housing-Development/Williamson-Act-Parcels/sq6e-7j5j#revert, accessed February 21, 2022.

6.1.2 MINERAL RESOURCES

The California Department of Conservation, Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their General Plans.[3] The San Carlos General Plan states that the City does not contain known mineral resources, including at the project site.[4] Therefore, the EIR analysis does not include a discussion of mineral resources located on the site. No impact would occur, and no mitigation would be required.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that "direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short- and long-term effects." Chapter 1, *Executive Summary*, contains Table 1-1, *Summary of Impacts and Mitigation Measures*, which summarizes the significant impacts, mitigation measures, and levels of significance with and without mitigation. All actions from the proposed project and mitigation measures, where feasible, would reduce the level of impact to less than significant, and no impact would remain significant and unavoidable after mitigation measures are applied.

6.3 SIGNIFICANT AND IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed below.

6.3.1 CHANGES IN LAND USE THAT COMMIT FUTURE GENERATIONS

As described in Chapter 3, *Project Description*, the proposed project would develop 11.4 acres of the project site with residential uses, roads, and parking. The project site was used as Black Mountain Spring Water Company bottling facility and currently contains three single-family residences. Because the site is currently zoned for residential use and was previously developed with past residential and nonresidential uses, construction of the proposed project would not result in a land use change that would commit future generations to uses that are not already present on the project site.

[3] Public Resources Code, Division 2, Geology, Mines and Mining, Chapter 9, Surface Mining and Reclamation Act of 1975, Article 4, State Policy for the Reclamation of Mined Lands, Section 2762(a)(1).

[4] City of San Carlos, 2009, *San Carlos 2030 General Plan*.

6.3.2 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Potential environmental accidents of concern include those that would have adverse effects on the environment or public health due to the nature or quantity of material released during an accident and the receptors exposed to that release. Site preparation and construction activities associated with development of the proposed project would involve some risk for environmental accidents. However, these activities would be monitored as required by local, State, and federal agencies, and would follow professional industry standards for safety and construction. Additionally, the residential land use proposed by the proposed project is a typical urban use that would not involve activities that are likely to contribute to or be the cause of a significant environmental accident. As a result, the proposed project would not pose a substantial risk of environmental accidents.

6.3.3 LARGE COMMITMENT OF NONRENEWABLE RESOURCES

Consumption of nonrenewable resources includes issues related to increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. The proposed project would require electric service, vehicle fuels, and additional resources for construction. The use of energy resources by vehicles would fluctuate according to the phase of construction and would be temporary. Additionally, the ongoing operation of the proposed project would involve the use of nonrenewable resources. Construction and ongoing maintenance of the proposed project would irreversibly commit some materials and nonrenewable energy resources. Materials and resources used would include, but are not limited to, nonrenewable and limited resources such as oil, gasoline, sand, gravel, asphalt, and steel. These materials and energy resources would be used for infrastructure development, transportation of people and goods, as well as utilities. During the operational phase of the proposed project (post-construction), the proposed project would create additional energy demands compared to existing conditions and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of on-site equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting. Furthermore, future development would commit other nonrenewable resources such as gravel, asphalt, metals, gasoline, and oil. These materials and energy resources would be used for infrastructure development, transportation of people and goods, and utilities.

However, the proposed project would be required to comply with and implement several measures that would offset or reduce the need for nonrenewable resources. For example, the proposed project is required to comply with all applicable building and design requirements, including those in California Code of Regulations, Title 24 relating to energy conservation. With compliance with Title 24, Part 11, the Green Building Standards Code, or CALGreen, the proposed project is required to reduce water consumption and divert 65 percent of nonhazardous construction and demolition debris.

Overall, while the construction and operation of the proposed project would involve the use of nonrenewable resources, compliance with applicable standards and regulations and the inclusion of energy-conserving project features would reduce the use of nonrenewable resources to the maximum

extent practicable. Therefore, the proposed project would not represent a large commitment of nonrenewable resources.

6.4 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth inducing factors might include the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development. This section evaluates the proposed project's potential to create such growth inducements. Not all aspects of growth inducement are negative; rather, negative impacts associated with growth inducement occur only where the growth associated with the project would cause adverse environmental impacts.

Growth-inducing impacts fall into two categories: direct or indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary growth-inducing impacts consist of growth-induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

The proposed project would not result in direct growth-inducing impacts because it would not involve the creation of significant new off-site transportation or utility infrastructure that would allow or spur growth in the surrounding area. The project site is located in an urbanized area that is already served by roadways, as well as existing infrastructure. While the project would include the construction of roadway and utility connections to fully serve the new on-site development, the project site is already located within an area that is served by roadways and utilities, and would not extend these facilities to previously unserved areas. Beyond the planned roadway connection that would be implemented in association with the Vista Del Grande project, the proposed project would not result in the creation of new infrastructure that could be used by other new development in the surrounding area.

The proposed project would involve direct growth inducement through the construction of 87 attached townhouses and would include new landscaping and a walking trail. The proposed project would result in permanent residents to San Carlos or the region. Based on the 2.53-person average household size within the City of San Carlos, the proposed project would host 220 residents.[5]

Development of the proposed project would involve demolition and construction activities that could generate some temporary employment opportunities; however, given the temporary nature of such opportunities, it is unlikely that construction workers would relocate to San Carlos as a result of the proposed project. Thus, the proposed project would not be considered growth-inducing from an employment perspective.

[5] California Department of Finance, 2021, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark, https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed February 2, 2022.

Additionally, any future development in the area of the proposed project would be considered a separate project under CEQA and would undergo its own environmental review under CEQA. Overall, the proposed project would not be considered to have substantial adverse growth-inducing impacts.

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This Draft EIR was prepared by the following consultants and individuals:

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8. List of Acronyms and Abbreviations

The following is a complete list of the acronyms and abbreviations referenced in this Draft EIR. While the name will be spelled out the first time it is used in each chapter of this Draft EIR, this chapter provides a quick reference for those who will not be reading the entire document.

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
ABAG	Association of Bay Area Governments
ACM	asbestos-containing materials
Air District	Bay Area Air Quality Management District
APN	Assessor's Parcel Number
AQMP	air quality management plan
BAHM	Bay Area Hydrology Model
Bgs	below ground surface
BMP	best management practice
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAFÉ	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
California Register	California Register of Historic Resources
Caltrans	California Department of Transportation
Cal Water	California Water Service
CARB	California Air Resources Board
CBC	California Building Code
C/CAG	City/County Association of Governments
CCE	Community Choice Energy
CEC	California Energy Commission
CEQA	California Environmental Quality Act

LIST OF ACRONYMNS AND ABBREVIATIONS

CFC	California Fire Code
CFD	Community Facilities District
cfs	cubic feet per second
CHBC	California Historical Building Code
CMAP	Climate Mitigation and Adaptation Plan
CO	Carbon monoxide
CO_2e	Carbon dioxide-equivalent
CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
CWA	Clean Water Act
du/ac.	dwelling units per acre
DMA	drainage management areas
DU/ac	dwelling units per acre
DWR	Department of Water Resources
EIR	Environmental Impact Report
EMS	emergency medical services
EO	Executive Order
EV	electric vehicle
FAR	floor area ratio
FIRM	Flood Insurance Rate Map
GCP	General Construction Permit
GHG	greenhouse gas
gpm	gallons per minute
GWP	Global warming potential
HOA	homeowners' association
HRA	health risk assessment
HVAC	Heating, Ventilation and Air Conditioning
I-	Interstate
IPCC	Intergovernmental Panel on Climate Change
ISO	Insurance Services Office
JPA	Joint Power Authority

LIST OF ACRONYMNS AND ABBREVIATIONS

LBP	lead-based paint
lead agency	Lead Agency
LID	low-impact development
MEIR	maximum exposed individual resident
$MMTCO_2e$	Million metric tons of carbon-dioxide equivalent
MPG	miles per gallon
MS4	municipal separate storm sewer system
MTC	Metropolitan Transportation Commission
$MTCO_2e$	Metric ton of carbon-dioxide equivalent
MWELO	Model Water Efficient Landscape Ordinance
NAHC	Native American Heritage Commission
NO_x	nitrogen oxides
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
NWIC	Northwest Information Center
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHP	State Office of Historic Preservation
PCB	polychlorinated biphenyl
Pb	lead
PCE	Peninsula Clean Energy
PDA	Priority Development Area
PG&E	Pacific Gas & Electric Company
$PM_{2.5}$	fine inhalable particulate matter
PM_{10}	coarse inhalable particulate matter
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
PRD	Permit Registration Document
RC-SCFD	Redwood City-San Carlos Fire Department

LIST OF ACRONYMNS AND ABBREVIATIONS

RHNA	Regional Housing Needs Allocation
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTIP	regional transportation improvement program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel Efficient
SB	Senate Bill
SBWMA	South Bay Waste Management Authority
SCMC	San Carlos Municipal Code
SCP	Stormwater Control Plan
SCPB	San Carlos Police Bureau
SCS	Sustainable Community Strategy
SFBAAB	San Francisco Bay Area Air Basin
SFO	San Francisco International Airport
SFPUC	San Francisco Public Utilities Commission
SMARTS	Stormwater Multiple Application and Report Tracking System
SMCLSP	San Mateo County Libraries Strategic Plan
SMCSO	San Mateo County Sheriff's Office
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SO_2	sulfur dioxide
SR	SR
SRDC	Shoreway Recycling and Disposal Center
SRP	Stormwater Resource Plan
SWMP	Stormwater Management Plant
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCR	Tribal Cultural Resource
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Load
TTCP	traditional tribal cultural places

LIST OF ACRONYMNS AND ABBREVIATIONS

UCMP	University of California Museum of Paleontology
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirement
WPA	Workers Progress Administration
ZNE	zero net energy

LIST OF ACRONYMNS AND ABBREVIATIONS

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