908 Ocean Street Mixed-Use Development

Draft Environmental Impact Report

October 2024

SCH #: 2024050531

CITY OF SANTA CRUZ

Kimley»Horn

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Prepared for

City of Santa Cruz

Planning and Community Development Department

Prepared by

Kimley-Horn & Associates

October 2024

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1 Introduction

1.1 Purpose of the EIR

This EIR has been prepared for the City of Santa Cruz (City), which is the lead agency for the 908 Ocean Street Mixed-Use Development (the Project). This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), which is found in the California Public Resources Code, Division 13, and with the State CEQA Guidelines, which are found in Title 14 of the California Code of Regulations, commencing with section 15000. Under CEQA, the lead agency for a project is the public agency with primary responsibility for carrying out or approving the Project, and for implementing the requirements of CEQA.

As stated in the CEQA Guidelines section 15002, the basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons a governmental agency approved the Project in the manner the agency chose if significant environmental effects are involved.

Pursuant to CEQA Guidelines Section 15121, an EIR is an informational document that is required to (1) identify the potentially significant environmental effects of a project on the environment, (2) indicate the manner in which those significant effects can be avoided or significantly lessened via the implementation of potentially feasible mitigation measures, (3) identify a reasonable range of potentially feasible alternatives to a project that would eliminate or substantially lessen any significant environmental effects, and (4) identify any significant and unavoidable adverse impacts that cannot be mitigated or otherwise reduced. The lead agency must consider the information in the EIR along with other information which may be presented to the agency. While the information in the EIR does not control the ultimate decision about a project, the agency must consider the information in the EIR and respond to each significant effect identified in the EIR by making findings pursuant to Public Resources Code Section 21081.

Pursuant to CEQA (Public Resources Code section 21002), public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which would substantially lessen the significant environmental effects of such projects. Pursuant to section 15021 of the State CEQA Guidelines, CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible. In deciding whether changes in a project are feasible, an agency may consider specific economic, environmental, legal, social, and technological factors. According to the State CEQA Guidelines, “feasible” means capable of

being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. This section further indicates that CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors, and an agency shall prepare a "statement of overriding considerations" as to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment. The environmental review process is further explained below in subsection 1.4 Environmental Review and Approval Process.

1.2 Project Overview

The Project consists of Residential and Non-Residential Demolition Authorization Permits, Heritage Tree Removal Permit, Minor Land Division, Design Permit, Special Use Permit, and Density Bonus Request to demolish four commercial buildings (15,433 square feet) and 12 residential structures, remove 16 heritage trees, and construct a mixed-use development in three condominium lots with 389 residential units and 9,570 square feet of commercial space. The Project is requesting a 42.5% density bonus from a base density project of 273 units. A full description of the Project is presented in Section 3.

1.3 Scope of the EIR

An Initial Study was prepared for the Project to determine the scope and extent of environmental issues to be addressed in this EIR and is included in Appendix A. The Initial Study identifies potentially significant impacts and discusses issues that were found to result in no impacts or less-than-significant impacts. The discussion/analyses in the Initial Study of impacts that are not being addressed in detail in the text of the Draft EIR are intended to satisfy the requirement of CEQA Guidelines section 15128 that 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 therefore were not discussed in detail in the EIR."

Based on the analyses in the Initial Study and responses to the Notice of Preparation (NOP), as discussed below, this EIR evaluates potentially significant impacts for the topics listed below. The EIR also evaluates topics required by CEQA and CEQA Guidelines, including growth inducement, project alternatives, and cumulative impacts. The environmental analysis for this EIR includes:

- Air Quality
- Cultural Resources and Tribal Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use & Planning

- Public Services (Police and Fire Protection Services and Parks/Recreation)
- Utilities and Service Systems (Water Supply and Solid Waste Disposal)

As indicated above, the environmental review focuses on the potentially significant environmental effects of the Project. As defined in CEQA Guidelines Section 15382, a "significant effect on the environment" is "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether a physical change is significant."

In evaluating the significance of the environmental effect of a project, the CEQA Guidelines require the lead agency to consider direct physical changes in the environment and reasonably foreseeable indirect physical changes in the environment which may be caused by the Project (CEQA Guidelines Section 15064[d]). A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the Project. An indirect physical change in the environment is a physical change in the environment, which is not immediately related to the Project, but which is caused indirectly by the Project. An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the Project.

CEQA Guidelines Section 15064(e) further indicates that economic and social changes resulting from a project shall not be treated as significant effects on the environment, although they may be used to determine that a physical change shall be regarded as a significant effect on the environment. In addition, where a reasonably foreseeable physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the Project.

1.4 Environmental Review and Approval Process

1.4.1 Scoping

CEQA Guidelines Section 15083 authorizes and encourages an early consultation or scoping process to help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed and considered in an EIR, and to help resolve the concerns of affected regulatory agencies, organizations, and the public. Scoping is designed to explore issues for environmental evaluation, ensuring that important considerations are not overlooked and uncovering concerns that might otherwise go unrecognized.

The NOP for this EIR was circulated for a 30-day comment period from March 14, 2024, to April 15, 2024, and a website link to the supporting Initial Study was provided (see Appendix A). The NOP was circulated to the State Clearinghouse and to local, regional, and federal agencies in accordance with the CEQA Guidelines. The NOP also was sent to organizations and interested

citizens that have requested notification for City projects. A virtual public scoping meetings was held on April 10, 2024. Due to a problem with submittal to the State Clearinghouse, the NOP was re-submitted to the State Clearinghouse for circulation to state agencies from May 13, 2024, to June 11, 2024.). No public comments were received were received during the public scoping period (including the public scoping meeting) in response to the Notice of Preparation (NOP). Agency comments were received from the California Department of Fish and Wildlife (CDFW), the California Department of Transportation (Caltrans), and the California Native American Heritage Commission INAHC) and are included in Appendix A. To the extent that issues identified in public comments involve potentially significant effects on the environment according to CEQA and/or are raised by responsible agencies, they are identified and addressed within this EIR.

1.4.2 Public Review Draft EIR

The Draft EIR will be published and circulated for review and comment by the public and other interested parties, agencies, and organizations for a 45-day public review period from October 2, 2024, through November 15, 2024.

The Draft EIR will be available for public review during the comment period at the following locations:

- City of Santa Cruz Planning and Community Development Department, located at 809 Center Street, Room 101, from 7:30 to 11:30 AM, Monday through Thursday.
- Reference Desk of the Downtown Public Library, located at 224 Church Street.
- Online at: https://www.cityofsantacruz.com/government/city-departments/planning-and-community-development/planning-division/active-planning-applications-and-status/significant-project-applications/908-ocean-street-new.

Written comments on the Draft EIR may be submitted to the City of Santa Cruz at the address below or may be submitted by email by 5:00 pm on November 15, 2024, to:

Ryan Bane, Senior Planner
City of Santa Cruz Planning and Community Development Department
809 Center Street, Room 101
Santa Cruz, CA 95060
rbane@santacruzca.gov

The City of Santa Cruz encourages public agencies, organizations, community groups, and all other interested persons to provide written comments on the Draft EIR prior to the end of the 45-day public review period. CEQA Guidelines Section 15204(a) provides guidance on the focus of review of EIRs, indicating that in reviewing draft EIRs, persons and public agencies “should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the Project might be avoided or

mitigated," and that comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. This section further states that "reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the Project at issue, the severity of its likely environmental impacts, and the geographic scope of the Project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR."

1.4.3 Final EIR and Consideration of Project Approval

Following the close of the public and agency comment period on this Draft EIR, responses will be prepared for all comments received during the public review period that raise CEQA-related environmental issues regarding the Project. The responses will be published in the Final EIR. The Final EIR will include written responses to any significant environmental issues raised in comments received during the public review period in accordance with State CEQA Guidelines section 15088. The Final EIR also will include Draft EIR text changes and additions that become necessary after consideration of public comments.

The Final EIR document, which includes the Draft EIR document, will be presented to the City Planning Commission for a final decision on the Project. Prior to making a decision to approve a project, the Planning Commission must certify that it has reviewed and considered the information in the EIR, that the EIR has been completed in conformity with the requirements of CEQA, and that the document reflects the City's independent judgment.

Pursuant to sections 21002, 21002.1 and 21081 of CEQA and sections 15091 and 15093 of the State CEQA Guidelines, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects unless both of the following occur:

(a) The public agency makes one or more of the following findings with respect to each significant effect:

1. Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects on the environment.
2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the Project outweigh the significant effects on the environment.

The decision to approve a project must take into account the findings described above, especially regarding feasibility, based on the entirety of the agency's administrative record as it exists after completion of a Final EIR.

1.4.4 Adoption of Mitigation Monitoring & Reporting Program

CEQA requires that a program to monitor and report on mitigation measures be adopted by a lead agency as part of the Project approval process. CEQA requires that such a program be adopted at the time the agency approves a project or determines to carry out a project for which an EIR has been prepared to ensure that mitigation measures identified in the EIR are implemented. The Mitigation Monitoring and Reporting Program will be included in the Final EIR.

The Santa Cruz Planning Commission is the decision-making body tasked with certification of the Final EIR, approval of the Project, and adoption of CEQA Findings and the Mitigation Monitoring and Reporting Program.

1.5 Use of the EIR

The EIR includes a "project-level" analysis, meaning that no additional CEQA review should be required if the Project is approved and constructed without change. Pursuant to CEQA Guidelines Section 15161, the EIR examines all phases of the Project including construction and operation.

The City of Santa Cruz is the lead agency and responsible for approving and implementing the Project. CEQA requires that decision makers review and consider the EIR in their consideration of this Project. Other agencies with discretionary permit authority over the Project may also consider the EIR in making their approvals. See Chapter 3 Project Description, for a complete list of permits and approvals that apply to the Project.

1.6 Organization of the EIR

The content and format of this Draft EIR are designed to meet the requirements of CEQA and the CEQA Guidelines (sections 15122 through 15132). This Draft SEIR is organized into the following chapters:

Chapter 1 Introduction explains the CEQA process, and describes the scope and purpose of this EIR, provides information on the review and approval process, and outlines the organization of this EIR.

Chapter 2 Summary presents an overview of the Project, provides a summary of the impacts of the Project and mitigation measures, provides a summary of the alternatives being considered, includes a discussion of known areas of controversy, and any issues to be resolved.

Chapter 3 Project Description provides information about the location, setting, and background for the Project; identifies project-specific objectives; provides a detailed description of the Project elements and components; and lists the likely approvals for the Project.

Chapter 4 Introduction to the Environmental Analysis explains the approach to the environmental analysis for this Draft SEIR and includes an overview of the cumulative projects considered in the analysis, and topics that do not warrant further analysis.

Chapters 5 through 12 explains the approach to the environmental analyses conducted for this EIR and provides the environmental setting, impacts, and mitigation measures for the topics identified for detailed analysis in the EIR. Each topical chapter in this Draft EIR presents information in two parts.

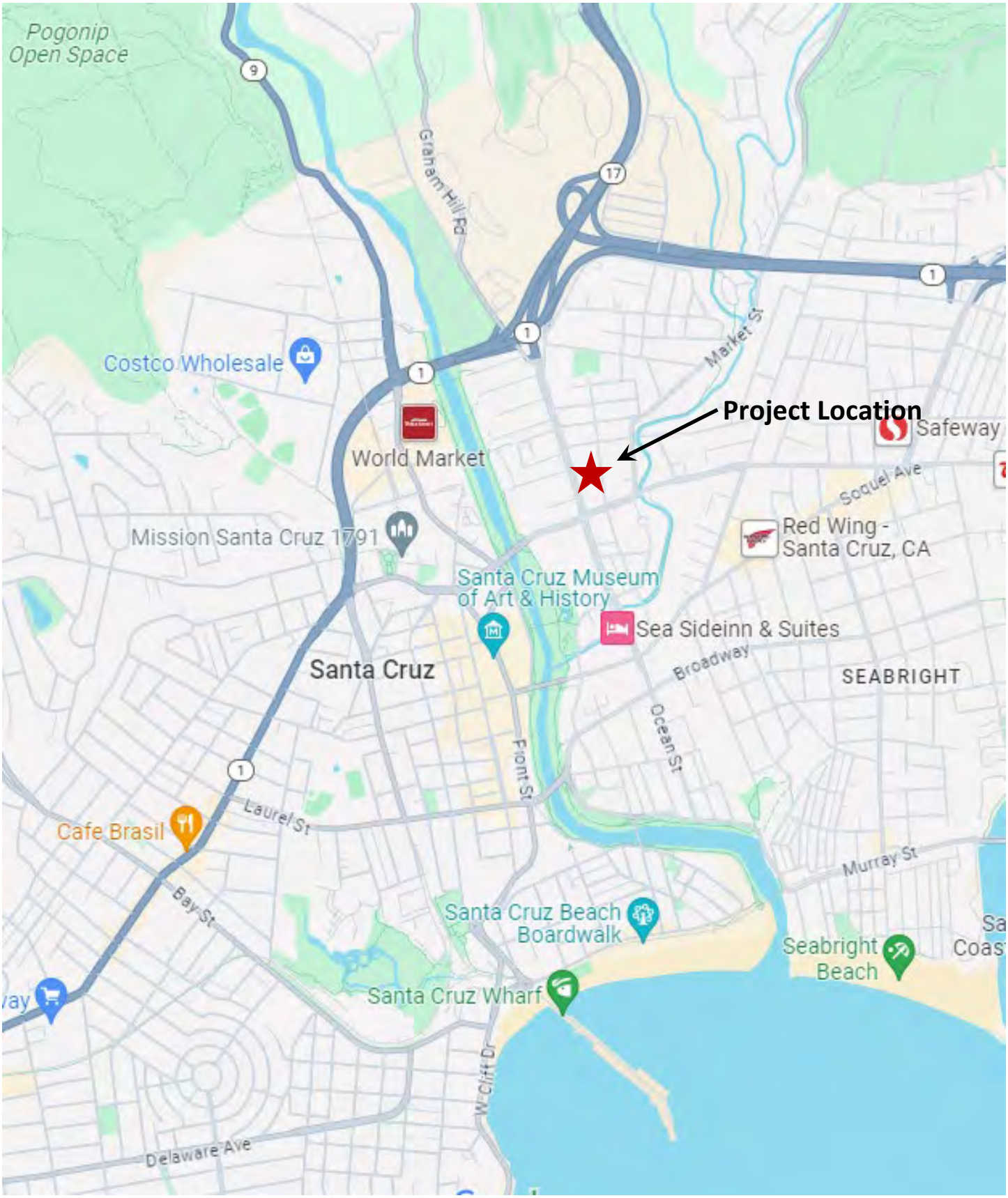
- Environmental Setting provides an overview of the existing conditions on and adjacent to the Project site. Local, State and federal regulations also are identified and discussed, when relevant.
- Impacts and Mitigation Measures provides an outline of the thresholds used to evaluate whether an impact is considered significant based on standards identified in the State CEQA Guidelines and the City's CEQA Guidelines. Agency policies, regulations or standards and/or professional judgment also are used to further define what actions may cause significant effects. Any Project feature or element that may cause impacts, as well as Project features that may serve to eliminate or reduce impacts, will be identified and addressed for both direct and reasonably foreseeable indirect impacts. Mitigation measures that would reduce significant impacts are identified. The significance of the impact after mitigation also is identified. For impacts found to be less-than-significant, mitigation measures are not required, but where relevant, the EIR recommends Project modifications or appropriate conditions of approval.

Chapter 13 CEQA Considerations evaluates the topics required by CEQA to be included in an EIR, including significant and unavoidable impacts, significant irreversible environmental changes, growth-inducing impacts and cumulative impacts.

Chapter 14 Alternatives identifies alternatives to the Project that were considered and evaluates the required No Project alternative and three other alternatives were identified to avoid or lessen identified significant impacts.

Chapter 15 References and EIR Preparation, identifies all agencies contacted during the preparation of the EIR, and individuals who were involved in preparing this EIR.

Appendices contain additional information (e.g., technical studies) used in preparing this EIR.



Source: Kimley-Horn, 2024

Figure 1-1 Project Location

908 Ocean Street Mixed-Use Development
Draft EIR

Kimley»Horn

Not to scale

2 Summary

2.1 Introduction

This environmental impact report (EIR) evaluates the potential for significant environmental impacts from the proposed 908 Ocean Street Mixed-Use Development Project (the Project). This summary highlights the major areas of importance in the environmental analysis for the Project, as required by Section 15123 of the California Environmental Quality Act (CEQA) Guidelines. It also provides a brief description of the Project, alternatives to the Project, and areas of controversy known to the City of Santa Cruz (City). In addition, this chapter provides a table summarizing: (1) the potential environmental impacts that would occur as the result of the Project; (2) the level of impact significance before mitigation; (3) the proposed mitigation measures that would avoid or reduce significant environmental impacts; and (4) the level of impact significance after mitigation measures are implemented.

2.2 Project Overview

The Project site is located within the City of Santa Cruz. The Project consists of Residential and Non-Residential Demolition Authorization Permits, Heritage Tree Removal Permit, Minor Land Division, Design Permit, Special Use Permit, and Density Bonus Request to demolish four commercial buildings (15,433 square feet) and 12 residential structures, remove 16 heritage trees, and construct a mixed-use development in three condominium lots with 389 residential units and 9,570 square feet of commercial space. The Project is requesting a 42.5% density bonus from a base density project of 273 units. A full description of the Project is presented in Section 3.

2.3 Summary of Impacts and Mitigation Measures

All impacts identified in the environmental analyses are summarized in this section. This summary groups impacts of similar ranking together, beginning with significant unavoidable impacts, followed by significant impacts that can be mitigated to a less-than-significant level, followed by less-than significant impacts and topics where no impacts were identified.

2.3.1 Significant Unavoidable Impacts

The following impacts were found to be potentially significant, and while mitigation measures have been identified in some cases, the impact cannot be reduced to a less-than-significant level. Chapter 15 Project Alternatives examines alternatives to eliminate or reduce the level of significance of these impacts.

Impact CUL-1: Historical Resources. Project development would cause a substantial adverse change in the significance of a historical resource due to demolition (CUL-1).

Implementation of Mitigation Measures CUL-1.1 would reduce the impact, but not to a less-than-significant level; therefore, the impact would remain significant and unavoidable.

Alternatives to protect or relocation the eligible historic building at 130 Hubbard Street is discussed in Chapter 14 Alternatives.

Mitigation Measure CUL-1.1 Historic Documentation of the Structure at 130 Hubbard Street

Complete documentation of the historic building at 130 Hubbard Street prior to alteration or demolition in accordance with Historic American Buildings Survey (HABS) standards, which includes the following:

- Project proponent shall work with a qualified architectural historian to prepare local-level HABS documentation, as detailed below. HABS level photographs must be completed prior to demolition and construction of the Project. The full HABS documentation must be complete prior to completion of the Project. Copies of the HABS shall be provided to local Santa Cruz repositories.
- Measured Drawings: Select existing drawings, where available, should be reproduced on mylar. If existing historic drawings do not exist, a digital and hard copy set of measured drawings that depict the existing size, scale, and dimension of the subject property shall be produced. The measured drawing set shall include a site plan, sections, and other drawings as needed to depict existing conditions of the property. The scope of the drawing package will be reviewed and approved by local Planning Department staff prior to commencement of the task. All drawings shall be created according to the latest HABS Drawings Guidelines by the National Park Service. The measured drawings shall be produced by a qualified professional who meets the standards for architecture set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61).
- HABS-Level Photographs: Black and white large format negatives and prints of the interior, exterior, and setting of the subject property shall be produced. The photographs must adequately document the character-defining features and setting of the historic resource. Planning Department staff will review and approve the scope (including views and number) of photographs required prior to the commencement of this task. All photography shall be conducted according to the latest HABS Photography Guidelines by the National Park Service. The photographs shall be produced by a qualified professional photographer with demonstrated experience in HABS photography.
- HABS Historical Report: A written narrative historical report, per HABS Historic Report Guidelines, shall be produced. The report shall include historical information, including the physical history and historic context of the building, and an architectural description of the site setting, exterior, and interior of the building. The report shall be prepared by a qualified professional who meets the standards for history or architectural history set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). Archival copies of the drawings, photographs, and report shall be submitted to the Planning Department, and to repositories including but not limited to the San Francisco Public Library, Northwest Information Center, and California

Historical Society. This mitigation measure would create a collection of reference materials that would be available to the public and inform future research.

2.3.2 Significant Impacts

The following impacts were found to be potentially significant but could be reduced to a less-than-significant level with implementation of identified mitigation measures should the City's decision-makers impose the measures on the Project at the time of final action on the Project.

Impact CUL-4: Tribal Cultural Resources. Project development could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 resource (CUL-4).

Implementation of Mitigation Measures CUL-2.1 would reduce this impact to a *less-than-significant* level.

Mitigation Measure CUL-2.1 Tribal Monitoring and Cultural Sensitivity Training

Require Native American monitoring by a representative of the Amah Mutsun Tribal Band to include cultural sensitivity training for construction workers and tribal monitoring during ground disturbing construction on the Project site and require monitoring during excavation by a qualified archaeologist.

Impact HAZ-2/4: Release of Hazardous Materials. Demolition and excavation activities have the potential to create a significant hazard to the public or environment due to the improper handling, transportation, and disposal of impacted soils and hazardous building materials (HAZ-2 and 4).

Implementation of MM HAZ-1-1 Soil and Groundwater Management Plan and MM HAZ-1-2 Pre-Demolition Survey of Lead-Based Paints and Asbestos and compliance with federal, State, and local regulations would reduce the impact to a *less-than-significant* level.

MM HAZ-1-1 Soil and Groundwater Management Plan

Prior to issuance of Residential and Non-Residential Demolition Authorization Permits, a Soil and Groundwater Management Plan (SGMP) shall be prepared and implemented for management of impacted (contaminated) soils that are encountered during construction and excavation activities. The SGMP should outline soil handling, testing, and disposal requirements. The SGMP should also include health and safety procedures for onsite workers, transportation requirements, dust control techniques, and monitoring and reporting requirements. The SGMP and subsequent soil removal work should be overseen by an environmental remediation professional with experience in contaminated soil removal and disposal. Records of removal and final disposition of soil, including but not limited to analytical

reports, trucking logs, onsite monitoring and field logs, and dump receipts, shall be maintained by the Project Applicant.

MM HAZ-1-2 Pre-Demolition Survey of Lead-Based Paints and Asbestos

Prior to issuance of Residential and Non-Residential Demolition Authorization Permits, buildings on the Project site shall be surveyed and evaluated for the presence of lead-based paints (LBPs) and/or asbestos containing materials (ACM). Any buildings that contains LBPs or ACM above applicable regulatory levels shall be properly abated in accordance with rules and regulations applicable for asbestos removal and disposal. The following best management practices are recommended:

- Remove and dispose of ACM prior to renovation using a licensed abatement contractor in accordance with federal, state, and local regulations and ordnances.
    - Bid packages should include specifications for renovation to control ACM and ensure appropriate removal techniques.
    - Third party oversight should be contracted to document appropriate abatement techniques and equipment are used, and proper disposal is achieved.
- Maintenance and renovation activities involving less than 100 square feet of ACM would include the following precautions:
    - No cutting, sanding, or drilling of ACM or suspect ACM.
    - Wetting ACM or suspect ACM prior to activities which could disturb the material.
    - Dust removal with HEPA filtration vacuums or wet wiping with disposable towels.
    - Adherence to federal, state, and local regulations for property ACM disposal.
- Flaking or peeling LBP should be removed by a licensed lead abatement contractor following applicable federal, state, and local regulations.
    - The renovation contractor should implement health and safety according to OSHA 29 CFR 1926.62, Lead in Construction.
    - Dispose of all painted material as construction debris in accordance with federal, state, and local regulations; debris containing LBP should not be recycled.

2.3.3 Less-Than-Significant Impacts

The following impacts were found to be less-than-significant. Mitigation measures are not required.

Impact AIR-2: Criteria Pollutant Emissions. The Project would result in emissions of criteria pollutants, but would not exceed adopted thresholds of significance, violate any air quality standard or contribute substantially to an existing or projected air quality violation (AIR-2).

Impact AIR -3: Exposure of Sensitive Receptors. The Project would not expose sensitive receptors to substantial pollutant concentrations during short- term construction or during long-term operations (AIR-3).

Impact ENE-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Construction and operation of the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources (ENE-1).

Impact GHG-1: Greenhouse Gas Emissions. The Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment (GHG-1).

Impact GHG-2: Conflict with an Applicable GHG Reduction Plan. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (GHG-2).

Impact LAND-2: Conflicts with Policies and Regulations. The Project would not conflict with policies or regulations, adopted for the purpose of avoiding or mitigating an environmental effect (LAND-2).

Impact PUB-1a: Fire Protection. The Project would result in increased population that would result in increased fire protection and emergency service demands, which could result in the need to construct new or expanded fire stations, however, the impacts of fire station construction or expansion are not expected to be significant (PUB-1a).

Impact PUB-1b: Police Protection. The Project would result in increased population that would result in increased police protection service demands but would not result in the need to construct new or expanded police facilities (PUB-1b).

Impact PUB-1c: Parks. The Project would result in increased population that would result in increased demands for parks but would not result in the need to expand existing parks or acquire new parks (PUB-1c).

Impact PUB-2: Parks and Recreation. The Project would result in increased population that would result in increased use for some parks and recreational facilities but would not result in some deterioration of existing parks and recreational facilities (PUB-2).

Impact UTIL-2: Water Supply. The Project would result in new development with a demand for potable water in a system that, under existing conditions, has adequate supplies during normal years and single-dry years, but is subject to potential supply shortfalls during the fourth and fifth years of a multi-year drought scenario. The additional Project demand would not result in a substantial increase in water demand during dry years and would not be of a magnitude to affect the level of curtailment that might be in effect (UTIL-2).

Impact UTIL-4/5: Solid Waste Generation. The Project would result in increased population associated with the development of new residential units that would result in increased generation of solid waste. However, the project would not result in the generation of solid waste in excess or state or local standards, or of the capacity of local infrastructure, or impair attainment of solid waste reduction goals (UTIL-4 and UTIL-5).

2.3.4 Impacts Not Found to be Significant

The EIR found no impacts for the following:

Impact ENE-2: Conflict with an Applicable Renewable Energy or Energy Efficiency Plan. The Project would not result in conflicts with or otherwise obstruct a state or local plan for renewable energy or energy efficiency (ENE-2).

The discussion in the Initial Study of impacts that are not being addressed in detail in the text of the Draft EIR are intended to satisfy the requirement of CEQA Guidelines section 15128 that 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 therefore were not discussed in detail in the EIR." The Initial Study is included in Appendix A of this EIR.

Based on the scope of the Project and the analyses provided in the Initial Study (see Appendix A), the following were found be less-than-significant impacts. These environmental resource topics, therefore, are not subject to further detailed analysis in the EIR:

- Aesthetics: Conflict with regulations governing scenic quality and light and glare
- Biological Resources: Nesting birds and conflicts with heritage tree regulations
- Cultural Resources: Archaeological resources
- Geology and Soils: Seismic hazards, erosion, expansive soils and paleontological resources
- Hydrology and Water Quality: water quality and stormwater drainage
- Noise and Vibration: Temporary and permanent noise increases and vibration
- Population and Housing: Population growth inducement
- Transportation: Vehicle Miles Traveled (VMT)
- Utilities and Service Systems: Wastewater treatment

Based on the scope of the Project and the analyses provided in the Initial Study (see Appendix A), no impacts were identified for the following topics. These environmental resource topics, therefore, are not subject to further detailed analysis in the EIR:

- Aesthetics: Scenic views and scenic resources
- Agricultural and Forestry Resources
- Air Quality: Conflict with Air Quality Management Plan and odors

- Biological Resources: Special status species, sensitive habitat, wildlife movement and conflicts with adopted Habitat Conservation or Natural Community Conservation Plans
- Geology and Soils: Geologic hazards and septic system suitability
- Hazards and Hazardous Materials: Creation of significant hazard, hazardous emissions near schools, interfere with emergency response or evacuation plans and exposure to wildland fire
- Hydrology and Water Quality: Waste discharges, groundwater, flood hazards and conflicts with plans
- Land Use: Physical division of an established community
- Mineral Resources
- Noise and Vibration: Airport noise
- Population and Housing: Displacement of people or housing
- Recreation: New recreational facility impacts
- Transportation: Conflicts with policies, hazards due to design and emergency access
- Utilities and Service Systems: Relocation or construction of utilities
- Wildfire

2.4 Alternatives to the Project

CEQA Guidelines Section 15126.6 requires that an EIR describe and evaluate alternatives to the Project that feasibly attain most of the basic objectives of the Project and would avoid or substantially lessen any of the significant effects of the Project. The following alternatives are evaluated in Chapter 14 Alternatives:

- No Project Alternative: Required by CEQA
- Alternative 1: Preservation of Historical Resource
- Alternative 2: Relocation of Historical Resource
- Alternative 3: Reduced Project Size

Table 14-1: Comparison of Significant Impacts: Project and Alternatives, presents a comparison of project impacts between the proposed Project and the alternatives. The No Project Alternative would avoid all impacts identified for the proposed Project. Of the other projects considered, Alternative 1 and 2 would reduce the significant unavoidable historical resource impact to less-than-significant although there is the possibility that the reconstructed and rehabilitated historical buildings under this alternative may not meet the Secretary of Interior Standards for Reconstruction, and therefore, the impact may remain significant and unavoidable.

2.5 Known Areas of Controversy or Concern

The City of Santa Cruz, as the Lead Agency, has identified areas of concern based on agency comments received on the EIR Notice of Preparation (NOP). Three comments from state agencies were received regarding the Project and are included in Appendix A, and included comments on what should be included in environmental analyses. No public comments were received that identify potential areas of controversy or concern.

2.6 Issues to be Resolved

CEQA Guidelines section 15123 requires the Summary to identify "issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." This EIR has presented mitigation measures and project alternatives, and the City Planning Commission will consider the Final EIR when considering the Project. In considering whether to approve the Project, the Planning Commission will take into consideration the environmental consequences of the Project with mitigation measures and project alternatives, as well as other factors related to feasibility.

"Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (State CEQA Guidelines, section 15364). Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or already owns the alternative site). No one of these factors establishes a fixed limit on the scope of reasonable alternatives. The concept of feasibility also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. Moreover, feasibility under CEQA encompasses "desirability" to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.

3 Project Description

3.1 Project Location and Setting

The Project site is located within the City of Santa Cruz, which is located along the northern shore of Monterey Bay, approximately 75 miles south of San Francisco, 30 miles south of San Jose and 40 miles north of Monterey. As shown in Figure 1-1, Project Location, the approximate 4.15-acre[1] Project site is located on Ocean Street to the east of downtown Santa Cruz in the Ocean Street neighborhood of the City as defined in the City's General Plan. The Project site is bounded by Ocean Street on the west, Hubbard Street on the north, May Avenue on the east, and commercial properties fronting Water Street on the south. The Project site is located in a neighborhood that is generally characterized by commercial uses along Ocean Street, a mix of commercial and residential uses along May Avenue and residential uses east of May Avenue.

The Project site consists of 21 parcels with existing commercial and residential buildings (APNs: 008-331-03, -04, -05, -06, -07, -08, -12, -13, -14, -15, -25, -26, -27, -28, -29, -30, -31, -32, -35, -41, -45). There are four commercial structures and 12 residential structures totaling 30,550 square feet (sf) and associated surface parking. Existing land uses include vacant and occupied residential and commercial structures. The Project site is generally flat and contains 37 planted trees, of which 18 are heritage trees per City regulations. Five of the heritage trees are street trees located in sidewalk cutouts on Ocean Street.

3.2 Project Purpose and Objectives

Section 15124 of the State CEQA Guidelines indicates that the EIR Project Description shall include a statement of the objectives sought by the Project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project.

The Project is located within the Ocean Street Area Plan ("Plan"), which was developed by the City of Santa Cruz ("City") in 2014 to revitalize the Ocean Street corridor and create a vibrant gateway to Santa Cruz. The Plan identifies the Project site as a "Catalyst Site" that could accommodate a mixed-use building. The Project is identified as a Pipeline Project in the Housing Element and will contribute to the City's 6th Cycle RHNA requirements. The Project's objectives support the City's plans and are identified below:

[1] The Initial Study incorrectly described the Project site as being 14.54 acres. This has been corrected in this EIR.

1. Redevelop an underutilized site identified as a "Catalyst Site" in the Ocean Street Area Plan with a high-quality, mixed-use project with residential and commercial uses that improves the vitality of the Ocean Street corridor.
2. Support goals of the Housing Element to:
    a. Provide a diversity in housing types, from studios to 4-bedroom units, and affordability levels, including very low income, low income and market-rate units, to accommodate the present and future housing needs of Santa Cruz residents. (Policy 2.1, Goal 2).
    b. Provide affordable units at a lower level of affordability than that which is required by the City's Inclusionary Ordinance. (Policy 6.2b, Goal 2).
    c. Develop high density housing in an infill location proximate to transit, recreational amenities and retail options. (Policy 1.2, Policy 7.3a).
3. Construct a project that will contribute to the City's housing needs while promoting an environmentally sustainable and compact infill community.
4. Develop ground floor commercial spaces that activate street frontages and support a mix of retailers to serve residents and visitors alike.
5. Develop a well-designed project with broad amenity offerings for future residents that will be a desirable place to live.
6. Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.
7. Develop a Project that implements design and circulation concepts and goals set forth in the Ocean Street Area Plan.

3.3 Project Characteristics

3.3.1 Project Overview

The Project consists of Residential and Non-Residential Demolition Authorization Permits, Heritage Tree Removal Permit, Minor Land Division, Design Permit, Special Use Permit, and Density Bonus Request to demolish four commercial buildings (15,433 square feet)and 12 residential structures, remove 16 heritage trees, and construct a mixed-use development in three condominium lots with 389 residential condominium units and 9,570 square feet of commercial space. The Project is requesting a 42.5% density bonus from a base density project of 273 units.

3.3.2 Project Components

Minor Land Division

As shown in Figure 3-1 Vesting Tentative Parcel Map, the existing 21 parcels would be combined into one parcel, totaling 4.15-acres. Each of the three proposed buildings would be on a separate condominium lot; the total number of lots will be four (three condominium lots and one common lot) that comprises the proposed Minor Land Division.

Demolition Plan

As shown in Figure 3-2 Demolition Plan and Table 3-1: Existing Structures to be Demolished, the Project site currently contains four commercial structures and 12 residential structures that total 30,550 square feet (sf) with associated surface parking, all of which would be demolished.

Table 3-1: Existing Structures to be Demolished

ID	Address	Existing Use	Building Area (sf)	Status
R-1	130 Hubbard St	Residential	2,529	Occupied
R-2	451 May	Residential	1,993	Vacant
R-3	451 May	Residential	889	Occupied
R-4	1014 Ocean	Residential	1,288	Occupied
R-5	1010 Ocean	Residential	1,663	Vacant
R-6	1010 Ocean	Residential	350	Vacant
R-7	1010 Ocean	Residential	83	Garage Structure
R-8	1008 Ocean	Residential	1,472	Occupied
R-9	1004 Ocean	Residential	792	Occupied
R-10	928 Ocean	Residential	1,400	Occupied
R-11	431 May	Residential	2,232	Vacant
R-12	423 May	Residential	897	Vacant
C-1	130 Hubbard /457 May	Commercial	1,032	Vacant
C-2	920 Ocean	Commercial	12,254	Occupied (Hot Tub)
C-3	431 May	Commercial	561	Occupied (Storage)
C-4	902 Ocean	Commercial	1,115	Occupied (Togo's)
Total			**30,550**	

Source: High Street Residential, 2024.

Project Development Elements

The Project would include three buildings – Building A (433,585 gross square feet [sf]), a five-story building with basement (garage parking), and two three-story buildings (Building B [62,952 gross sf] and Building C [46,260 gross sf]). Residential uses are proposed on all floors except in the below grade parking garage. The proposed commercial space is located on the ground floor. Residential amenities are proposed on the ground floor. Figure 3-3 Composite Site Plan provides an illustrative site plan of the Project.

The proposed 389 residential units consist of 46 studio units, 206 one-bedroom units, 120 two-bedroom units, 15 three-bedroom units, and two four-bedroom units. Proposed residential amenities, totaling 12,236 sf, include a resident co-workspace, fitness gym, lounge, and club room (located on the first, second, and fifth floors). An outdoor pool for residents is proposed on the second-floor courtyard of Building A. See Figure 3-4 Floor Plan – First (Ground) Level and Figure 3-5 Floor Plan - Second Level that illustrate the typical uses and layout.

The commercial space, totaling 9,570 sf, is proposed on the ground floor of Building A fronting Ocean Street. Existing commercial uses on the Project site total approximately 14,965 sf,[2] and thus, the Project would result in a net decrease in 5,395 sf of commercial space. The Project consists of two commercial spaces on both sides of the Building A main entrance. No specific commercial uses have been identified at this time.

Figure 3-6 Project Perspectives from Ocean Street provides a rendering of the Project from various viewpoints from Ocean Street. Figure 3-7 Project Perspectives from May Avenue illustrates the Project from various viewpoints from May Avenue.

Density Bonus Request

Pursuant to State Density Bonus Law (Gov't Code Sections 65915 et. seq.), the Project is seeking a 42.5% density bonus above the allowable 1.75 Floor Area Ratio ("FAR"). Per the City's General Plan policies and zoning regulations, the Base Project allows 273 residential units with an average of 791 square feet per unit, at a density of 30 dwelling units/acre (du/ac).

The Project includes 36 units that are affordable to Very Low-Income households not exceeding 50% of Area Median Income ("AMI"), which is 13% of the 273 achievable base units. The Project also includes 18 units that are affordable to Low-Income households making no more than 80% of AMI, which is approximately 7% of the 273 achievable base units. This level of affordability meets the minimum City requirement since it provides at least 20% of base units to households making no more than 80% of AMI.

The applicant has requested one "concession" and four "waivers" pursuant to state and local density bonus laws. Per section 24.16.225 of the Santa Cruz Municipal Code (SCMC), the Project qualifies for two incentives/concessions since it provides 13% of the base units to very low-

[2] The Initial Study incorrectly identified 27,630 sf of existing commercial space. This has been corrected in this EIR.

income households. Per section 24.16.255 (4), the Project is eligible to request an unlimited number of waivers or modifications to development standards, if those standards physically preclude the construction of the housing development, and the housing development is eligible for a density bonus. To accommodate the construction of these affordable units, the Project is seeking the following incentive/concession and waivers.

- Private Open Space: A concession to reduce the requirement that non - Flexible Density Units (FDUs) provide 100 square feet of private open space per unit to providing 64 square feet of private open space for 78 units and 33 square feet of private open space for 1 unit.
- Floor Area Ratio: A waiver to exceed the allowable 1.75 FAR by applying the requested density bonus of 42.5% to the proposed 2.49 FAR.
- Building Height: A waiver to build above the allowable four-story height limit on Ocean Street to accommodate a five-story building.
- Building Setback: A waiver of the SCMC section 24.10.750 that in any C-C District directly across a street from any R-District, buildings shall be at least 20 feet from the street. Instead, the Project proposes a 12'8" and 11'4" setback along the building frontage facing the R-District on May Avenue.
- Flexible Density Units Storage: A waiver of the SCMC section 24.12.1520 requirement to provide 200 cubic feet of storage for each FDU. The Project would provide 139 storage spaces that are approximately 200 cubic feet, or approximately 66% of the Project's 212 FDUs.

Furthermore, the Project is exempt from local minimum residential and commercial parking requirements under Assembly Bill 2097 because the Project is located within a half mile of several existing accessible major transit stops (i.e., Santa Cruz Metropolitan Transit District bus stop at Ocean & Water Street).

Proposed Improvements

Access and Parking

The Project would provide four vehicular access points to the Project site. One driveway would be from May Avenue at the southeast corner of the Project site, which would provide access to surface parking and a residential garage on the ground-floor of Building B. A second driveway off of May Avenue would provide direct emergency vehicle access, as well as, truck access to a trash/recycling enclosure.

On the southwest corner of the Project site fronting Ocean Street, residential access would be provided by a driveway to a basement garage in Building A. Commercial and visitor access, as well as residential ground-floor garage access would be from a driveway on Ocean Street, east of Blaine Street.

Parking would include 415 vehicle spaces (382 for residential and 33 for commercial). Of the residential parking, 50 spaces (12%) would be for electric vehicles with charging stations. Bicycle parking would include 486 spaces for the residential units and eight for the commercial uses, for a total of 494 spaces.

Landscaping

There are 37 trees on the Project site,[3] 35 of which would be removed. The two trees to be retained (both London Plane trees) are considered street trees fronting Ocean Street. Of the 35 trees to be removed, 16 are considered heritage trees as defined by the City's Heritage Tree Ordinance in Chapter 9.56 of the City's Municipal Code.[4]

As shown in Figure 3-3 Composite Site Plan, the Project would be landscaped with 11 new street trees (two existing to remain) along Ocean Street and, additional trees are proposed within stormwater planters generally located on the perimeter of the Project site. Trees and other landscaping would also be planted in the interior of the Project site on the ground floor, 2nd floor courtyards, and 5th floor roof terrace (herb garden). The total irrigated landscaped area would be 26,982 square feet, which would include various drought-tolerant shrubs and raised planters. The Project would be subject to provisions of the City's Water Efficient Landscape Ordinance (WELO), per Chapter 16.16 of the City's Municipal Code.

Stormwater and Utilities

The Project site is currently partially developed with impervious surface areas associated with the existing buildings and surface parking. Per Tier 3 retention requirements (described below) Project development would result in a total impervious area of 161,598 sf, or approximately 86% of the Project site.

Since the Project exceeds the 22,500 threshold of replaced and new impervious surface, it is considered to fulfill Tier 4 of post-construction Best Management Practices (BMP) requirements. However, this project is exempted from the Tier 4 requirement because the ultimate stormwater discharge is routed to a "highly altered channel" (concrete lined Branciforte Creek), as described in the Santa Cruz's Chapter 6B of the Best Management Practices Manual for the City's Storm Water Management Program. Therefore, the Project is proposing Tier 1 through Tier 3, whereby 10% of effective impervious area would be dedicated as retention-based treatment areas.

Stormwater would be controlled with a rainwater harvesting system, which would include 24 bioretention areas allowing stormwater to permeate into the ground. During high-flow events, excess stormwater from each biorientation area would overflow through a drain to the curb

[3] The Initial Study incorrectly identified 33 trees on the Project site. This has been corrected in this EIR.
[4] The Initial Study incorrectly identified 13 heritage trees. This has been corrected in this EIR.

before discharging into new eight- and twelve-inch storm drains, and ultimately into the May Avenue storm drain.

The Project would be served by public sewer and water mains from May Avenue. Electricity would be provided by Pacific Gas & Electric (PG&E).

3.3.3 Project Construction

Construction would occur over approximately two and a half years, beginning with demolition in the fall of 2025 and concluding with architectural coating activities in March of 2028. Construction would include, but not be limited to: procurement of all materials and equipment; mobilization of construction personnel and equipment to the Project site; installation of the stormwater pollution prevention plan (SWPPP) (see below); demolition of existing buildings; tree and vegetation removal in development areas; site preparation including clearing, grubbing, excavation/fill, and grading; foundation installation and construction of new buildings; and landscaping, fencing, and signage. During grading and earthwork activities approximately 32,200 cubic yards (cy) of earth material would be cut from the site and approximately 5,700 cy of earth material would be filled, resulting in a net volume of 26,500 cy of earth material exported from the Project site.

Because the Project would disturb more than one acre of land, the construction contractors would be required to adhere to the National Pollution Discharge Elimination System Construction General Permit, which mandates preparation and implementation of a SWPPP. The SWPPP would include detailed BMPs to provide erosion control and hazardous materials measures for all construction activities. The SWPPP must describe the type, location, and function of stormwater BMPs to be implemented during construction and must demonstrate that the combination of BMPs selected is adequate to meet the discharge prohibitions, effluent standards, and receiving water limitations contained in the Construction General Permit.

Prior to demolition, the presence of hazardous building materials (e.g., asbestos) and potentially contaminated soil and groundwater would be properly removed and disposed of according to the recommendations of Phase I and Phase II Environmental Site Assessments prepared by Haley & Aldrich (see Chapter 9 Hazards & Hazardous Materials). All removal activities would also be in accordance with all applicable regulatory requirements.

3.4 Area Plans and Zoning

The Project site currently is designated Mixed-Use Medium Density (MXMD) in the City's existing General Plan 2030. The property is zoned MU-OH (Mixed Use Ocean High Density) and MU-OM (Mixed Use Ocean Medium Density). The Project is consistent with land use and zoning designations for the site.

The Project site also is located within the planning area of the Ocean Street Area Plan, which extends along the entire Ocean Street corridor from Highway 17 south to East Cliff Drive. A

description of relevant plans that govern the Project area and a discussion of potential Project conflicts with adopted plans, policies, or regulations are provided in Chapter 10, Land Use and Planning of this EIR.

3.5 Project Approvals and Use of the EIR

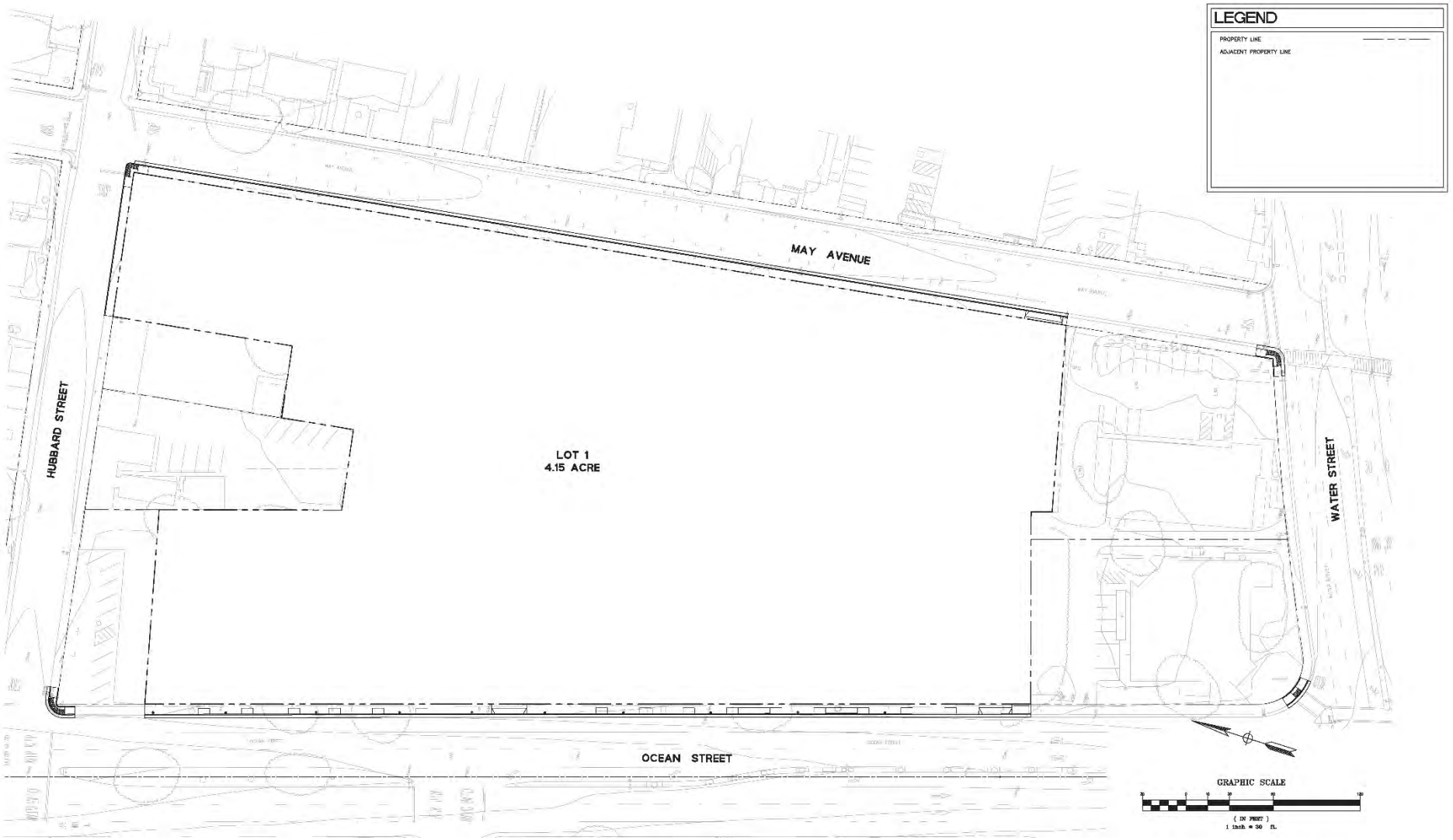
The City of Santa Cruz is the Lead Agency and is responsible for approval of the development permits and requests for the Project listed below. The Santa Cruz Planning Commission is the decision-making body tasked with certification of the Final EIR, approval of the Project, and adoption of CEQA Findings and the Mitigation Monitoring and Reporting Program.

- Residential and Non-Residential Demolition Authorization Permits
- Heritage Tree Removal Permit
- Minor Land Division
- Design Permit
- Special Use Permit
- Density Bonus Request

There are no other known agencies with permit approval or review authority over the Project, except for the County of Santa Cruz Environmental Health Department, which would provide the regulatory oversight agency review for characterization and potential remediation of onsite hazardous materials pursuant to sections 101480 through 101490 of the California Health and Safety Code.

3.6 References

High Street Residential, BDE Architecture, CREO Landscape Architecture, BKF Engineers. 2023. 908 Ocean Street Planning Resubmittal #4 dated November 29. 2023.



Source: BKF Engineers and High Street Residential 2024

Figure 3-1 Vesting Tentative Parcel Map

908 Ocean Street Mixed-Use Development

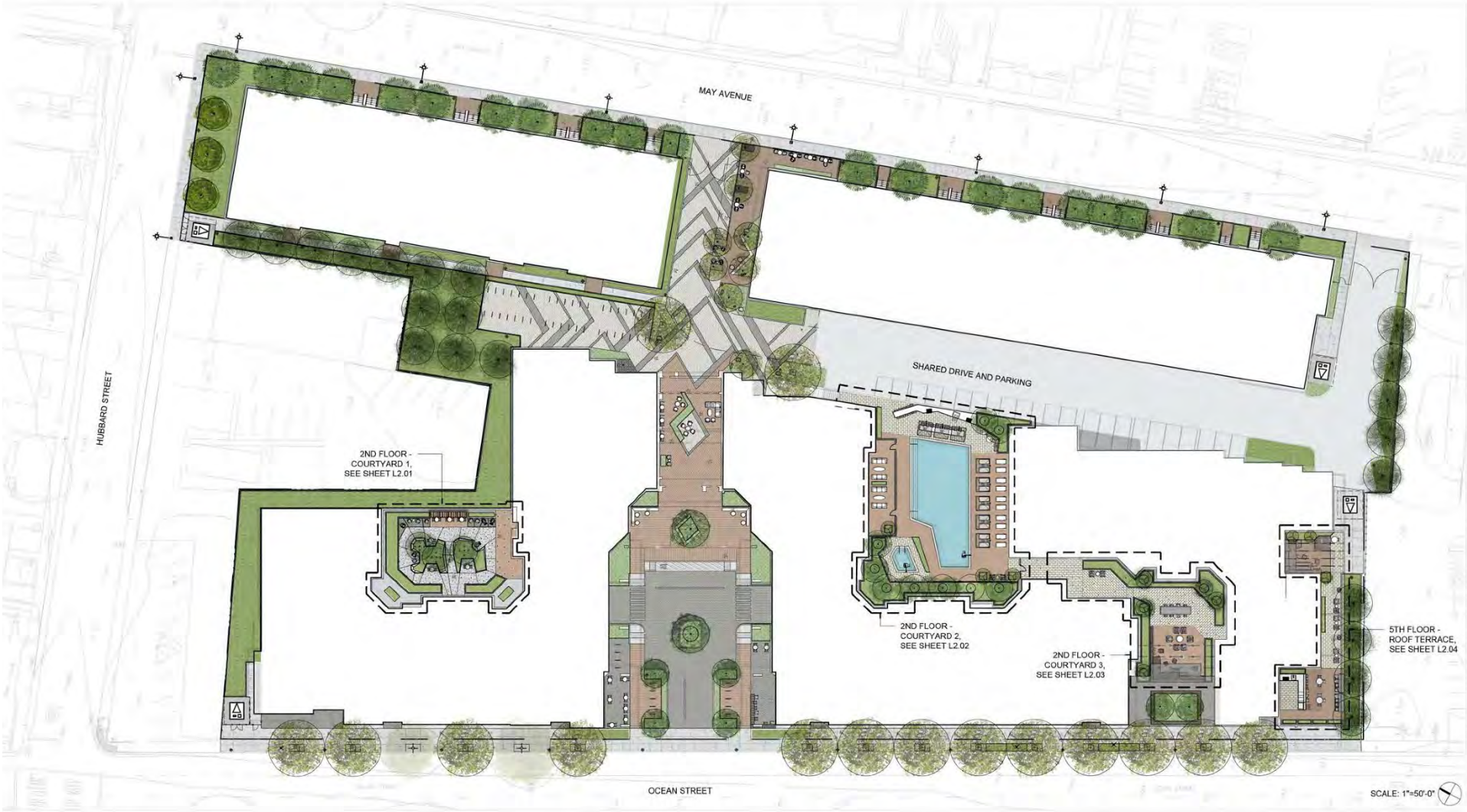
Draft EIR

Source: BKF Engineers and High Street Residential 2024

Figure 3-2 Demolition Plan

908 Ocean Street Mixed-Use Development

Draft EIR



Source: BDE Archiects and High Street Residential 2024

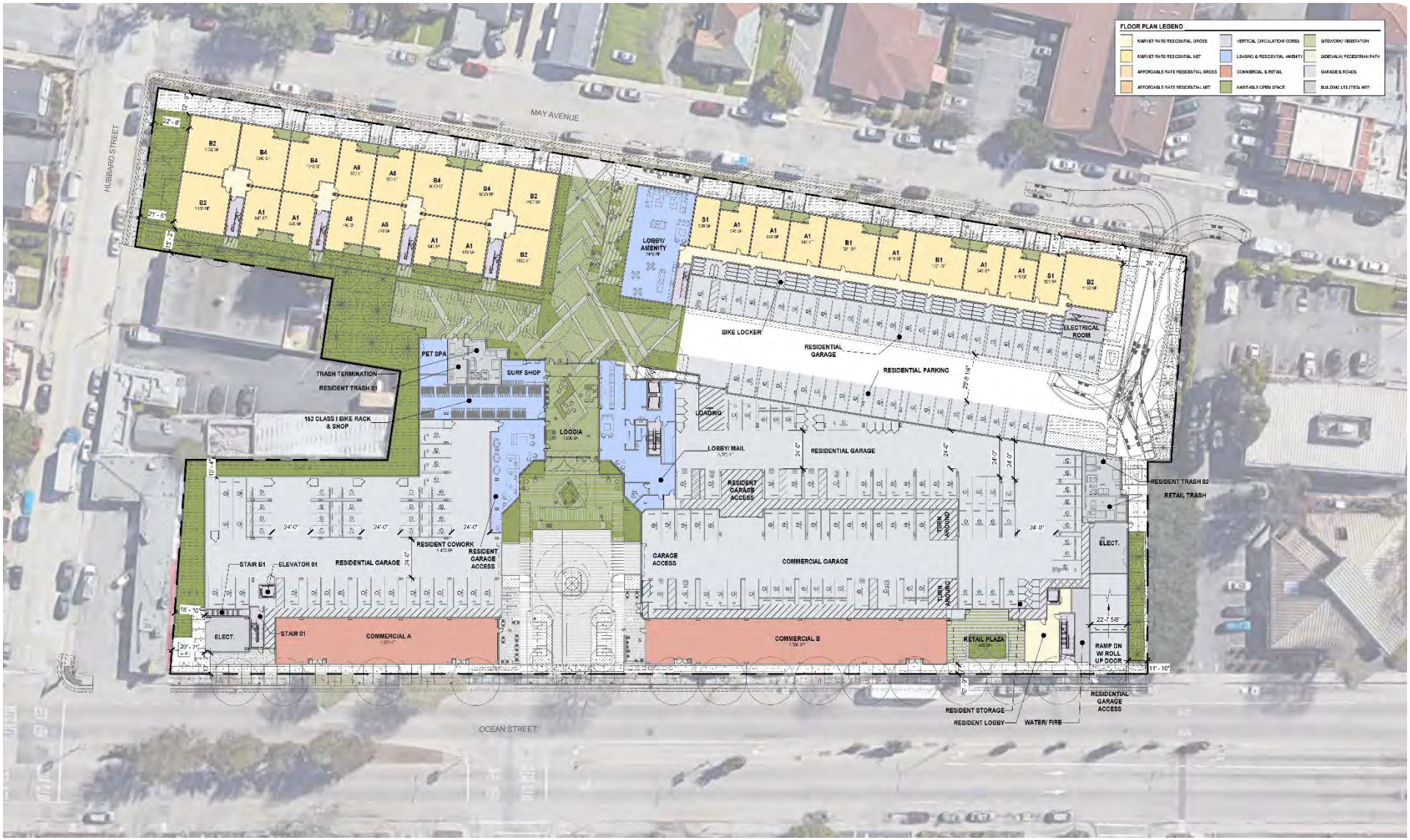
Kimley»Horn

Not to scale

Figure 3-3 Composite Site Plan

908 Ocean Street Mixed-Use Development

Draft EIR



Source: BDE Archiects and High Street Residential 2024

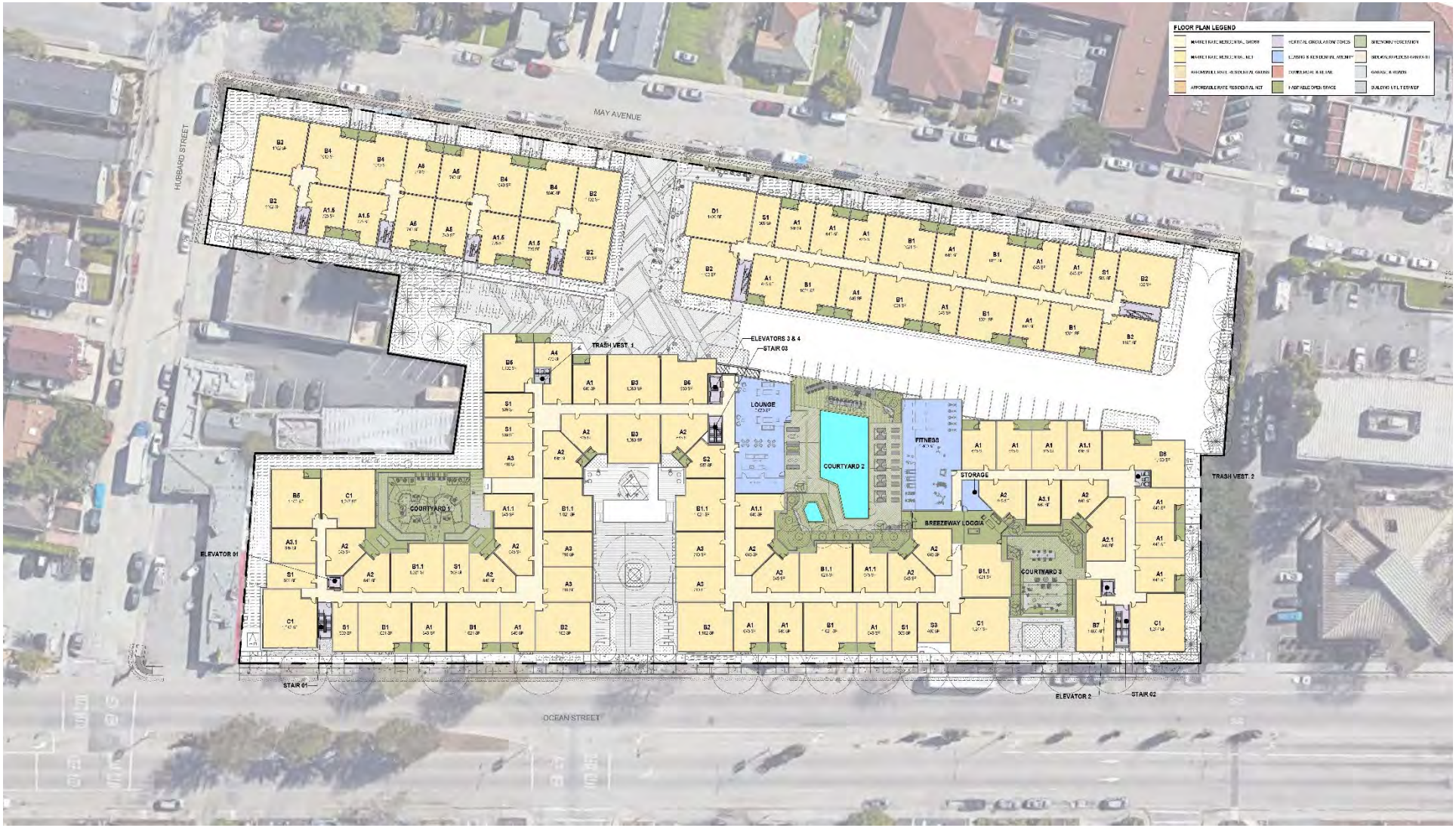
Kimley»Horn

Not to scale

Figure 3-4 Floor Plan - First (Ground) Level

908 Ocean Street Mixed-Use Development

Draft EIR



Source: BDE Archiects and High Street Residential 2024

Kimley»Horn

Not to scale

Figure 3-5 Floor Plan - Second Level

908 Ocean Street Mixed-Use Development

Draft EIR

PERSPECTIVE - EAST ON OCEAN 4

PERSPECTIVE - WEST ON OCEAN 2

PERSPECTIVE - PASEO LOOKING INTO LOGGIA 3

PERSPECTIVE - OCEAN FROM BLAINE STREET 1

Source: BDE Archiects and High Street Residential, 2024

Kimley»Horn

Figure 3-6 Project Perspectives from Ocean Street

908 Ocean Street Mixed-Use Development

Draft EIR

PERSPECTIVE - BLDG B - EAST ON MAY 2

PERSPECTIVE - BLDG C - HUBBARD & MAY 3

PERSPECTIVE - MIDBLOCK ON MAY AVE 1

Source: BDE Archiects and High Street Residential, 2024

Kimley»Horn

Figure 3-7 Project Perspectives from May Avenue

908 Ocean Street Mixed-Use Development

Draft EIR

4 Introduction to the Environmental Analysis

The focus of the environmental analyses described in the subsequent chapters is to evaluate the impacts to the environment resulting from implementation of the Project which is described in Chapter 3 Project Description. This analysis considers the comments submitted during the scoping process, where applicable, (see Appendix A: Notice of Preparation and Comment Letters).

The following environmental resources are evaluated in this EIR:

- Air Quality
- Cultural Resources and Tribal Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Public Services (Fire Protection, Police Protection and Parks/Recreation)
- Utilities and Services Systems (Water Supply and Solid Waste)

4.1 Format of Environmental Topic Chapters

Each environmental resource chapter describes the environmental setting, assesses impacts, and identifies mitigation measures for significant impacts.

4.1.1 Environmental Setting

The Environmental Setting sections describe existing conditions at the Project site and throughout the city, if applicable, and describes the existing physical environment. Applicable federal, state, and local laws and regulations relevant to a discussion of impacts in the topic category also are identified, when relevant.

4.1.2 Environmental Impacts and Mitigation Measures

The Environmental Impacts and Mitigation Measures section identifies thresholds of significance used to evaluate whether an impact is considered significant, based on standards identified in or criteria derived from the California Environmental Quality Act (CEQA), State CEQA Guidelines and the City's CEQA Guidelines. In some cases, agency policies, regulations and/or standards or professional judgment are used to further define CEQA standards of significance.

The Impacts section first identifies issues for which no impacts have been identified. The section then evaluates and analyzes significant or potentially significant project impacts, states

the level of significance prior to mitigation. Mitigation measures are provided for identified significant impacts. A statement regarding the level of significance of each impact after mitigation follows the mitigation measures for that impact. For impacts found to be less-than-significant, mitigation measures are not required.

4.1.3 Significance Determinations

In accordance with CEQA, specifically Public Resources Code Section 21068, a "significant effect on the environment" means a substantial or potentially substantial adverse change in the environment. The significance thresholds used for each environmental resource topic are presented in each chapter immediately before the discussion of impacts. For each impact described, one of the following significance determinations is made:

- No Impact. This determination is made if there is no potential that the Project could affect the resource at issue.
- Less than Significant. This determination applies if there is a potential for some limited impact on a resource, but the impact is not significant in accordance with the identified thresholds of significance.
- Less than Significant with Mitigation. This determination applies if there is the potential for a significant impact in accordance with the identified thresholds of significance, but mitigation is available to reduce the impact to a less-than-significant level.
- Significant and Unavoidable. This determination applies to impacts that are significant, and for which there are no feasible mitigation measures available to substantially reduce the impact to a less-than-significant level.

5 Air Quality

5.1 Introduction

This chapter describes the existing air quality conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential Project impacts, and identifies mitigation measures for any significant impacts related to implementation of the Project. The analysis is based on the air quality and health modeling which is summarized below and included in Appendix B and Appendix C, respectively.

5.2 Scoping Issues Addressed

No public or agency comments related to air quality were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

5.3 Environmental Setting

5.3.1 Regulatory Setting

Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for HAPs to protect public health and welfare. HAPs include certain volatile organic compounds or VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

Criteria Air Pollutants

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

CARB has established California Ambient Air Quality Standards (CAAQS) that are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before an air basin can attain the corresponding CAAQS. Air quality is considered in attainment if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

California air districts typically based their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date when attainment will be achieved in the Air Basin for the NAAQS or CAAQS. Thresholds established by air districts are protective of human health, as they are based on attainment of the ambient air quality standards, which reflect the maximum pollutant levels in the outdoor air that would not result in harm to the public's health. Table 5-1 National and State Ambient Air Quality Standards presents the NAAQS and CAAQS.

Table 5-1: National and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards		California Standard	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	1-Hour	---	N/A [5]	0.09 ppm	N
	8-Hour	0.070 ppm	U/A	0.070 ppm	A
Carbon Monoxide (CO)	8-Hour	9.0 ppm	A [6]	9.0 ppm	A
	1-Hour	35.0 ppm	A	20.0 ppm	A
Nitrogen Dioxide (NO_2)	Annual	0.053 ppm	A	0.030 ppm	---
	1-Hour	0.10 ppm[11]	U	0.18 ppm	A
Sulfur Dioxide (SO_2)	Annual	0.03 ppm	A	NA	---
	24-Hour	0.14 ppm	A	0.04 ppm	A
	1-Hour	0.075 ppm	A	0.25 ppm	A
PM_{10}	Annual	NA	---	20 µg/m^3	N [7]
	24-Hour	150 µg/m^3	U	50 µg/m^3	N
$PM_{2.5}$	Annual	9 µg/m^3	U/A[4]	12 µg/m^3	A [7]
	24-Hour	35 µg/m^3	U/A	NA	---
Sulfates	24- Hour	25 µg/m^3	A	NA	---
Lead	30-Day Average	NA	A	1.5 µg/m^3	---
	Calendar Quarter	1.5 µg/m^3	A	NA	---
	Rolling 3-Month Average	0.15 µg/m^3	---	NA	---
Hydrogen Sulfide	1 Hour	NA	---	0.03 ppm (0.15 µg/m^3)	U
Vinyl Chloride	24 Hour	NA	---	0.01 ppm (26 µg/m^3)	---
Visibility Reducing Particles [8]	8 Hour (10:00 to 18:00 PST)	---	---	---	U

A = attainment; N = nonattainment; U = unclassified; N/A = not applicable or no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; – = not indicated or no information available.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.
2. National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm (70 ppb) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when

Pollutant	Averaging Time	Federal Primary Standards		California Standard	
		Concentration	Attainment Status	Concentration	Attainment Status

the 3-year average of 98th percentiles is less than 35 µg/m³. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.

3. National air quality standards are set by the EPA at levels determined to be protective of public health with an adequate margin of safety.
4. Attainment status is based on the previous NAAQS standard of 12 µg/m³.
5. The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.
6. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
7. In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.
8. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
9. The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005, and became effective on May 17, 2006.
10. On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as "nonattainment" for the national 24-hour $PM_{2.5}$ standard until such time as the Air District submits a "redesignation request" and a "maintenance plan" to EPA, and EPA approves the proposed redesignation.
11. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.
12. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS.
13. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.
14. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.
15. In December 2012, EPA strengthened the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m³). In December 2014, EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. 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.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies about 200 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere.

AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities have a prioritization score (unitless value based on potency, toxicity, quantity, and volume of hazardous materials released from the facility, and the proximity of the facility

to potential receptors) of greater than 10 are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings. Notably, a prioritization score of 10 for a high-priority facility may be considered similar to a calculated cancer risk of 100 chances in one million (i.e., 1 in 10,000), or a hazard index of 10 (SCAQMD 2020). The Project would not be considered a high-priority facility.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80-percent decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR Section 2449 et seq.), In-Use On-Road Diesel-Fueled Vehicles (13 CCR Section 2025), and Limit Diesel-Fueled Commercial Motor Vehicle Idling (13 CCR Section 2485).

California Health and Safety Code Section 41700

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

Local

Monterey Bay Air Resources District

The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the Air Basin, where the Project site is located. The MBARD operates monitoring stations in the Air Basin, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The MBARD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain CAAQS and NAAQS in the Air Basin. The MBARD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

Air Quality Management Plan

The 1991 AQMP for the Monterey Bay Area was the first plan prepared in response to the California Clean Air Act of 1988, which established specific planning requirements to meet the O_3 standard. The California Clean Air Act requires that the AQMP be updated every 3 years. The most recent update is the 2012–2015 Air Quality Management Plan (2012–2015 AQMP), which was adopted in March 2017, and is an update to the elements included in the 2012 AQMP. The primary elements updated from the 2012 AQMP are the air quality trends analysis, emission inventory, and mobile source programs.

At the time the 2012-2015 AQMP was written, the Air Basin had been a nonattainment area for the CAAQS for both O_3 and PM_{10}. [5] The AQMP addresses only attainment of the O_3 CAAQS. Attainment of the PM_{10} CAAQS is addressed in the MBARD's 2005 Report on Attainment of the California Particulate Matter Standards in the Monterey Bay Region (Particulate Matter Plan), which was adopted in December 2005 and is summarized further below. Maintenance of the 8-hour NAAQS for O_3 is addressed in MBARD's 2007 Federal Maintenance Plan for Maintaining the National Ozone Standard in the Monterey Bay Region (Federal Maintenance Plan), which was adopted in March 2007 and is also summarized below.

The AQMP's emission inventory, a key component of the plan, is an estimate of the amount of O_3 precursors emitted into the air each day by man-made (anthropogenic) activities. The inventory represents emissions of ROG and NO_x (tons per day) on a typical weekday during the May through October O_3 season. The inventory includes stationary sources, area-wide sources, and mobile sources. Stationary sources include typically large facilities such as power plants or cement plants, while area-wide sources include an aggregate of individually smaller sources, which when grouped together have significant emissions such as consumer products or residential fuel consumption. Mobile sources consist of the numerous cars and trucks that travel the streets and highways of the Air Basin, as well as other mobile sources such as off-road agricultural and construction equipment, trains, and aircraft (MBARD 2017).

The emissions forecasts consider growth factors, such as population, housing, employment, industrial output, vehicle miles traveled (VMT), etc., developed by state and local agencies, such as Association of Monterey Bay Area Governments (AMBAG). The 2012–2015 AQMP demonstrated how progress had been made toward achieving the O_3 CAAQS between 2006 to 2015 even with some population growth during that same period. Without emission controls, increases in precursor emissions would correspond directly with increases in population. Although the population in the Air Basin has increased slightly, the number of exceedance days continued to decline during the past 10 years. More stringent and protective emissions standards for automobiles, power plants and other sources of ozone precursors have outpaced population growth with the net result being an improvement in air quality. Specifically, the

[5] The Air Basin is currently designated attainment of the O_3 CAAQS, and therefore, the MBARD is no longer required to update the AQMP.

following list from the 2012–2015 AQMP summarizes some of the key programs and rules that have and will continue to reduce emissions while population increases (MBARD 2017):

- Regulation IV (Prohibitions), Rule 400 (Visible Emissions) - This rule provides limits for visible emissions for sources within the MBARD jurisdiction.
- Regulation IV (Prohibitions), Rule 402 (Nuisances) - This rule establishes a prohibition against sources creating public nuisances while operating within the MBARD jurisdiction.
- Regulation IV (Prohibitions), Rule 403 (Particulate Matter) - This rule provides particulate matter emissions limits for sources operating within the MBARD jurisdiction.
- Regulation IV (Prohibitions), Rule 424 (National Emission Standards for Hazardous Air Pollutions) - This rule is to provide clarity on the MBARD's enforcement authority for the National Emission Standards for Hazardous Air Pollution including asbestos from demolition.
- Regulation IV (Prohibitions), Rule 425 (Use of Cutback Asphalt) - This rule establishes VOC emissions limits associated with the use of cutback and emulsified asphalts.
  City of Santa Cruz General Plan

The Hazards, Safety and Noise Element of the City's General Plan 2030 Policy HZ2.1 strives to achieve State and federal air quality standards for the region. Action HZ2.2.1 requires future development projects to implement applicable Monterey Bay Unified Air Pollution Control District (MBUAPCD) control measures and/ or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines."

5.3.2 Existing Air Quality Conditions

This section outlines the existing meteorological and topographical conditions of the North Central Coast Air Basin (Air Basin), where the Project is located, as well as provides an overview of air pollutants, sensitive receptors in the vicinity, and existing ambient air quality monitoring data within the Project area.

Effects of Air Pollutants

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are

also regulated as criteria air pollutants. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs. [6]

Ozone

O_3 is a strong-smelling, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and reactive organic gases (ROGs, also termed volatile organic compounds or VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere (ground-level O_3). [7] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more

[6] The descriptions of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (EPA 2022a), CARB's Glossary of Air Pollutant Terms (CARB 2019a), and CARB's "Fact Sheet: Air Pollution Sources, Effects and Control" (CARB 2009).
[7] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019b).

Nitrogen Dioxide and Oxides of Nitrogen

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide that is a colorless, odorless gas. NO_x, which includes NO_2 and nitric oxide, plays a major role, together with ROG, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_X is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources of NO_x are transportation and stationary fuel combustion sources (such as electric utility and industrial boilers).

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019c).

Carbon Monoxide

CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become

locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent. Notably, because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots is steadily decreasing.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019d).

Sulfur Dioxide

SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic population. Effects of 1-hour exposure at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 part per million) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019e).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter. People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma. SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways.

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and ROG.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM_{10} tends to collect in the upper portion of the respiratory system, whereas $PM_{2.5}$ is small enough to penetrate deeper into the lungs and damage lung tissue. Suspended particulates also produce haze and reduce regional visibility and damage and discolor surfaces on which they settle.

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. [8] These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

[8] "Restricted activity days" are days that an individual adjusts behavior based on health reasons, such as a work-loss or school-loss day.

Long-term exposure (months to years) to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

Lead

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood because children are highly susceptible to the effects of lead. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Sulfates

Sulfates are the fully oxidized form of sulfur that typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride

Vinyl chloride is a colorless gas with a mild, sweet odor that has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide

Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles

Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

Reactive Organic Gases

Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as ROGs (also referred to as VOCs). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of ROGs result from the formation of O_3 and its related health effects. High levels of ROGs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for ROGs as a group.

Meteorological and Topographical Conditions

The Project is located in the Air Basin that consists of Monterey, Santa Cruz, and San Benito counties and encompasses an area of 5,159 square miles. The northwest sector of the Air Basin is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary and, together with the southern extent of the Santa Cruz Mountains, forms the Santa Clara Valley, which extends into the northeastern tip of the Air Basin. Farther south, the Santa Clara Valley merges into the San Benito Valley, which extends northwest southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to King City at the southeast end. The western side of the Salinas Valley is formed by the Sierra de Salinas, which also forms the eastern side of the smaller Carmel Valley. The coastal Santa Lucia Range defines the western side of the valley (MBARD 2008). This series of mountain ranges and valleys influences the dispersion of criteria air pollutants through the Air Basin.

The semi-permanent Pacific High-pressure cell in the eastern Pacific is the basic controlling factor in the climate of the Air Basin. In the summer, the Pacific High-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High-pressure cell forming a stable temperature inversion of hot air over a cool coastal layer of air. As the air currents move onshore, they pass over cool ocean waters and bring fog and relatively cool air into the coastal valleys. The warmer air above acts as a lid to inhibit vertical air movement.

During the summer, the generally northwest–southeast orientation of mountainous ridges tends to restrict and channel the onshore air currents within the Air Basin. Elevated ground-

surface temperatures in the interior portion of the Salinas and San Benito valleys create a weak low-pressure area that intensifies the onshore air flow during the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High-pressure cell, which allows pollutants to build up over a period of a few days. It is most often during the fall season that the north or east winds develop to transport pollutants from either the San Francisco Bay Area or the Central Valley into the Air Basin. During the winter, the Pacific High-pressure cell migrates southward and has less influence on the Air Basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually results in good air quality for the Air Basin in winter and early spring (MBARD 2008).

Non-Criteria Air Pollutants

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the California State Legislature (Legislature) in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced with either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter

Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health

risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2019f). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known carcinogenic organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2019f). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (17 CCR Section 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars; and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others.

Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2019f). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

Odorous Compounds

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. The term "sensitive receptors" is used to refer to facilities and structures where people who are sensitive to air pollution live or spend considerable amounts of time. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards (i.e., preschools and kindergarten through grade 12 schools), parks and playgrounds, daycare centers, nursing homes, hospitals, live in housing (i.e., prisons,

dormitories, hospices, or similar), and residential communities (sensitive sites or sensitive land uses) (CARB 2005; MBARD 2008).

Residential sensitive receptors are located immediately adjacent to or within close proximity to the primary Project site, including the residences located adjacent to the north, east and west.

Regional and Local Air Quality Conditions

North Central Coast Air Basin Attainment Designations

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as attainment for that pollutant. If an area exceeds the standard, the area is classified as nonattainment for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to support continued attainment of the standards. Similar to the federal Clean Air Act, the California Clean Air Act designated areas as attainment or nonattainment but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS.

Table 5-2: National and State Ambient Air Quality Standards identifies the current attainment status of the Air Basin, including the Project site, with respect to the NAAQS and CAAQS, and the attainment classifications for the criteria pollutants. The Air Basin is designated as a non-attainment area for the state PM_{10} standard. The Air Basin is designated as unclassified or attainment for all other state and federal standards (EPA 2022b; CARB 2022). Since the Air Basin has met all NAAQS, it is no longer subject to federal conformity requirements (MBARD 2008).

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across California. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Table 5-2: Local Ambient Air Quality Data presents the most recent background ambient air quality data from 2019 to 2021. The Santa Cruz monitoring station, located at 2544 Soquel Avenue, Santa Cruz, California, is the nearest air quality monitoring station to the Project site. This station monitors O_3 and $PM_{2.5}$. The nearest station that monitors CO and NO_2 in the Air Basin is located at 855 E Laurel Drive, Salinas, California. The nearest station that monitors PM_{10} in the Air Basin is located at 1979 Fairview Road, Hollister, California. The data collected at these stations is considered generally representative of the air quality experienced in the vicinity of the Project site and includes the number of days that the ambient air quality standards were exceeded.

Table 5-2: Local Ambient Air Quality Data

Averaging Time	Ambient Air Quality Standard	Measured Concentrations and Exceedance by Year		
		2019	2020	2021
Ozone (O_3) – Santa Cruz Monitoring Station				
Maximum 1-hour concentration (ppm)	0.09 ppm (state)	0.068	0.070	0.072
Number of days exceeding state standard (days)		*0*	*0*	*0*
Maximum 8-hour concentration (ppm)	0.070 ppm (state)	0.059	0.058	0.058
	0.070 ppm (federal)	0.059	0.057	0.058
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Nitrogen Dioxide (NO_2) – Salinas Monitoring Station				
Maximum 1-hour concentration (ppm)	0.018 (state)	0.030	0.030	0.027
	0.100 (federal)	0.030	0.032	0.027
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Annual concentration (ppm)	0.030 ppm (state)	0.004	0.004	0.003
	0.053 ppm (federal)	0.004	0.004	0.003
Carbon Monoxide (CO) – Salinas Monitoring Station				
Maximum 1-hour concentration (ppm)	20 ppm (state)	35	1.6	7.5
	35 ppm (federal)	35	1.6	7.5
Number of days exceeding state standard (days)		*ND*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Maximum 8-hour concentration (ppm)	9.0 ppm (state)	5.3	1.2	1.3
	9 ppm (federal)	5.3	1.2	1.3
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Fine Particulate Matter ($PM_{2.5}$) – Santa Cruz Monitoring Station				
Maximum 24-hour concentration (µg/m^3)	35 µg/ m^3 (federal)	21.3	90.4	17.5
Number of days exceeding federal standard (days)[1]		*0.0*	*13.0*	*0.0*
Annual concentration (µg/ m^3)	12 µg/ m^3 (state)	6.5	8.2	4.9
	9. µg/ m^3 (federal)[2]	6.5	8.1	4.8

Averaging Time	Ambient Air Quality Standard	Measured Concentrations and Exceedance by Year		
		2019	2020	2021
Coarse Particulate Matter (PM_{10}) – Hollister Monitoring Station				
Maximum 24-hour concentration (µg/m^3)	50 µg/ m^3 (state)	ND	ND	130.0
	150 µg/ m^3 (federal)	130.7	159.0	1288
Number of days exceeding state standard (days)		*ND*	*ND*	*5.1*
Number of days exceeding federal standard (days)		*0.0*	*1.0*	*0.0*
Annual concentration (µg/m^3)	120 µg/ m^3 (state)	ND	ND	19.3

ppm = parts per million; µg/m^3 = micrograms per cubic meter
Measurements taken at the Santa Cruz Monitoring Station located at 2544 Soquel Avenue, Santa Cruz, California 95062 (CARB# 44200).
Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (arb.ca.gov/adam).
Exceedances of national and California standards are only shown for O3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$. Notably, the CZU Lightning Complex wildfire was determined to be an exceptional event by CARB and likely contributed to the higher than usual levels of particulate matter recorded during that year. Bolded text shows exceedances. Santa Cruz Monitoring Station is located at 2544 Soquel Avenue, Santa Cruz CA 95060. Salinas Monitoring Station is located at 855 E Laurel Drive, Salinas, 93901. Hollister Monitoring Station is located at 1979 Fairview Road, Hollister, 95023.
1. Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard. Notably, the California $PM_{2.5}$ standard is based on annual concentrations and does not have daily exceedance information
2. Attainment status is based on the previous NAAQS standard of 12 µg/m^3.

Impacts and Mitigation Measures

5.3.3 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

AIR-1 Conflict with or obstruct implementation of the applicable air quality plan.

AIR-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.

AIR-3 Expose sensitive receptors to substantial pollutant concentrations.

AIR-4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The MBARD has established thresholds of significance for criteria air pollutants of concern for construction and operations (MBARD 2008). For construction, the threshold is 82 pounds per

day of PM_{10}. Construction projects using typical construction equipment such as dump trucks, scrappers, bulldozers, compactors and front-end loaders that temporarily emit other air pollutants, such as precursors of O_3 (i.e., ROG and NO_x), are accommodated in the emission inventories of State- and federally required air plans and would not have a significant impact on the CAAQS and NAAQS (MBARD 2008).

For operations, a project would result in a significant impact if it results in the generation of emissions of, or in excess of, 137 pounds per day for ROG or NO_x, 550 pounds per day of CO, 150 pounds per day of SO_x, and 82 pounds per day of PM_{10} from on-site sources. As stated above, the Air Basin met all NAAQS. As a result, it is no longer subject to federal conformity requirements (MBARD 2008).

Consistency with the AQMP is used by MBARD to determine a project's cumulative impact on regional air quality (i.e., ozone levels). Projects that are not consistent with the AQMP have not been accommodated in the AQMP and will have a significant cumulative impact on regional air quality unless emissions are totally offset (MBARD 2008). For localized impacts of the Project (i.e., PM_{10}), the threshold for cumulative impacts is the same as that noted above (82 pounds per day of PM_{10}). For localized CO, the MBARD does not have screening levels for intersection traffic that could result in potential CO hotspots; however, several other air districts have established these levels, which are described below to provide context of the magnitude of hourly volumes that could result in significant localized CO:

- The South Coast Air Quality Management District conducted CO modeling for its 2003 AQMP (SCAQMD 2003) for the four worst-case intersections in the South Coast Air Basin. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least more than 100,000 vehicles per day.
- The Bay Area Air Quality Management District determined that projects would result in a less-than-significant impact to localized CO concentrations if: (1) project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or (2) project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (BAAQMD 2017).

The Bay Area Air Quality Management District screening criterion of 24,000 vehicles per hour has been applied to the Project as a metric to evaluate CO hotspots, since it is the most conservative of the screening volumes.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The MBARD recommends an incremental cancer risk threshold of 10 in 1 million. For context, the National Cancer Institute estimates that approximately 39.5% of people will be diagnosed with cancer during their lifetimes (National Cancer Institute 2020). A cancer risk of 10 in a million indicates that a person has an additional risk of 10 chances in a million (0.001%) of developing cancer during their lifetime as a result of the air pollution scenario being evaluated, which is minimal and defined as the "No Significant Risk Level" for carcinogens in Proposition 65. In addition, some TACs have noncarcinogenic effects. The MBARD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) effects. [9]

5.3.4 Analytical Methods

Potential impacts related to air quality were identified using modeling. Specifically, emissions from construction and operation of the Project and existing land uses were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1. [10] CalEEMod input parameters, including the Project land use type and size and construction schedule, were based on information provided by the City, or default model assumptions if Project specifics were unavailable. The results of the air quality and health risk modeling are summarized in this section and are included in Appendix B and Appendix C. Additional information on how impacts were analyzed is provided below.

Construction

For the purpose of estimating Project emissions, construction was modeled beginning in September 2025 and concluding March 2028. Facility development and improvements (storm drain and sewer) were accounted for in the modeling. The analysis contained herein is based on the following schedule assumptions (duration of phases is approximate):

- Demolition: September 2025 – October 2025
- Site Preparation: November 2025 – November 2025
- Grading: November 2025 – January 2026
- Paving: January 2026 – April 2026[11]
- Building Construction: May 2026 – March 2028

[9] Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various noncarcinogens from the Project to published reference exposure levels that can cause adverse health effects.
[10] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.
[11] Infrastructure improvements included in paving phase.

- Architectural Coating: December 2027 – March 2028

The construction activities associated with residential and commercial development pursuant to the Project would generate diesel emissions and dust. Construction equipment that would generate criteria air pollutants include excavators, graders, dump trucks, and loaders. It is assumed that this type of equipment would be used during both grading/demolition and construction.

For modelling, the following quantities were assumed:

Demolition

- Estimated total volume of building material: 38,808 square feet
- Estimated total volume of pavement material: 94,000 square feet

Site Grading & Soil Hauling

- Exported soil = 32,200 cubic yards
- Structural fill = 5,700 cubic yards
- Estimated total amount of soil to export = 26,500 cubic yards
- Estimated total amount of soil to import = 0 cubic yards

For the analysis, it was assumed that heavy-duty construction equipment would be operating at the Project site five days per week. The modeling assumes watering exposed areas two times per day during earthwork activity and that all off-road equipment greater than 75 horsepower would have Tier 4 Final engines.

Operation

Operational criteria air pollutant emissions were estimated for mobile, area, and energy sources for the Project using CalEEMod. The first full year of project operations was assumed to be 2028, consistent with the anticipated end of construction. The calculation of operational air pollutant emissions is explained below.

Mobile Sources

The Project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of passenger vehicles (residents and workers) and truck traffic associated with the operation of the facility. Project-generated vehicle emissions were estimated using CalEEMod. Trip generation rates associated with the Project were based on the Project's Transportation Analysis prepared by Hexagon Transportation Consultants (2024). Based on the Project's Transportation Analysis, the Project would result in a net total of 2,206 additional daily trips.

For the purpose of this analysis, it is assumed that all mobile source emissions generated by the Project would occur within the MBARD jurisdictional boundaries. Assuming all mobile source emissions are included in the Project's criteria air pollutant emissions inventory prior to comparing emissions to the MBARD thresholds represents a conservative assumption.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described below.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2022). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential and nonresidential buildings and on the default factor of pounds of VOCs per building square foot per day. For the asphalt surface land uses, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on the square footage of parking surface area and pounds of VOCs per square foot per day.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values.

Energy Source Emissions

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off-site. Therefore, for the purposes of the air quality analysis, the energy source parameters focus on criteria air pollutants generated because of natural gas consumption within the built environment. Natural gas consumption is attributed to systems like heating, ventilation, and air conditioning and water heating. Notably, the proposed buildings would be all-electric and would reduce natural gas consumption currently required for the existing buildings.

Health Risk Assessments

Construction Health Risk Assessment

A health risk assessment (HRA) was performed to evaluate potential health risk associated with construction of the Project. The following discussion summarizes the dispersion modeling and HRA methodology; supporting construction HRA documentation, including detailed assumptions, is presented in Appendix C.

The greatest potential for TAC emissions during Project construction would be DPM emissions from heavy equipment operations and heavy-duty trucks. Use of heavy-duty construction equipment is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions and use of diesel trucks is also subject to an Airborne Toxics Control Measure. The HRA analyzes long-term cancer and noncancer health risk from the Project's use of diesel equipment and trucks during construction. The predominant source of construction exhaust PM_{10} is operation of offroad diesel construction equipment. However, it was conservatively assumed that all vehicles would travel 1,000 feet to represent potential onsite travel and nearby local offsite travel. Total exhaust PM_{10} emissions from CalEEMod were averaged over the Project's construction duration to estimate the annual exposure.

The most recent guidance from the Office of Environmental Health Hazard Assessment (OEHHA) is the 2015 Risk Assessment Guidelines Manual (OEHHA 2015). Cancer risk parameters, such as age-sensitivity factors, daily breathing rates, exposure period, fraction of time at home, and cancer potency factors were based on the values and data recommended by OEHHA.

The construction air dispersion modeling for the HRA was performed using the U.S. EPA AERMOD dispersion model. AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. AERMOD estimates hourly concentrations for each source/receptor pair and calculates concentrations for user-specified averaging times, including an average concentration for the complete simulation period. AERMOD includes atmospheric dispersion options for both urban and rural environments and can address flat, gently rolling, and complex terrain situations. The modeling and analysis were prepared in accordance with the MBARD guidance. The parameters used in AERMOD are presented in Table 5-3: Construction Health Risk Assessment Parameters.

Table 5-3: Construction Health Risk Assessment Parameters

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the Watsonville Airport air monitoring station (KWVI) was used for the dispersion modeling based on the recommendation of the MBARD. A meteorological data set from 2015 through 2019 was obtained from CARB in a preprocessed format suitable for use in AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. Based on the Project location, the urban dispersion option was selected.
Terrain Characteristics	Digital elevation data were imported into AERMOD and elevations were assigned to receptors and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a resolution of 1 arc-second resolution.
Source Release Characterizations	Air dispersion modeling of DPM emissions was conducted assuming the off-road equipment and trucks would operate in accordance with the modeling scenario estimated in CalEEMod, based on the best information available at the time of analysis: ▪ On- and off-road equipment and trucks were modeled as a lines of adjacent volume sources across the entire Project site, with a release height of 3.4 meters, a plume height of 6.8 meters, and plume width of 10 meters. (US EPA, 2015)
Receptors	▪ To identify the maximum impacted sensitive receptors, a uniform Cartesian grid was placed over the sensitive receptors in the Project site's vicinity. Given the Project site's size, sensitive receptors were modeled with a maximum of 50-meter grid spacing.

Source: Appendix B.
Notes: AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model; MBARD = Monterey Bay Air Resources District; DPM = diesel particular matter; CalEEMod = California Emissions Estimator Model.

Cancer Risk

Based on the OEHHA methodology, residential inhalation cancer risk from annual average DPM concentrations are calculated by multiplying the daily inhalation dose, cancer potency factor, age sensitivity factor (ASF), frequency of time spent at home, and exposure duration divided by averaging time, yielding the excess cancer risk. These factors are discussed in more detail below. It is important to note that exposure duration is based on continual heavy truck operation along nearby roadways. Exposure through inhalation (Dose-air) is a function of breathing rate, exposure frequency, and concentration of substance in the air. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\text{Dose-air} = C_{air} * (BR/BW) * A * EF * 10^{-6}$$

Dose-air = dose through inhalation (mg/kg/day)
C_{air} = air concentration (µg/m^3) from air dispersion model

(DBR/BW) = daily breathing rate normalized to body weight (L/kg bodyweight-day)
A = inhalation absorption factor (unitless)
EF = exposure frequency (approximately 350 days per year for residential)
10^{-6} = conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to consider the increased sensitivity to carcinogens during early-life exposure. In the absence of chemical-specific data, OEHHA recommends default ASFs presented in Table 5-4: Exposure Assumptions. Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to the facility's emissions are not occurring away from home. OEHHA recommends the FAH values presented in Table 5-4.

Table 5-4: Exposure Assumptions

Scenario	Age	Exposure Frequency (days/year)	Exposure Duration (years)	Age Sensitivity Factor[1] (ASF)	Fraction of Time at Home (FAH)	Daily Breathing Rate (L/kg BW-day)[2]
Construction	**Residential**					
	Third trimester	350	0.25	10	85%	361
	0 to 2 years	350	1.75	10	85%	1,090
	Ages 2 through 8 years	350	7	3	72%	631
	Ages 9 through 15 years	350	0.5	3	72%	572
	Ages 16 and greater	350	0	1	73%	261
	Worker[3]	250	9.5	1	N/A	230
	Student[3]	180	9.5	3	N/A	640

1. Accounts for potential increased sensitivity to carcinogens during childhood.
2. Daily breathing rate normalized to body weight (L/kg body weight - day) (95th percentile for 3rd trimester to 2 years and 80th percentile for other age groups). Worker and Student breathing rates are 95th percentile 8-hour breathing rates based on moderate intensity activity.

Source: California Office of Environmental Health Hazard Assessment, *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments*, February 2015.

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$Risk_{inh\text{-}res} = (Dose_{air}*CPF*ASF*(ED/AT)*FAH)$$

$Risk_{inh\text{-}res}$ = residential inhalation cancer risk (potential chances per million)
$Dose_{air}$ = daily dose through inhalation (mg/kg-day)
CPF = inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
ASF = age sensitivity factor for a specified age group (unitless)

ED = exposure duration (years)
AT = averaging time of lifetime cancer risk (years)
FAH = fraction of time spent at home (unitless)

Chronic Non-Cancer Hazard. Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. For example, according to OEHHA, the chronic REL for DPM is 5 and the target organ is the respiratory system.[12] The following equation was used to determine the non-cancer risk:

$$\text{Hazard Index} = C_i/REL_i$$

C_i = concentration in the air of substance i (annual average concentration in $\mu g/m^3$)
REL_i = chronic noncancer Reference Exposure Level for substance ($\mu g/m^3$)

Health Risk Computation

A health risk computation was performed to determine the risk of developing an excess cancer risk calculated on a 2.5-year construction exposure scenario and the daily breathing rates, age sensitivity factors, exposure duration, and fraction of time at home described in the OEHHA *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments* (February 2015). Health risks were analyzed at the point of maximum impact and are a conservative estimate. The pollutant concentrations are then used to estimate the long-term cancer health risk to an individual as well as the non-cancer chronic health index.

The off-site impacts would occur from the diesel trucks accessing the Project. The cancer and chronic health risks are based on the annual average concentration of PM_{10} (used as a proxy for DPM). As noted above, the chronic and carcinogenic health risk calculations are based on the standardized equations contained in the U.S. EPA *Human Health Evaluation Manual* (1991) and the OEHHA Guidance Manual (2015). The health risk computation was performed to determine the risk of developing an excess cancer risk calculated on these worst-case exposure duration scenarios. The chronic and carcinogenic health risk calculations are based on the standardized equations contained in the OEHHA Guidance Manual. The cancer and chronic risk results were then compared to MBARD thresholds to assess the Project's impact significance. Only the risk associated with the worst-case location of the Project was assessed.

5.3.1 Project Impact Analysis

As described in the Initial Study (see Appendix A), the Project would not conflict with or obstruct implementation of the applicable air quality plan (AIR-1) and the Project would not

[12] California Office of Health Hazard Assessment, OEHHA Acute, *8-hour and Chronic Reference Exposure Level (REL) Summary*, 2020. https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary)

result in the creation of objectionable odors (AIR-4). Thus, no further discussion is required for these topics. The impact analyses in the following section address Project emissions of criteria pollutants (AIR-2) and exposure of sensitive receptors to substantial pollutant concentrations (AIR-3).

Project Impacts

Impact AIR-2: Criteria Pollutant Emissions. The Project would result in emissions of criteria pollutants, but would not exceed adopted thresholds of significance, violate any air quality standard or contribute substantially to an existing or projected air quality violation (AIR-2). This is a *less-than-significant* impact.

Construction

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by off-road construction equipment, soil disturbance, ROG off-gassing from architectural coatings and asphalt pavement application, as well as on-road haul trucks, delivery trucks, and worker vehicle trips. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emissions levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts.

Criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod based on the construction scenario presented in Section 5.3.2, Analytical Methods. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the Project applicant and is intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed Project information was not available. The Project's predicted maximum daily construction-related emissions are summarized in Table 5-5: Project Daily Construction Emissions.

As shown in Table 5-5, Project construction would not exceed MBARD's daily thresholds. In addition, the project would implement erosion control plans and erosion control measures as required in the City's Municipal Code Chapter 18.45, which would further reduce generation of dust. Therefore, Project construction impacts associated with criteria air pollutant emissions would be *less-than-significant*.

Table 5-5: Project Daily Construction Emissions

Emissions Source	Pollutant (pounds/day)					
	ROG	NO_x	CO	SO_2	PM_{10} Total	$PM_{2.5}$ Total
2025	0.88	15.73	29.16	0.12	19.88	10.23
2026	2.14	15.10	31.91	0.12	9.23	4.11
2027	117.30	7.85	35.02	0.03	3.21	0.90
2028	117.14	7.47	33.93	0.03	3.21	0.89
Threshold	---	---	---	---	**82**	---
Exceed Threshold	**NA**	**NA**	**NA**	**NA**	**No**	**NA**

Notes:
1. Emissions include compliance with the City's Standard Conditions Standard Erosion Control, Wind Erosion Control and Construction Equipment Exhaust Control.
Source: CalEEMod v. 2022 and Appendix B.

Operations

Operational emissions for mixed-use developments are typically generated from mobile sources (burning of fossil fuels in cars); energy sources (cooling, heating, and cooking); and area sources (landscape equipment and household products). Table 5-6: Project Buildout Operational Emissions shows that the Project's maximum emissions would not exceed MBARD operational thresholds.

Table 5-6: Project Buildout Operational Emissions

Emission Source	Pollutants (pounds/day)					
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
Area	12.07	< 0.01	29.15	0.02	0.02	< 0.01
Energy	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01
Mobile	9.09	5.64	46.66	7.40	1.93	0.08
Emissions Total	**21.17**	**5.65**	**75.82**	**7.42**	**1.95**	**0.08**
MBARD Threshold	137	137	550	82	55	150
Are Thresholds Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
The season (summer or winter) with the highest emissions total for each individual pollutant is used in comparing to the threshold.
Area source emissions include natural gas fuel combustion, landscape fuel combustion, consumer products, architectural coatings, and hearth fuel combustion (i.e., wood stoves, wood fireplaces, natural gas fireplace/stoves). However, for this Project no wood-burning fireplaces are allowed.
Source: CalEEMod v. 2022 and Appendix B.

As shown in Table 5-6, the Project operations would not exceed MBARD's significance thresholds. Therefore, Project operational impacts associated with criteria air pollutant emissions would be *less-than-significant*.

Conclusion

Short-term construction and long-term operational activities associated with the Project would result in a minimal increase in daily criteria air pollutant emissions but would not exceed the applicable MBARD thresholds. Thus, the Project would not contribute substantially to an increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard. Therefore, Project impacts regarding criteria air pollutant emissions would be *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact AIR -3: Exposure of Sensitive Receptors. The Project would not expose sensitive receptors to substantial pollutant concentrations during short- term construction or during long-term operations (AIR-3). Therefore, this is a *less-than-significant* impact.

Construction Health Risk

As discussed in Section 5.3.2, a construction HRA was performed to estimate the potential health risk for proximate residential and worker receptors associated with Project construction. Project construction would occur for a period of approximately 2.5 years. As such, the health risk computation was performed to determine the risk of developing an excess cancer risk calculated on a 2.5-year exposure scenario, beginning with the third trimester. Notably, as there is no reference exposure level for acute health impacts from DPM, acute risk was not evaluated in the construction HRA. Results of the construction HRA are presented in Table 5-7: Construction Health Risk.

Table 5-7: Construction Health Risk

Exposure Scenario	Pollutant Concentration ($\mu g/m^3$)	Maximum Cancer Risk (Risk per Million)	Chronic Noncancer Hazard
Project Construction[1]			
Construction (Resident)	0.019	6.62	<0.01
Construction (Worker)	0.030	0.71	<0.01
Threshold	*0.3*	*10 in one million*	*1.0*
Threshold Exceeded	**No**	**No**	**No**

Refer to Appendix C.
Project construction air quality emissions modelling assumed all diesel-fueled off-road construction equipment greater than 75 horsepower to be zero-emissions or equipped with California Air Resources Board (CARB) Tier 4 Final engines.

As shown in Table 5-7, the construction cancer risk at the Maximum Exposed Individual Resident (MEIR) would not exceed the MBARD threshold of 10 in one million. The City's standard conditions of approval for a project require that "all diesel-fueled off-road construction equipment greater than 75 horsepower shall be zero-emissions or equipped with California Air Resources Board (CARB) Tier 4 Final or Interim compliant engines. Alternatively, CARB Tier 2 or 3 compliant engines may be used if CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS) filters are added to each piece of off-road diesel-fueled equipment." Implementation of this standard condition of approval was factored in the modeling, and the results show that the cancer risk from Project construction would be below MBARD's 10 in one million threshold. Therefore, impacts would be *less-than-significant*.

> Standard Condition of Approval: All diesel-fueled off-road construction equipment greater than 75 horsepower shall be zero-emissions or equipped with California Air Resources Board (CARB) Tier 4 Final or Interim compliant engines. Alternatively, CARB Tier 2 or 3 compliant engines may be used if CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS) filters are added to each piece of off-road diesel-fueled equipment.

Operational Health Risk

Operational emissions from the Project would result from mobile sources (i.e., motor vehicle use) and area sources (such as the use of landscape maintenance equipment, consumer products, and architectural coatings). As discussed above, the majority of these emissions would be generated by vehicle travel occurring off-site from diesel and gasoline-powered vehicles trips to and from the Project site. The Project is not anticipated to require a significant number of truck deliveries and the majority of deliveries for the retail use would consist of vendor deliveries in light-duty trucks and vans and would be infrequent and irregular. Light-duty and gasoline-powered vehicles are not a substantial source of TAC emissions (e.g., DPM). Therefore, operational emissions would not be considered a substantial source of TACs and this impact related to operational TAC emissions would be *less-than-significant* based on MBARD thresholds.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a

P=project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (Hot-Spot Analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site that is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (40 CFR 93.123). While Project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last approximately 4 years and would not require a project-level construction hotspot analysis.

The Project would not generate a substantial amount of trips per hour as it is primarily a residential Project with ground floor retail. The Project's effects to existing vehicle distribution and travel speeds would be nominal and would not exceed the 24,000 vehicles per hour screening criterion. Accordingly, Project-related traffic would not exceed CO standards and therefore, no further analysis was conducted for CO impacts. Therefore, the CO emissions impact of the Project would be *less-than-significant*.

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the Project would not result in emissions that would exceed any of the MBARD thresholds for criteria air pollutants (see Impact AIR-2).

Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue. ROG and NO_X are precursors to O_3. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROG and NO_X to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the Air Basin due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of reliable and meaningful quantitative methods to assess this impact. However, because the Project would not exceed MBARD thresholds for ROG or NO_X and the Air Basin is designated as in attainment of the NAAQS and CAAQS for O_3, implementation of the Project would not significantly contribute to regional O_3 concentrations or the associated health effects.

In addition to O_3, NO_X emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_X). Health effects associated with NO_X and NO_2 include lung irritation and enhanced allergic responses (CARB 2019c). Because the Project would not generate NO_X emissions that would exceed the MBARD mass daily threshold and because the Air Basin is designated as in attainment of the NAAQS and CAAQS for NO_2 and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards, the Project would

not contribute to exceedances of the NAAQS and CAAQS for NO_2 or result in significant health effects associated with NO_2 and NO_X.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019d). CO tends to be a localized impact associated with congested intersections. Impacts associated with CO hotspots were identified above as less-than-significant. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

As discussed above, the Air Basin is designated as a non-attainment area for the state PM_{10} standard. Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease. Construction and operation of the Project would not exceed MBARD's PM_{10} thresholds and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or obstruct the Air Basin from coming into attainment for this pollutant. Regarding $PM_{2.5}$, the Air Basin is designated as in attainment for the NAAQS and CAAQS. Due to the minimal contribution of particulate matter during construction and operation, the Project would not result in significant health effects associated with PM_{10} or $PM_{2.5}$.

Based on the preceding considerations, because construction and operation of the Project would not result in the emissions of criteria air pollutants that would exceed the applicable MBARD significance thresholds, and because the MBARD thresholds are based on levels that the Air Basin can accommodate without affecting the attainment date for the NAAQS and CAAQS, and the NAAQS and CAAQS are established to protect public health and welfare, it is anticipated that the Project would not result in health effects associated with criteria air pollutants and the impact would be *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

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6 Cultural Resources and Tribal Cultural Resources

6.1 Introduction

This chapter analyzes potential Project impacts to historical and tribal cultural resources. Historical resources and tribal cultural resources are further defined as follows:

- Historic or architectural resources, sometimes referred to as built environment resources, are buildings or structures the have significant associations with historical events, or the lives of people important in the past. Architectural buildings or engineering structures can also be found significant as a distinctive representation of property type that possesses high artistic values, or a representative example work of a master's in architecture or engineering.
- Tribal cultural resources, defined in Section 21074(a) of the Public Resources Code, are sites, features, places, cultural landscapes, sacred places, or objects which are of cultural value to a California Native American tribe.

This section is based on a review of cultural resource evaluations conducted for the Project and Project site by Archaeological Resource Management (2019a) and PAST Consultants (2023), as well as an updated historical evaluation prepared for this EIR by Pacific Legacy (2024), which is included in Appendix D, and tribal consultations conducted by the City of Santa Cruz.

6.2 Scoping Issues Addressed

Agency comments related to cultural resources were received from the Native American Heritage Commission (NAHC) during the public scoping period in response to the Notice of Preparation (NOP), and are included in Appendix A. The comments identified requirements for review of tribal cultural resources and tribal consultations and provided recommendations for cultural resources assessments. To the extent that issues identified in public comments involve potentially significant effects on the environment according to the California Environmental Quality Act (CEQA) and/or are raised by responsible agencies, they are identified and addressed within this EIR.

6.3 Environmental Setting

6.3.1 Regulatory Setting

Federal

Federal regulations for cultural resources are primarily governed by Section 106 of the National Historic Preservation Act (NHPA) of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places (NRHP). The criteria for

determining NRHP eligibility are found in Title 36 of the Code of Federal Regulations (CFR) Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings.

National Register of Historic Places

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service (NPS) under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act (NHPA), as amended. Its listings encompass all National Historic Landmarks and historic areas administered by the NPS.

A historic property is defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria" (36 Code of Federal Regulations (CFR) Sections 800.16(i)(1)).

For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria listed below:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have "integrity". Integrity is defined in NRHP guidance, How to Apply the National Register Criteria, as "the ability of a property to convey its significance". NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility.

As per the National Register criteria, the associated features of a subject property are assessed individually on the basis of their historic integrity, followed by a determination of it constituting either a contributing or non-contributing resource. The National Park Service defines "contributing" and "non-contributing" as follows:

- Contributing resources are the buildings, objects, sites, and structures that played a role or, more simply, existed at the time the event(s) associated with the proposed National Historic Landmark occurred.
- Non-contributing resources are the buildings, objects, sites, and structures that did not exist at the time the event(s) associated with the proposed National Historic Landmark occurred or have lost integrity from that historic period.

State

California Register of Historical Resources

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

In California, the term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code (PRC), Section 5020.1(j)). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)).

The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." In addition, the CRHR requires that sufficient time must have passed to allow for scholarly perspective, which is generally 50 years according to SHPO publications. Archaeological resources can sometimes qualify as "historical resources" (CEQA Guidelines, Section 15064.5[c][1]). In addition, Public Resources Code Section 5024 requires consultation with SHPO when a project may impact historical resources located on state-owned land.

Two other programs are administered by the state: California Historical Landmarks and California Points of Interest. California Historical Landmarks are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Interest are buildings, sites, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Assembly Bill 52-Native American Consultation

Assembly Bill 52 (AB 52), effective July 1, 2015, recognizes that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities. The law establishes a separate category of resources in the CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. The legislation also requires lead agencies to consult with all California Native American tribes that have requested formal notification of projects, and that consultation be conducted if requested.

California Environmental Quality Act

State CEQA Guidelines Section 15064.5 defines a "historical resource." State CEQA Guidelines Section 15064.5 defines a historical resource as:

- A resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR);
- A resource listed in a local register of historical resources;
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be historically significant." Generally, a resource is considered historically significant if it meets criteria for listing in the California Register of Historical Resources, including:

- Is associated with events that made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with the lives of people important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values.
- Has yielded or may be likely to yield information important in prehistory or history; OR
- A resource determined to be a historical resource by a project's lead agency.

Local

City of Santa Cruz

General Plan 2023

The Historic Preservation, Arts & Culture Element of the City's General Plan 2030 Policy HA1.2 requires new development to protect (or where not possible, responsibly manage) sensitive archaeological and paleontological resources as early in the land-use planning and development process as possible. Action HA1.2.2 require preparation of archaeological investigations on sites proposed for development within areas identified as sensitive on the City's Archaeological Sensitivity map, Policy HA1.3 requires the City to seek and consider input of descendent community and historical organization on the protection of archeological resources. Policy HA1.4 requires new development to manage the discovery of human remains and the protection of archaeological deposits in accordance with local, State, and federal requirements.

Historic Preservation Ordinance

The City, as part of its status as a Certified Local Government, has an historic preservation ordinance (HPO) which provides for the protection, enhancement, and perpetuation of significant cultural resources in the General Plan Area. The HPO provides the statutory framework for local preservation decisions and includes sections in the City's Municipal Code governing the following topics:

- Historic District Designation (Part 2, Chapter 24.06);
- Historic Landmark Designation (Section 24.12.420);
- Archaeological Resource Procedures (Section 24.12.430);
- Procedure for Amending Historic Building Survey (Section 24.12.440);
- Procedure: New Construction in Historic Districts (Section 24.12.450);
- Historic Alteration Permit (Part 10, Chapter 24.08);
- Historic Demolition Permit (Part 11, Chapter 24.08); and

- Historic Overlay District (Part 22, Chapter 24.10).

The designation and treatment of historic properties is codified in the City of Santa Cruz Municipal Code, *Chapter 24.12 – Community Design, Part Five: Historic Preservation (Municipal Code Sections 24.12.400 – 24.12.450*). Historic resources must meet the criteria of the National Register, California Register, or City of Santa Cruz Historic Preservation criteria. The City's Historic Preservation criteria are located in *Chapter 24.12.440 - Santa Cruz Historic Building Survey*, and are the following:

The property is either a building, site, or object that is:

SC-1. Recognized as a significant example of the cultural, natural, archaeological, or built heritage of the city, state, or nation; and/or

SC-2. Associated with a significant local, state, or national event; and/or

SC-3. Associated with a person or persons who significantly contributed to the development of the city, state, or nation; and/or

SC-4. Associated with an architect, designer, or builder whose work has influenced the development of the city, state, or nation; and/or

SC-5. Recognized as possessing special aesthetic merit or value as a building with quality of architecture and that retains sufficient features showing its architectural significance; and/or

SC-6. Recognized as possessing distinctive stylistic characteristics or workmanship significant for the study of a period, method of construction, or use of native materials; and/or

SC-7. Retains sufficient integrity to accurately convey its significance.

6.3.2 Historical Context

The Project is located in the traditional territory of the Native American group commonly known as the Ohlone. The following is a summary of early settlement activities in the greater Santa Cruz area, as described by Pacific Legacy (May 2024), which is included in Appendix D.

Spanish/Mexican Era

The first Spanish exploration of the area was led by Gaspar de Portola in 1769, while he was looking for Monterey Bay. In 1791, Mission Santa Cruz was established at the bottom of what is now Mission Hill and after flooding, was relocated on higher ground along what is now Water Street in the City.

In 1797, Villa de Branciforte was established by the Spanish government as a secular settlement. The villa was located across the San Lorenzo River, less than a mile from the

Mission. The original main thoroughfare through Branciforte is now North Branciforte Avenue in the City.

In 1821 Mexico gained independence from Spain, shifting governance of the region to the new nation. Inn 1833 the Mexican government began secularizing the missions, intending to shift ownership of the missions and their lands to the Native Californians. While this did happen to a certain extent, the larger shift was the establishment of ranchos through land grants. Most of these went to people of European descent rather than the native peoples. Between 1833 and 1846 no less than 21 land grants were made in what is now Santa Cruz County. Five of these ranchos were completely or partially within the current City boundaries: Rancho Potrero Y Rincon de San Pedro Regalado, Rancho Tres Ojos de Agua, Rancho Refugio, Rancho Carbonera, and Rancho Arroyo del Rodeo. The economy of the ranchos was almost completely based on cattle ranching for the hide and tallow trade.

American Period

Through the 1840s, California remained a frontier of Mexico, with only a small population of non-Native settlers. By 1850, Santa Cruz County had a (non-Native) population of only 643 people. However, with substantial population growth (in large part due to the discovery of gold in the Sierra foothills), the population in Santa Cruz County increased significantly. Villa de Branciforte and adjacent ranchos proved an enticing location particularly for maritime transport, in a state nearly completely devoid of transportation infrastructure at the time. The mild climate and rich soil in the area also made agriculture an attractive pursuit. The nearby mountains held extensive stands of redwood around which an extensive lumber industry developed. The region held other natural resources, including limestone, which soon proved to be important to the development of the local economy.

By 1866 enough people had settled in the area that the environs of the former Villa de Branciforte were incorporated as the town of Santa Cruz. The growth of the community, however, was slow during the rest of the nineteenth century.

Historical Development of the Project Area

The Project area is situated on former Mission lands. Unfortunately, the records for who owned, occupied, or otherwise used the land between the secularization of the Mission (1834), and the late 1800s are unclear. Various individuals filed patents with the US government for land that may overlap with the Project area, but the patent descriptions are not clear as to who acquired what land. These people included: Pedro Conservain (1858), Joseph Leedoe Alemany (1859), and William Bocee (1866/1873).

The population of Santa Cruz steadily rose until 1900. Between 1900 and 1910, however, the population nearly doubled leading to the rapid expansion of the City. Despite this steady nineteenth century growth, prior to the 1890s, there was very little development east of the San Lorenzo River, in the vicinity of the Project area.

Up to at least 1888, most of the Project site was used as a nursery. This included a singular residence facing Ocean Street at roughly the middle of the block of the Project site, as well as an outhouse, several green houses, a shed, and other unidentified structures. By 1892, the nursery was gone, and the Project site began to fill in with wood-framed residential buildings. By 1905, the Project site had become a well-established residential neighborhood, with wood-framed residential structures filling in most of the available lots. The exception to this were the lots facing May Avenue (then known as Santa Cruz Street), which remained mostly vacant.

Architectural Setting

Following World War II and the completion of State Highway 1, the rise of automobile tourism transformed Ocean Street into a multi-lane arterial lined with restaurants and hotels serving tourists driving to the Santa Cruz Beach Boardwalk and beaches. During this period other architectural styles came into their own as well, prominent among these was mid-century modern. This style emphasized creating structures with numerous large windows and open floorplans, with the intention of opening up interior spaces and bringing the outdoors in. Many mid-century structures used exposed post and beam architectural that eliminated bulky support walls further opening-up the floorplan. Function was as important as form in many mid-century designs. This architectural style was employed in both residential and commercial structures, including the current Togos restaurant at 902 Ocean Street.

6.3.3 Project Site Conditions

Tribal Cultural Resources

State Assembly Bill 52, effective July 1, 2015, recognizes that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities. The law establishes a new category of resources in the CEQA called “tribal cultural resources” that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. Public Resources Code section 21074 defines a “tribal cultural resource” as either:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
    b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

A Cultural Resource Evaluation of the Project site in November 2019 by Archaeological Resource Management that included an archival search of previous records of the California

Archaeological Site Inventory was performed at the Northwest Information Center and a surface reconnaissance. Archival research revealed that no previously recorded sites are located within the Project area. One previously recorded archaeological site was found to be located within one-quarter mile of the Project site, which is described as a disturbed prehistoric site in a residential subdivision. No traces of significant cultural material, prehistoric or historic, were noted during surface reconnaissance, although site visibility was poor (Archaeological Resource Management 2019a).

In 2024, Pacific Legacy contacted the Native American Heritage Commission (NAHC) for review of the Sacred Lands Files, as part of preparation of this EIR. The NAHC responded that the records search yielded positive results, and NAHC recommended contacting the Costanoan Ohlone Rumsen-Mutsen Tribe, as well as seven other identified tribes. The Costanoan Rumsen Carmel Tribe and the Amah Mutsun Tribe were contacted by the City as described below.

The City of Santa Cruz received formal requests for notification on proposed projects pursuant to Public Resources Code (PRC) section 21080.3.1 from two Native American tribes traditionally and culturally affiliated with the City. The City received the requests from the Amah Mutsun Tribe in April 2022 and from the Costanoan Rumsen Carmel Tribe in May 2024. Both of these tribes requested notification of development projects within the City pursuant to AB 52 requirements codified in Public Resources Code section 21080.3.1.

Pursuant to PRC section 21080.3.1, the City provided notification of the Project to the Amah Mutsun Tribal Band on December 23, 2023, which was within 14 days of determining the Project application complete. The tribe responded to the City within the required 30-day period and requested formal consultation pursuant to PRC section 21080.3.1 on December 27, 2023. The City responded on January 2, 2024, asking for available dates for consultation, and after a series of email communications, consultation was initiated on January 25, 2024. Additional information was requested by the tribe, which was provided by the City. The tribe in subsequent communications with the City identified potential impacts to tribal cultural resources due to the proximity of the Project site to known Native American settlements and recommended Native American monitoring and cultural sensitivity training as part of Project construction. The recommendation was accepted by the City, and consultation concluded on May 16, 2024.

The City provided notification of the Project to the Costanoan Rumsen Carmel Tribe on June 11, 2024. The tribe did not request consultation with the City.

Structures on the Project Site

As described in Table 6-1: Structures on the Project Site and shown in Figure 6-1: Structures on the Project Site, there are 16 existing residential and commercial structures on the Project site (including garages and other ancillary structures). All of the existing, onsite buildings were constructed 50+ years ago, and thus, subject to review for historical resources.

Table 6-1: Structures on the Project Site

Address	APN	Buildings on Parcel
130 Hubbard St.	008-331-04	C-1878 Folk Victorian house
451 May Ave.	008-331-06	Circa -1906 Queen Anne Victorian house and adjacent residential accessory dwelling unit
1014 Ocean St.	008-331-41	Circa -1890 Queen Anne Victorian house
1010 Ocean St.	008-331-32	Circa -1890 Vernacular Queen Anne house and adjacent residential accessory dwelling unit and garage
1008 Ocean St.	008-331-31	Circa -1895 Queen Anne Victorian house
1004 Ocean St.	008-331-30	Circa -1908 Neoclassical bungalow
928 Ocean St.	008-331-29	Circa -1905 Neoclassical bungalow
423 May Ave.	008-331-13	Circa -1957 California ranch house
902 Ocean St.	008-331-45	Circa-1960 Mid-Century Commercial Restaurant
457 May Ave.	008-331-05	Circa -1958 Commercial building
920 Ocean St.	008-331-28	Circa -1945 Commercial building
429 May Ave.	008-331-12	Circa -1960 Kiosk, no foundation
431 May Ave.	008-331-35	Circa -1906 Queen Anne Victorian house. Currently used for commercial storage.
908 Ocean St.	008-331-25	No existing structures
912 Ocean St.	008-331-26	No existing structures
916 Ocean St.	008-331-27	No existing structures
126 Hubbard St.	008-331-03	No existing structures
417 May Ave.	008-331-15	No existing structures
421 May Ave.	008-331-14	No existing structures
435 May Ave.	008-331-08	No existing structures
449 May Ave.	008-331-07	No existing structures

Source: Pacific Legacy, 2024

Residential Structures

Eight of these structures date to the original period of development within the block, with estimated dates of construction ranging from circa 1878 to circa 1908. All are residential and most are either Queen Anne-style (four structures) or Neoclassical-style (three structure) homes. Queen Anne-style homes have no actual connections to the reign of Queen Anne, rather it was established circa 1876 during the Victorian-era. There is also one later California ranch-style (ranch) residence on the Project site. Detailed descriptions of these structures, including State of California Department of Parks and Recreation (DPR) historic resource survey forms, are included in Appendix D.

None of the structures are currently listed on the CRHR or the NRHP, and do not appear eligible for listing in these registers based on the historic resource evaluations included in Appendix D.

In addition, none of the structures are currently listed on the City of Santa Cruz Historic Building Survey (Survey). Three volumes of the Survey have been completed, documenting the best examples of the various architectural styles present in the City. Pacific Legacy (and previous authors) have reviewed these volumes and concluded that the examples of the Neoclassical style and the Queen Anne style presented in those volumes maintain stronger historic integrity and appear to be in better condition than their counterparts within the Project site.

One structure, the residence at 130 Hubbard Street, appears eligible for listing in the City's Historical Building Survey. The home was constructed in 1878, and although it has been altered, it appears eligible for inclusion in the City of Santa Cruz Historic Building Survey under Criteria SC-4, 5, and 6 as a good example of the National Folk style, characteristic of the middle-to-late 19th Century, described as follows:

- 130 Hubbard Street. The house is a circa-1878 wood-framed house designed in the Folk Victorian-style. It is in fair to poor condition, with multiple additions to the rear (south) elevation. The 1905 Sanborn map indicates a west-elevation porch, which has been removed. The Sanborn map also indicates a full-width front porch. Since the present porch is smaller and of early-twentieth century materials, it appears that the front porch was replaced with Colonial Revival columns and concrete stairs installed as a part of the early-twentieth century modifications. Additionally, window sash modifications have been installed at various locations.

Commercial Structures

The four existing commercial buildings within the Project are of fairly generic mid-twentieth century architectural styles. Two of these (902 Ocean Street and 457 May Avenue) have been heavily modified, retaining little of their original character. The third (429 May Avenue) is a simple temporary structure lacking any distinctive architectural style. None of these buildings appear to be significant.

Although not located within the Project site, the Marianne's Ice Cream property at 1020 Ocean Street is located directly adjacent to the Project. This is a single-story commercial building in good condition. Marianne's Ice Cream was founded in 1947 by Lenore and Tom Becker, who named the business after their daughters Mary and Anne. In 1958 the ice cream parlor was sold to Sam and Dorothy Lieberman, who ran the business for over fifty years and expanded the menu of ice cream flavors with many original recipes. Since 2012 the company has been owned by Kelly Dillon and Charlie Wilcox. The owners of the Marianne's Ice Cream business have never owned the property on which it is located. Marianne's Ice Cream is not currently listed in the City of Santa Cruz Historic Building Survey. However, this is a locally well-known business which has operated since 1947 and appears eligible for listing on the register (Archaeological Resource Management 2019b).

6.4 Impacts and Mitigation Measures

6.4.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

CUL-1 Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;

CUL-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;

CUL-3 Disturb any human remains, including those interred outside of formal cemeteries; or,

CUL-4 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: (i) 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(k); or (ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

CEQA Guidelines Section 15064.5(b) defines a "substantial adverse change" to a historical resource as: "physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an

historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources or in registers meeting the definitions in Public Resources Code 5020.1(k) or 5024.1(g).

6.4.2 Project Impact Analysis

As described in the Initial Study (see Appendix A), the Project would result in less-than-significant impacts regarding archaeological resources (CUL-2) and disturbance of human remains (CUL-3). Thus, no further discussion is required for these topics. The impact analyses in the following section address Project impacts to historical resources (CUL-1) and tribal cultural resources (CUL-4).

Impact CUL-1: Historical Resources. Project development would cause a substantial adverse change in the significance of a historical resource due to demolition (CUL-1). This is a *significant* impact.

The Project would result in the demolition of one existing structure (130 Hubbard Street) that is considered a historical resource under CEQA as it is eligible for listing in the City's Historical Building Survey. Based on review by Pacific Legacy, this residential structure is eligible for inclusion in the City of Santa Cruz Historic Building Survey under Criteria SC-4, 5, and 6 as a good example of the National Folk style, characteristic of the middle-to-late 19th Century.

According to CEQA, a "project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment." Substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired." The significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance" and that justify or account for its inclusion in, or eligibility for inclusion in, the California Register. Thus, the Project would result in a substantial adverse change in the significance of the CEQA historical resources, due to demolition of the building in order to construct the Project.

According to the State CEQA Guidelines section 15064.5(b)(3), generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings shall be considered as mitigated to a level of less than a significant impact on the historical resource. With designs that meet the Secretary of Interior's Standards, any impacts would be considered less-than-significant. In the present case, the buildings would be completely demolished and would not be restored or rehabilitated. Discussion of potential alternatives to preserve or restore the buildings is presented in Chapter 15 Alternatives.

Demolition of CEQA Historical Resources cannot be mitigated to a less-than-significant level, although mitigation measures can be required. Common mitigation measures for demolition consist of documentation of the resource, typically to the standards of the Historic American Buildings Survey (HABS) and/or interpretation that may include the installation of an interpretive display or video. Section 15126.4(b)(2) of the CEQA Guidelines is clear in this regard: "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur."

As indicated above, the building at 1020 Ocean Street that is the current location of Marianne's Ice Cream is not currently listed in the City of Santa Cruz Historic Building Survey. However, this is a locally well-known business which has operated since 1947 and a previous project report indicated that the building appears eligible for listing in the City's Historical Building Survey (Archaeological Resource Management 2019b), although the property was subject to a full historical resources evaluation. The review found that the Project is set back more than 10 feet at the closest point from the Marianne's structure. The front façade of Marianne's is north facing (towards Hubbard Street) and will not be obstructed by the proposed project. In addition, the Project appears to be set back sufficiently from the street to not significantly affect the visibility of the Marianne's Ice Cream and Grog Shop signs along Ocean Street. Thus, it was concluded that the Project would not significantly impact the historic or architectural significance of this property (Archaeological Resource Management 2019b).

In addition, a cultural resources evaluation of the Project site conducted in 2019 by Archaeological Resource Management (Archaeological Resource Management, 2019b) indicated that the structures on the site date to the late 19th century to the mid-20th century, and that there is a potential for unknown subsurface historic deposits associated with these structures. Monitoring during earthmoving activities including demolition was recommended. As indicated in Appendix A, section 24.12.430 of the City's Municipal Code sets forth the procedure to follow in the event that prehistoric or cultural features are accidentally discovered during construction. Under provisions of this Code section, work shall be halted within 50 meters (150 feet) of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, the Planning Director shall be immediately notified, and appropriate mitigation measures shall be formulated and implemented.

Mitigation Measures

Implementation of Mitigation Measures CUL-1.1 would reduce the impact, but not to a less-than-significant level; therefore, the impact would remain significant and unavoidable. Alternatives to protect or relocation the eligible historic building at 130 Hubbard Street is discussed in Chapter 14 Alternatives.

Mitigation Measure CUL-1.1 Historic Documentation of the Structure at 130 Hubbard Street

Complete documentation of the historic building at 130 Hubbard Street prior to alteration or demolition in accordance with Historic American Buildings Survey (HABS) standards, which includes the following:

- Project proponent shall work with a qualified architectural historian to prepare local-level HABS documentation, as detailed below. HABS level photographs must be completed prior to demolition and construction of the Project. The full HABS documentation must be complete prior to completion of the Project. Copies of the HABS shall be provided to local Santa Cruz repositories.
- Measured Drawings: Select existing drawings, where available, should be reproduced on mylar. If existing historic drawings do not exist, a digital and hard copy set of measured drawings that depict the existing size, scale, and dimension of the subject property shall be produced. The measured drawing set shall include a site plan, sections, and other drawings as needed to depict existing conditions of the property. The scope of the drawing package will be reviewed and approved by local Planning Department staff prior to commencement of the task. All drawings shall be created according to the latest HABS Drawings Guidelines by the National Park Service. The measured drawings shall be produced by a qualified professional who meets the standards for architecture set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61).
- HABS-Level Photographs: Black and white large format negatives and prints of the interior, exterior, and setting of the subject property shall be produced. The photographs must adequately document the character-defining features and setting of the historic resource. Planning Department staff will review and approve the scope (including views and number) of photographs required prior to the commencement of this task. All photography shall be conducted according to the latest HABS Photography Guidelines by the National Park Service. The photographs shall be produced by a qualified professional photographer with demonstrated experience in HABS photography.
- HABS Historical Report: A written narrative historical report, per HABS Historic Report Guidelines, shall be produced. The report shall include historical information, including the physical history and historic context of the building, and an architectural description of the site setting, exterior, and interior of the building. The report shall be prepared by a qualified professional who meets the standards for history or architectural history set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). Archival copies of the drawings, photographs, and report shall be submitted to the Planning Department, and to repositories including but not limited to the San Francisco Public Library, Northwest Information Center, and California Historical Society. This mitigation measure would create a collection of reference materials that would be available to the public and inform future research.

Impact CUL-4: Tribal Cultural Resources. Project development could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 resource (CUL-4). Therefore, this is a *potentially significant impact*.

The California Public Resources Code section 21084.2 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." The Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Project.

According to maps developed for the City's General Plan 2030 and included in the General Plan EIR and updated in 2018, the Project site is located in an area mapped as "sensitive" for archaeological resources (City of Santa Cruz 2018). A cultural resources evaluation of the Project site was conducted in 2019 by Archaeological Resource Management (Archaeological Resource Management, 2019a), which included a records search of the California Historical Resources Information System (CHRIS) at the Northwest Information Center (NWIC) at Sonoma State University. The records search and field reconnaissance identified one previously recorded archaeological resources within a ¼-mile radius of the Project site and no evidence of significant cultural materials during the field reconnaissance. No significant cultural materials, prehistoric or historic were noted during surface reconnaissance. However, the subject area contains multiple structures dating from the late 19th Century to the mid-20th Century. There is a potential for subsurface historic deposits associated with these structures to be present within the proposed project area. Thus, it is recommended that archaeological monitoring take place during earthmoving activities including demolition and construction for the proposed project.

As a result of the AB 52 consultation process with the City, the Amah Mutsun Tribal Band and the Amah Mutsun Land Trust indicated that the Project could result in potential impacts to tribal cultural resources based on the archaeological sensitivity of the site and the site's proximity to pre-contract village sites and Villa de Branciforte. The tribe requested mitigation of the Project's potential impacts to tribal cultural resources in the form of tribal monitoring and cultural sensitivity training during construction.

Mitigation Measure

Implementation of Mitigation Measures CUL-2.1 would reduce this impact to a *less-than-significant* level.

Mitigation Measure CUL-2.1 Tribal Monitoring and Cultural Sensitivity Training

Require Native American monitoring by a representative of the Amah Mutsun Tribal Band to include cultural sensitivity training for construction workers and tribal monitoring during ground disturbing construction on the Project site and require monitoring during excavation by a qualified archaeologist.

6.5 References

Archaeological Resource Management.

a) November 2019. Cultural Resource Evaluation of the Ocean Street Project in the City of Santa Cruz.
b) November 2019. Historic Evaluations for the Properties within the Ocean Street Project in the City of Santa Cruz.

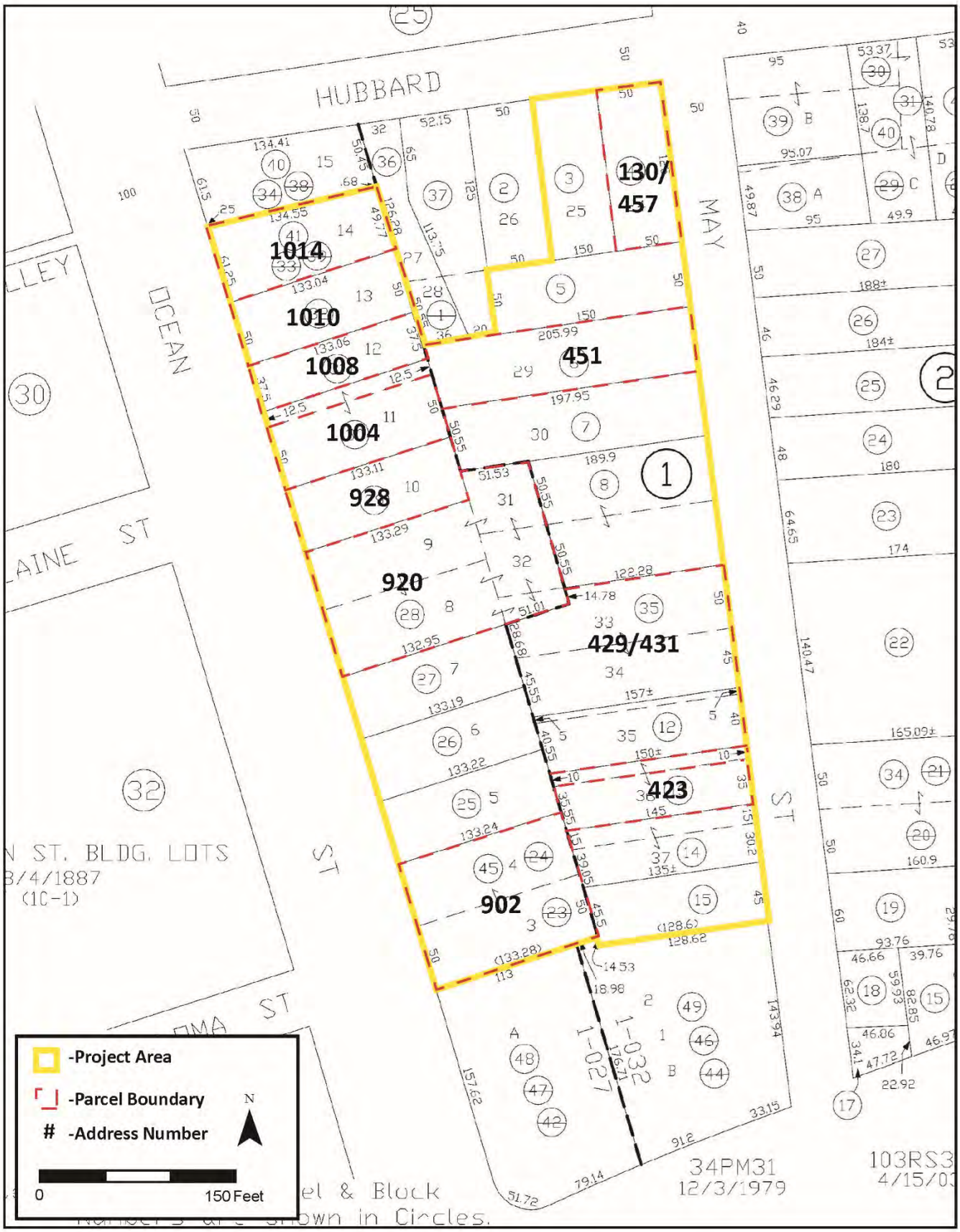
City of Santa Cruz. July 2018. "Cultural Resources Background Report Update with Policies, Programs, and Maps, City of Santa Cruz, Santa Cruz County, California." Prepared by Dudek.

City of Santa Cruz. April 2012. City of Santa Cruz General Plan 2030 Final EIR. SCH #2009032007. Certified June 26, 2012. Includes Draft EIR document, dated September 2011.

Pacific Legacy. May 2024. 908 Ocean Street Updated Evaluation of 13 Built Environment Resources.

PAST Consultants.

a) August 2023. 908 Ocean Street Redevelopment, Santa Cruz, CA Final Peer Review of Historic Evaluation Report by Others.
b) July 2023. Historic Evaluation for 902 Ocean Street, Santa Cruz, CA.



Source: Pacific Legacy, 2024

Figure 6-1 Structures on the Project Site

908 Ocean Street Mixed-Use Development
Draft EIR

Kimley»Horn

7 Energy

This chapter describes the Project's energy demands, changes in energy consumption, and effects of available energy conservation measures that could be applied to the Project. Information used in this analysis came from the following resources:

- California Emissions Estimator Model (CalEEMod) projections (see Appendix A)
- Energy Calculations (Appendix E)
- California Energy Commission (CEC)
- California Environmental Quality Act (CEQA) Air Quality Guidelines
- California Public Utilities Commission (CPUC)
- U.S. Energy Information Administration (EIA)

This analysis considers the electricity, natural gas, and transportation fuel (petroleum) demands of the Project, as well as potential service delivery impacts. This section is closely related to Chapter 8 Greenhouse Gas Emissions. Where appropriate, and to minimize redundancy, cross references to the applicable analysis is provided.

7.1 Scoping Issues Addressed

No public or agency comments related to energy were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

7.2 Existing Setting

7.2.1 Regulatory Setting

Although the focus of many of the federal and state regulations is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for energy resources. As such, this section presents regulations that pertain to energy that are either not included in Chapter 5 Air Quality or Chapter 8 Greenhouse Gas Emissions of this EIR, or that are specifically referenced in the energy impact determinations herein.

Federal

Federal Energy Policy and Conservation Act and CAFE Standards

In 1975, Congress enacted the federal Energy Policy and Conservation Act that established the first fuel economy standards, known as the Corporate Average Fuel Economy (CAFE) standards, for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards. In 2012, new CAFE standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on

each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Safe Affordable Fuel-Efficient Vehicles Rule

The Energy Policy Act of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. The act includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. The act requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in the act. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. The Energy Policy Act also requires states to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased CAFE standards for motor vehicles, the EISA facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020.
- While superseded by the U.S. Environmental Protection Agency (EPA) and NHTSA actions described previously, establishing miles per gallon targets for cars and light trucks and directing the NHTSA to establish a fuel economy program for medium-and heavy-duty trucks and create a separate fuel economy standard for trucks.

This federal legislation requires ever-increasing levels of renewable fuels (the RFS) to replace petroleum. EPA is responsible for developing and implementing regulations to facilitate that transportation fuel sold in the United States contains at least a minimum volume of renewable fuel.

The RFS program was created under the Energy Policy Act and established the first renewable fuel volume mandate in the United States. As required under the Energy Policy Act, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several ways that laid the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as "RFS2" and includes the following:

- The EISA expanded the RFS program to include diesel, in addition to gasoline.
- The EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- The EISA established new categories of renewable fuel and set separate volume requirements for each one.
- The EISA required EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green (environmentally beneficial) jobs.

State

Warren-Alquist Act

The California legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the California Energy Commission (CEC). The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- The act directed the CEC to formulate and adopt the nation's first energy conservation standards for buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Plan

CEC and CPUC approved the first State of California Energy Action Plan in 2003. The Energy Action Plan established shared goals and specific actions to support that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified

policies, strategies, and actions that are cost effective and environmentally sound for California's consumers and taxpayers. In 2005, CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the preceding 2 years.

At the beginning of 2008, CEC and CPUC determined that it was not necessary or productive to prepare a new Energy Action Plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed in "Assembly Bill 32 and Senate Bill 32"). Rather than produce a new Energy Action Plan, CEC and CPUC prepared an update that examines the state's ongoing actions in the context of global climate change.

Assembly Bill 1007

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with CARB and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Standards

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality.[13] These energy efficiency standards are reviewed every 3 years by the Building Standards Commission and the CEC and revised if necessary. The regulations receive input from members of industry, as well as the public, to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy". These regulations are carefully scrutinized and analyzed for technological and economic feasibility and cost effectiveness. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The current Title 24 standards are the 2022 Title 24 building energy efficiency standards, which became effective January 1, 2023.

In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24), which is commonly referred to as California's Green Building Standards (CALGreen), establishes minimum mandatory standards and voluntary standards pertaining to the planning

[13] California Public Resources Code Section 25402.

and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality.

2008 California Energy Action Plan Update

The 2008 Energy Action Plan (EAP) Update provides a status update to the 2005 EAP II, which is the State of California's principal energy planning and policy document. The 2008 EAP continues the goals of the original EAP and describes a coordinated implementation plan for state energy policies and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. First-priority actions to address California's increasing energy demands are energy efficiency, demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure), and the use of renewable sources of power. If these actions are unable to satisfy the increasing energy and capacity needs, the plan supports clean and efficient fossil-fired generation.

Advanced Clean Cars II

The Advanced Clean Cars II regulations will rapidly scale down light-duty- passenger, pickup truck and SUV emissions starting with the 2026 model year through 2035. The regulations will first amend the Zero-Emission Vehicle (ZEV) Regulation to require an increasing number of ZEVs and rely on currently available advanced vehicle technologies (i.e., battery-electric, hydrogen fuel cell electric and plug-in hybrid) to meet air quality and climate change emissions standards. Second, the Low-Emission Vehicle (LEV) Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. The regulations will substantially reduce air pollutants that cause climate change and threaten public health. In addition, the regulations will provide public health benefits of at least $12 billion over the life of reductions by reducing premature deaths, hospitalizations and lost workdays associated with exposure to air pollution. The shift to ZEVs and LEVs will reduce the demand for transportation fuel.

Advanced Clean Truck

The Advanced Clean Trucks (ACT) regulation is a manufacturer ZEV sales requirement and a one-time reporting requirement for fleets and large entities. The development and use of ACT will help CARB achieve its emissions reduction strategies as outlined in the State Implementation Plan (SIP), Sustainable Freight Action Plan, SB 350, SB 32, and AB 1279 as well as reducing the demand for transportation fuel.

Executive Order B-30-15, Senate Bill 350, and Senate Bill 100

In April 2015, the Governor issued Executive Order B-30-15, which established a GHG reduction target of 40 percent below 1990 levels by 2030. SB 350 (Chapter 547, Statutes of 2015) advanced these goals through two measures. First, the law increases the renewable power goal from 33 percent renewables by 2020 to 50 percent by 2030. Second, the law requires the CEC to establish annual targets to double energy efficiency in buildings by 2030. The law also

requires the CPUC to direct electric utilities to establish annual efficiency targets and implement demand-reduction measures to achieve this goal. In 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Local

In 2007, Santa Cruz became one of the first municipalities in the nation to require new construction to include the adoption of environmentally superior building materials and designs. Builders in Santa Cruz now use best practices for their construction projects that enhance building energy efficiency and water conservation as well as to improve air quality, waste reduction and recycling, and erosion and runoff control. The Green Building Program currently includes residential and non-residential development. The City recently adopted an update to their Energy Reach Code to meet the City's Climate Action Plan's 2030 emissions target.

City of Santa Cruz General Plan

The Santa Cruz 2030 General Plan Natural Resources and Conservation Element contains policy NRC7.1.4, which requires new development to provide for passive and natural heating and cooling opportunities, including beneficial site orientation and dedication of solar easements.

2045 Metropolitan Transportation Plan/Sustainable Communities Strategy

The primary local plan that would result in reduced energy demand, specifically petroleum fuels from VMT reduction strategies, is the Association of Monterey Bay Area Governments Monterey Bay 2045 Moving Forward – 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy (2045 MTP/SCS). See also Chapter 8 Greenhouse Gas Emissions, for a detailed description of the 2045 MTP/SCS.

7.2.2 Existing Energy Service and Demands

This section outlines the existing energy service and Countywide demands for electricity, natural gas, and petroleum fuels.

7.2.3 Electricity and Natural Gas

Pacific Gas and Electric Company (PG&E) provides electrical and natural gas service to the region. Incorporated in California in 1905, PG&E is one of the largest combination natural gas and electric utilities in the United States. It currently provides service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. The service area includes 106,681 circuit miles of electric distribution lines, 18,466 circuit miles of interconnected transmission lines. 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines. PG&E and other privately owned public utilities in the state are regulated by the CPUC.

Central Coast Community Energy (3CE), formerly Monterey Bay Community Power, was formed in March 2017 as a joint powers authority to provide locally controlled, clean, and renewable electricity to residents and businesses in Monterey, San Benito, and Santa Cruz Counties, as well as parts of Santa Barbara and San Luis Obispo Counties through the Community Choice Energy (CCE) model established by the State of California. The CCE model enables communities to choose clean-source power at a cost equivalent to PG&E while retaining PG&E's role in maintaining power lines and providing customer service. The CCE model helps support local economic vitality because surplus revenues that would normally flow to PG&E will stay in the community. 3CE started serving electricity to customers beginning spring 2018, with current PG&E customers automatically switched over. Notably, the City of Santa Cruz purchases electricity from 3CE for its municipal facility operations.

According to the CEC, California used approximately 287,826 gigawatt hours (GWh) of electricity in 2022.[14] Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. In Santa Cruz County, the CEC reported an annual electrical consumption of approximately 1,177 million kilowatt hours (kWh) in 2022.[15]

Natural gas energy use is typically quantified using the British Thermal Unit (BTU), a unit of heat defined as the amount of heat energy required to raise one pound-mass of water by one degree Fahrenheit. Total energy use in California was 1,171 trillion BTU in 2022 (the most recent year for which this specific data is available), with a total consumption per capita being 175 million BTU. The state is the second largest consumer of energy in the U.S. but ranks 50th for energy consumption on a per capita basis. Of California's total energy use, the breakdown by sector is approximately 39.8 percent transportation, 23.2 percent industrial, 18.9 percent commercial, and 18.1 percent residential. Electricity and natural gas in California are generally used by stationary sources such as residences, commercial sites, and industrial facilities, whereas petroleum use is generally accounted for by transportation-related energy use.[16] In 2022, PG&E had delivered approximately 52 million therms to Santa Cruz County.[17]

7.2.4 Transportation-Related Energy Consumption

California's transportation sector uses roughly half of the energy consumed in the state. In 2022, Californians consumed approximately 15.3 billion gallons of gasoline and 3.7 billion gallons of diesel fuel.[18] Automotive fuel consumption was estimated using California Air Resources Board (CARB) Emissions Factor (EMFAC) 2021 computer program for typical daily fuel use in Santa Cruz County.

[14] California Energy Commission. *California Energy Consumption Database*.
[15] California Energy Commission. *2022 Electricity Consumption by County*.
[16] US Energy Information Agency (USEIA). 2021. *California State Energy Profile*.
[17] California Energy Commission. *2022 Natural Gas Consumption by County*.
[18] California Air Resources Board. 2022. *EMFAC Emissions Inventory*.

7.3 Impacts and Mitigation Measures

7.3.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

ENE-1 Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

ENE-2 Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

7.3.2 Analytical Methods

Potential impacts related to energy were identified based on energy consumption modeling for the Project. The results of the energy modeling are summarized in this section and included in Appendix E. Impacts have been evaluated with respect to the thresholds of significance, as described above. In the event adverse environmental impacts would occur even with consideration of applicable policies and regulations, impacts would be potentially significant, and mitigation measures are provided to reduce impacts to less-than-significant.

Construction

Electricity

A majority of the electricity consumption during construction would come from the conveyance of water to the Project site. There would be a minimal amount from construction equipment through the use of electrically powered hand tools. The total water conveyed was estimated from the CalEEMod outputs shown (see Appendix A). The total soil disturbance, days of soil disturbance, and water application rate from the Air and Waste Management Association's Air Pollution Engineering Manual were used to determine the total water required for construction. The water energy intensity factor established for the County by Appendix G of the CalEEMod User Guide was used to calculate the amount of electricity required.

Natural Gas

Natural gas is not anticipated to be required during construction; therefore, construction natural gas demand is qualitatively addressed.

Petroleum

Potential impacts were assessed for off-road equipment and on-road vehicle trips during construction based on the CalEEMod outputs (see Appendix A). Fuel consumption from equipment and vehicles was estimated by converting the total carbon dioxide (CO_2) emissions

to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.81 kilograms per metric ton (MT) CO_2 per gallon, and the conversion factor for diesel is 10.15 kilograms per $MTCO_2$ per gallon. Heavy-duty construction equipment associated with construction activities, vendor trucks, and haul trucks are assumed to use diesel fuel. Worker vehicles are assumed to be gasoline-powered light-duty vehicles. The details for construction criteria air pollutant emissions modeling discussed in the air quality section apply to the energy analysis as well (see Section 5.3.4 Air Quality, Analytical Methods).

Operation

Energy consumption in support of or related to the Project operations would include facilities energy demands (energy consumed by building operations and site maintenance activities), transportation energy demands (energy consumed by on-road vehicles accessing the Project site), and stationary sources.

Electricity

Project operation would require electricity for multiple purposes including, but not limited to, water treatment, water conveyance, building heating and cooling, lighting, and appliances, including refrigeration, electronics, equipment, machinery, and electric vehicle charging. The anticipated Project electricity demands were estimated using CalEEMod defaults.

Natural Gas

The Project would result in natural gas demand for the operations of the commercial portion of the Project. The natural gas demand for the Project was estimated with CalEEMod defaults.

Petroleum

The fuel consumption resulting from Project operation would primarily be attributable to vehicles traveling to and from the Project site. The Project would generate 2,318 vehicle trips on a daily basis, compared to the existing baseline of 112 vehicle trips per day. Thus, the net new Project trips per day would be 2,206 trips.

Energy consumed by traffic is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the facility site. With respect to estimated VMT and based on the trip frequency and trip lengths provided by CalEEMod defaults, the Project (including the existing baseline) would generate an estimated 3,726,100 annual VMT along roadways for all vehicles.

7.3.3 Project Impact Analysis

Impact ENE-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Construction and operation of the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources (ENE-1). This is a *less-than-significant* impact.

Electricity

Construction

Temporary electric power for as-necessary lighting and electronic equipment would be provided by PG&E. The majority of electricity use would stem from the conveyance of water which is estimated to be 32 MWh for the total duration of construction. The remaining amount of electricity used during construction would be minimal because typical demand would be generated by electrically powered hand tools. The electricity used for construction activities would be temporary and minimal. Therefore, Project construction would not result in wasteful, inefficient, or unnecessary consumption of electricity and the impact would be *less-than-significant*.

Operation

The operational phase would require electricity for multiple purposes including building heating and cooling, lighting, appliances, electronics, and for water and wastewater conveyance. Default values from CalEEMod for electricity consumption were applied to the land uses to be developed under the Project. The total electrical demand by the Project would be approximately 1,869 MWh per year. This estimate is conservative since CalEEMod includes energy estimates per the 2019 Title 24 standards, whereas the Project would be required to be built in accordance with the current Title 24 standards (2022 standards at a minimum) at the time of construction and CALGreen.

In comparison, for Santa Cruz County, electricity demand in 2022 was 1,177,175 MWh. Therefore, due to the limited amount of electricity use for the Project compared to Santa Cruz County consumption and the increase in efficiency of new buildings constructed under current building code regulations, the amount of energy the Project is projected to use would not be considered wasteful. Impacts related to operational electricity use would be *less-than-significant*.

Natural Gas

Construction

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction equipment and vehicles would primarily consist of diesel and gasoline, which are discussed under “Petroleum.” Any minor amounts of natural gas that may be consumed as a result of Project construction would be temporary and negligible and would not be considered a wasteful use; therefore, impacts would be *less-than-significant*.

Operation

Natural gas consumption during operation would be required within the commercial use proposed by the Project. For building consumption, default natural gas generation rates in CalEEMod for the commercial use was used. The Project is estimated to have a natural gas demand of 57,160 thousand British thermal units (kBtu) per year for the commercial uses. For comparison, in 2022, PG&E had delivered approximately 52 million therms (5.2 billion kBtu) to Santa Cruz County. This estimate is conservative since CalEEMod includes energy estimates per the 2019 Title 24, Part 6 standards, whereas the Project would be required to be built in accordance with the current Title 24 standards (2022 standards at a minimum) at the time of construction.

Prior to Project approval, the applicant would ensure that the Project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Therefore, due to the limited amount of natural gas use for the Project compared to Santa Cruz County consumption, and the increase in efficiency of buildings constructed under current building code regulations, the amount of natural gas the Project is projected to use would not be considered wasteful. Impacts related to operational natural gas use would be *less-than-significant*.

Petroleum

Construction

Fuel consumption from off-road construction equipment, worker trips, vendor trips, and haul truck trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, whereas off-road construction equipment, vendor vehicles, and haul trucks are assumed to be diesel fueled. The estimated fuel use for construction equipment, worker vehicles, and vendor trucks and haul trucks are presented in Table 7-1: Project Petroleum Consumption During Construction.

Table 7-1: Project Petroleum Consumption During Construction

Project Source	Total Gallons Consumed
Diesel Use	
On-Road Construction Trips[1]	73,233
Off-Road Construction Equipment[2]	51,923
Gasoline Use	
On-Road Construction Trips	65,670

Sources: Appendix E, Energy Calculations

1. On-Road mobile source fuel use is from vendor vehicles and haul trucks. Estimates are based on VMT from CalEEMod and fleet average fuel consumption per gallons per mile from EMFAC 2021 in Santa Cruz County.
2. Off-Road mobile source fuel usage based on fuel usage rate of 0.05 gallons of diesel per horsepower (hp_ hour from U.S. EPA.

As shown in Table 7-1, the Project is estimated to consume approximately 125,156 gallons of diesel and 65,670 gallons of gasoline during the construction phase. By comparison, approximately 11 million gallons of diesel and 71 million gallons of gasoline would be consumed in Santa Cruz County in a single year.[19] Overall, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be *less-than-significant*.

Operation

The fuel consumption resulting from the Project's operational phase would be attributable to residents, employees, and customers traveling to and from the Project site. Petroleum fuel consumption associated with motor vehicles traveling to and from the Project site during operation is a function of VMT. Based on the default fleet mix in CalEEMod, the vehicles associated with Project operations were assumed to be approximately 93 percent gasoline powered and 7 percent diesel powered. The estimated fuel use from the Project's operational mobile sources is shown in Table 7-2: Project Petroleum Consumption During Operation.

Table 7-2: Project Petroleum Consumption During Operation

Project Source	Total Gallons Consumed
Diesel Use	
Mobile Trips[1]	16,656
Gasoline Use	
Mobile Trips[1]	160,833

Sources: Appendix E, Energy Calculations
1. Calculated based on mobile source fuel use bason on VMT and fleet average fuel consumption (in gallons per mile) from EMFAC2021.

Mobile sources from the Project would result in the use approximately 16,656 gallons of diesel and 160,833 gallons of gasoline consumed per year. By comparison, Santa Cruz County as a whole consumes approximately 11 million gallons of diesel and 71 million gallons of gasoline per year.[20] Over the lifetime of the Project, the fuel efficiency of the vehicles being used by the residents, employees, and customers is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time.

Although the Project would see an increase in petroleum use during operation, the use is a small fraction of the countywide use, and due to efficiency increases, would diminish over time. Given these considerations, the petroleum consumption associated with the Project would not

[19] California Air Resources Board. 2022. *EMFAC Emissions Inventory*. https://arb.ca.gov/emfac/
[20] Ibid.

be considered inefficient or wasteful and therefore would result in a *less-than-significant* impact.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact ENE-2: Conflict with an Applicable Renewable Energy or Energy Efficiency Plan. The Project would not result in conflicts with or otherwise obstruct a state or local plan for renewable energy or energy efficiency (ENE-2), resulting in *no* impact.

The Project would be required to comply with existing regulations, including applicable measures from the City's General Plan, Climate Action Plan, Municipal Code, and state Building Code, or would be directly affected by the outcomes (any vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards). As mentioned previously, the Project would not substantially impact energy consumption during construction and operation. As such, the Project would not conflict with any other state-level regulations pertaining to energy. The Project would comply with existing state energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Thus, the Project would result in *no* impact.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

7.3.4 References

Association of Monterey Bay Area Governments. 2022. Monterey Bay Moving Forward – 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy. https://ambag.org/sites/default/files/2023-04/REVISED2_AMBAG_MTP-SCS_Final_EntireDocument_PDFA_Updated041923.pdf.

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8 Greenhouse Gas Emissions

8.1 Introduction

This chapter describes the regulatory setting and characteristics of greenhouse gas emissions, evaluates potential project impacts, and identifies mitigation measures for any significant impacts related to implementation of the Project. The analyses are based on emissions modeling, which is included in Appendix B, and review of City plans.

8.2 Scoping Issues Addressed

No public or agency comments related to greenhouse gas emissions were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

8.3 Existing Setting

8.3.1 Regulatory Setting

Federal

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the Project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Clean Air Act

In April 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court directed the Administrator of the U.S. Environmental Protection Agency (U.S. EPA) to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the U.S. EPA Administrator was directed to follow the language of Section 202(a) of the Clean Air Act (CAA). In December 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA.

- Elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The combined emissions of GHGs— CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under CAA.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the U.S. EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, U.S. EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the U.S. EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baseline. [21]

In August 2016, the U.S. EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

On September 27, 2019, the U.S. EPA and the NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program.” (84 Fed. Reg. 51,310 (Sept. 27,

[21] EPA and NHTSA. 2016. *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles – Phase 2*. https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf.

2019.)[22] The SAFE Rule (Part One) revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the U.S. EPA and NHTSA finalized rulemaking for SAFE Part Two sets CO_2 emissions standards and corporate average fuel economy (CAFE) standards for passenger vehicles and light duty trucks, covering model years 2021-2026. The current U.S. EPA administration repealed SAFE Rule Part One, effective January 28, 2022, and is reconsidering Part Two.

In December 2021, the U.S. EPA finalized federal GHG emissions standards for passenger cars and light trucks for Model Years 2023 through 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and are based on sound science and grounded in a rigorous assessment of current and future technologies. The updated standards will result in avoiding more than three billion tons of GHG emissions through 2050.[23]

State

The statewide GHG emissions regulatory framework is summarized in this subsection by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, water, solid waste, and other state actions. The following text describes EOs, Assembly Bills (ABs), Senate Bills (SBs), and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

Statewide Climate Change Targets

Executive Order S-3-05

Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets.

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill 32

AB 32 instructs the CARB to develop and enforce regulations for the reporting and verifying statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990

[22] EPA and NHTSA. 2019. *Federal Register, Vol. 84, No. 188, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program*. https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf.
[23] EPA. 2021. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions.

levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

Executive Order B-30-15

Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the state's climate adaptation plan to be updated every three years and for the state to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

Senate Bill 32

Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan. The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions. In 2022, CARB published the 2022 Scoping Plan, which is discussed below.

Executive Order B-55-18

Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

Assembly Bill 1279

AB 1279 establishes the policy of the State to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990

levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies.

California Air Resources Board's Climate Change Scoping Plan

Adopted December 15, 2022, CARB's 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards zero-emission transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place.

Included in the 2022 Scoping Plan is a set of Local Actions (2022 Scoping Plan Appendix D) aimed at providing local jurisdictions with recommendations to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan is not regulatory, is not exhaustive, and does not include everything local governments can implement to support the State's climate goals. It focuses primarily on climate action plans (CAPs) and local authority over new residential development. It includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. CARB specifically states that Section 3 of Appendix D, which discusses land use plans and development projects, does not address land uses other than residential and mixed-use residential such as industrial. However, CARB plans to explore new approaches for other land use types in the future.

Building Energy

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to support that new and existing buildings in California achieve energy efficiency

and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every 3 years by the Building Standards Commission and the California Energy Commission (CEC) and revised if necessary (California Public Resources Code Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code Section 25402[d]) and cost effectiveness (California Public Resources Code Section 25402[b][2–3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The current Title 24 standards are the 2022 Title 24 building energy efficiency standards that became effective January 1, 2023.

In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24), which is commonly referred to as California's Green Building Standards (CALGreen), establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality.

Renewable Energy and Energy Procurement

Senate Bill 1078

SB 1078 (2002) (California Public Utilities Code Section 399.11 et seq.) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the electricity utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. The RPS program has been updated multiple times since its adoption, with the most recent revisions in SB 100 and SB 1020, which are described below.

Senate Bill 100

SB 100 (2018) increased the standards set forth in SB 350, establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Senate Bill 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible

renewable energy resources and zero-carbon resources: 90 percent by December 31, 2035; 95 percent by December 31, 2040; and 100 percent by December 31, 2045.

Mobile Sources

State Vehicle Standards (Assembly Bill 1493 and Executive Order B-16-12)

AB 1493 (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. On a statewide basis, EO B-16-12 identified a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050.

Executive Order S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard was to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

Senate Bill 375

SB 375 (California Government Code Section 65080) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan that will achieve the GHG-reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG-reduction target, the MPO must prepare an alternative planning strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

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

Advanced Clean Cars Program and Zero-Emissions Vehicle Programs

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the Low-Emission Vehicle (LEV) regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for ZEVs that contributes to both types of emission reductions. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program, which was adopted in August 2022, established the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards. The main objectives of ACC II are as follows:

- Maximize criteria air pollutant and GHG emission reductions through increased stringency and real-world reductions.
- Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

The ACC II rulemaking package also considers technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts.

Executive Order N-79-20

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state towards the target of 100 percent of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state towards the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, the EPA, and local air districts, to achieve 100 percent zero emissions from off-road vehicles and equipment operations in the state by 2035.

Waste

Assembly Bill 1826

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood

waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Senate Bill 1383

SB 1383 (2016) requires a 50 percent reduction in organic waste disposal from 2014 levels by 2020 and a 75 percent reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20 percent of edible food that is currently disposed be recovered for human consumption by 2025.

Other State Actions

Senate Bill 97

SB 97 (2007) directed the Governor's Office of Planning and Research and CNRA to develop guidelines under CEQA for the mitigation of GHG emissions. CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures (14 CCR 15126.4[c]). The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. CNRA also acknowledged that a lead agency could consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, CEQA Guidelines Section 15064.4(a), as subsequently amended in 2018, states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines now note that an agency "shall have discretion to determine, in the context of a particular project, whether to: (1) Quantify greenhouse gas emissions resulting from a project; and/or (2) Rely on a qualitative analysis or performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the Project emissions exceed a threshold of significance that the lead

agency determines applies to the Project; and (3) the extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

Local

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the MPO for the region, which includes Monterey, San Benito, and Santa Cruz counties. In June 2022, AMBAG adopted the Monterey Bay 2045 Moving Forward – 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy (2045 MTP/SCS), the implementation of which is anticipated to achieve a 4 percent-per-capita reduction and nearly 7 percent-per-capita reduction in GHG emissions from passenger vehicles by 2020 and 2035, respectively. The 2045 MTP/SCS outlines the region's proposed transportation network, emphasizing multimodal system enhancements, system preservation, and improved access to high quality transit, as well as land use development that complements this transportation network. In addition, AMBAG is working with the Santa Barbara County Association of Governments and the San Luis Obispo Council of Governments to develop the Central Coast Zero Electric Vehicle Strategy that will identify gaps and opportunities to implement zero-emission vehicle infrastructure on the Central Coast, including on or near the State Highway System, major freight corridors, and transit hubs. These transportation strategies would reduce vehicle miles traveled (VMT) and associated petroleum fuels.

Monterey Bay Air Resources District

California has 35 Air Pollution Control Districts and Air Quality Management Districts, many of which are currently addressing climate change issues by developing significance thresholds, performance standards, and mitigation measures. The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the North Central Coast Air Basin (Air Basin), where the Project is located.

Central Coast Community Energy

Central Coast Community Energy (3CE), formerly Monterey Bay Community Power, was formed in March 2017 as a joint powers authority to provide locally controlled, clean, and renewable electricity to residents and businesses in Monterey, San Benito, and Santa Cruz Counties, as well as parts of Santa Barbara and San Luis Obispo Counties through the Community Choice Energy (CCE) model established by the State of California. The CCE model enables communities to choose clean-source power at a cost equivalent to PG&E while retaining PG&E's role in maintaining power lines and providing customer service. The CCE model helps support local economic vitality because surplus revenues that would normally flow to PG&E will stay in the community. 3CE started serving electricity to customers beginning spring 2018, with current PG&E customers automatically switched over. Notably, the City of Santa Cruz purchases electricity from 3CE for its municipal facility operations.

City of Santa Cruz General Plan

The Santa Cruz 2030 General Plan policy HZ2.2.1 requires future development projects to implement applicable Monterey Bay Unified Air Pollution Control District (MBUAPCD) control measure and/or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines." Policy NRC7.1.4 requires new development to provide for passive and natural heating and cooling opportunities, including beneficial site orientation and dedication of solar easements.

City of Santa Cruz Climate Action Plan

In September 2022, the City adopted the 2030 Climate Action Plan (CAP) that updates the previous 2020 CAP that was adopted in 2012 and outlines 31 measures and 152 associated individual actions that are intended to reduce GHG emissions by approximately 40 percent below 1990 levels by 2030, meeting the California Senate Bill 32 target for 2030 to reduce total GHG emissions 40 percent below 1990 levels. The CAP also seeks to achieve a carbon neutrality goal by the year 2035 prior to the State's target carbon neutrality goal by 2045.

To further the City's progress toward reaching these targets, the CAP identifies measures intended to reduce the City's GHG emissions; these measures apply communitywide to municipal operations, as well as public and private projects. The measures include those related to building energy use and reduction, transportation, public infrastructure, waste reduction and other climate restoration and sustainable government measures. Through implementation of its measures and actions, the CAP aims to reduce building energy consumption, vehicle miles traveled, solid waste generation, and increase carbon sequestration.

8.3.2 Characteristics of Greenhouse Gas Emissions

Climate Change Overview

Climate change refers to any significant change in measures of climate—such as temperature, precipitation, or wind patterns—lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching the Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere.[24]

The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (troposphere). The greenhouse effect traps heat in the troposphere through a threefold process, as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The

[24] Environmental Protection Agency. 2017. *Climate Change*. https://19january2017snapshot.epa.gov/climatechange_.html.

greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change. Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system. The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes. Continued emissions of GHGs will cause further warming and changes in all components of the climate system.[25]

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the State's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also see also 14 California Code of Regulations [CCR] Section 15364.5).[26] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are the predominant GHGs emitted from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[27]

[25] Intergovernmental Panel on Climate Change (IPCC). 2014. *Climate Change 2007: Synthesis Report, the Fifth IPCC Assessment Report*. https://www.ipcc.ch/report/ar5/syr/

[26] Climate-forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in California Health and Safety Code, Section 38505. Impacts associated with other climate-forcing substances are not evaluated herein.

[27] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change's Fourth Assessment Report, The California Air Resources Board's (CARB's) Glossary of Terms Used in GHG Inventories, and EPA's Glossary of Climate Change Terms.

Carbon Dioxide

CO_2 is a naturally occurring gas and a by-product of human activities; it is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 include the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane

CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (i.e., without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide

N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases

Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone (O_3)-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- Hydrofluorocarbons: HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- Perfluorocarbons: PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced, along with HFCs, as alternatives to the O_3-depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- Sulfur Hexafluoride: SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution

equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

- Nitrogen Trifluoride: NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons

CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons

HCFCs are a large group of compounds whose structure is very close to that of CFCs—containing fluorine, chlorine, and carbon atoms—but also including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Water Vapor

The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone

Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen, plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, which occurs due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo). The

Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent ($MTCO_2e$).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2022.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC's Fourth Assessment Report.

8.3.3 Greenhouse Gas Inventories and Climate Change Conditions

Contributions of Greenhouse Gas Emissions

National Inventory

Per the U.S. Environmental Protection Agency (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2020, total United States GHG emissions were approximately 5,981.4 MMT CO_2e in 2020.[28] The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 94.7 percent of total GHG emissions (4,715 $MMTCO_2e$). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 87.2 percent of CO_2 emissions in 2020 (4,342.7 $MMTCO_2e$). Total U.S. emissions have decreased by 7.3 percent from 1990 to 2020, down from a high of 15.7 percent above 1990 levels in 2007. Emissions decreased from 2019 to 2020 by 9.0 percent (590.4 $MMTCO_2e$.). Net emissions (i.e., including sinks) were 5,222.4 $MMTCO_2e$ in 2020. Overall, net emissions decreased 10.6 percent from 2019 to 2020 and decreased 21.4 percent from 2005 levels.

The sharp decline in emissions from 2019 to 2020 is largely due to the impacts of the coronavirus (COVID-19) pandemic on travel and economic activity; however, the decline also reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices.

Between 2019 and 2020, the decrease in total GHG emissions was driven largely by a 10.5 percent decrease in CO_2 emissions from fossil fuel combustion, including a 13.3 percent decrease in transportation sector emissions from less travel due to the COVID-19 pandemic and a 10.4 percent decrease in the electric power sector. The decrease in electric power sector emissions was due to a decrease in electricity demand of 2.5 percent since 2019 and also reflects the continued shift from coal to less carbon intensive natural gas and renewables.

[28] EPA. 2022. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2020*. EPA 430-R-22-003. https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissionsandsinks-1990-2020.

State Inventory

According to California's 2000–2020 GHG emissions inventory (2022 edition), California emitted approximately 369.2 $MMTCO_2e$ in 2020, including emissions resulting from out-of-state electrical generation.[29] The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste.

Per capita GHG emissions in California have dropped from a 2001 peak of 13.8 MT per person to 9.3 MT per person in 2020, a 33 percent decrease. In 2016, statewide GHG emissions dropped below the 2020 GHG limit of 431 $MMTCO_2e$ and have remained below that level since that time (CARB 2022a).

Local Inventory

The City of Santa Cruz (City) developed a GHG inventory for year 2019 as part of its 2030 Climate Action Plan (CAP), with citywide GHG emissions estimated at 274,584 $MTCO_2e$.[30] Table 8-1: GHG Emission Sources in the City of Santa Cruz details the sectors that comprise the estimated GHG emissions in the City.

Table 8-1: GHG Emission Sources in the City of Santa Cruz

Source Category	Annual GHG Emissions ($MTCO_2e$)	Percent of Total
Transportation and Mobile Services	188,930	69%
Residential Energy	42,718	16%
Commercial Energy	23,206	8%
Solid Waste	18,976	7%
Water and Wastewater	754	0%
Total	**274,584**	**100%**

Source: City of Santa Cruz, *2030 Climate Action Plan*, 2022.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that

[29] California Air Resource Board. 2022a. *Current California GHG Emission Inventory Data 2000-2019 GHG Inventory*. https://ww2.arb.ca.gov/sites/default/files/classic/ cc/inventory/2000-2020_ghg_inventory_trends.pdf.
[30] City of Santa Cruz. 2022. *2030 Climate Action Plan*. https://www.cityofsantacruz.com/home/showpublisheddocument/90696/637983259409670000

global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification.[31]

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (1.6°F) (likely between 0.75°C [1.4°F] and 0.99°C [1.8°F]) higher than the average over the 1850–1900 period. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate.[32]

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California that are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed, including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation.[33]

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (in 2006, 2009, 2012, and 2018) that have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment includes reports for nine regions of the state. Key projected climate changes for the

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[31] Intergovernmental Panel on Climate Change. 2014. *Climate Change 2007: Synthesis Report, the Fifth IPCC Assessment Report*. https://www.ipcc.ch/report/ar5/syr/

[32] IPCC. 2018. "*Summary for Policymakers." In Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. https://www.ipcc.ch/site/assets/ uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

[33] Office of Environmental Health Hazard Assessment. 2018. *Indicators of Climate Change in California*. https://oehha.ca.gov/media/downloads/climate-change/report/ 2018caindicatorsreportmay2018.pdf.

Central Coast Region (which includes Santa Cruz County where the Project is located) include the following:[34]

- Maximum and minimum temperatures for the Central Coast will continue to increase through the next century, with greater increases in the inland region relative to the coast. Precipitation is expected to increase slightly, but precipitation variability will increase substantially.
- The future of fog is uncertain because system feedback and their response to climate change are not well characterized. Fog can be intercepted by coastal zone flora (which obtain up to one-third of their moisture from fog) and can also prevent low stream flows, which can keep salmonids from desiccating during dry periods.
- Periodic El Niño events dominate coastal hazards across the Central Coast while atmospheric rivers, expected to increase, are the dominant drivers of locally extreme rainfall events.
- Recently observed and projected acceleration in sea-level rise poses a significant threat to the regions' coastal communities. Future flooding is also a serious concern.
- Estuarine systems will be affected by accelerated sea-level rise, warming of water and air, ocean acidification, and changes in runoff. Some Central Coast marshes may drown or become shallow mudflats, leading to a loss of the ecosystem services that marshes provide, including carbon sequestration.
- Many beaches will narrow considerably. As many as two-thirds will be completely lost over the next century, along with the ecosystems supported by those beaches. The landward erosion of beaches will be driven by accelerating sea-level rise combined with a lack of ample sediment, effectively drowning the beaches between the rising ocean and the backing cliffs and/or urban hardscape.
- Projected future droughts are likely to be a serious challenge to the region's already stressed water supplies.
- Water supply shortages, already common during drought, will be exacerbated. Higher temperatures may result in increases in water demand for agriculture and landscaping. Reduced surface water will lead to increases in groundwater extractions that may result in increased saltwater intrusion. Lower surface flows will lead to higher pollutant concentrations and will impact aquatic species.
- Frequent and sometimes large wildfires will continue to be a major disturbance and post-fire recovery time may be lengthened.
- Climate change outcomes for forests will depend largely on multiple abiotic drivers (increased air temperatures, altered fog patterns, changes in winter precipitation), and biotic factors (invasive species and insect and pest outbreaks).

[34] California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment: Central Coast Region Report*. https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM -CCCA4-2018-006_CentralCoast_ADA.pdf

- Terrestrial wildlife is already experiencing local extinctions. Species may have robust climate refugia in the region's mountains characterized by cooler temperatures and higher levels of precipitation.
- The aquatic life of streams and rivers is threatened by projected extreme swings from drought to floods, and exacerbated by fire and erosion that buries habitat in sediments. Climate impacts can threaten the survival of already endangered steelhead and coho salmon, and further reduce the diversity and abundance of sensitive aquatic insects.
- Impacts to the region's public health include increases in heat-related illnesses for agricultural workers, harmful particulate matter from wildfires, and an increase in ground-level O3. Infectious/vector-borne diseases such as Valley Fever and Pacific Coast tick fever are expected to increase, and an increase in harmful algal blooms will have detrimental effects on animals and people exposed to toxins released from the algae.
- Residential electricity demand is likely to be affected by more frequent heat waves due to increases in cooling requirements, and warming temperatures are likely to affect electricity supply from gas-fired plants.
- Agricultural production is highly sensitive to climate change, including amounts, forms, and distribution of precipitation, changes in temperatures, and increased frequency and intensity of climate extremes.

8.4 Impacts and Mitigation Measures

8.4.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Project is located within the North Central Coast Air Basin under the jurisdiction of the MBARD that, to date, has not adopted significance criteria or thresholds for land use projects. The MBARD-adopted significance threshold of 10,000 MT of CO_2e for stationary source projects, does not directly apply to the Project, as the majority of emissions are generated by non-stationary sources of GHG (such as solid waste and on-road vehicles). However, even in the absence of an adopted numeric threshold by the MBARD and the City of Santa Cruz, CEQA allows lead agencies to determine a project's incremental contribution to a cumulative effect with a previously adopted plan per State CEQA Guidelines Section 15183.5(b). A qualified GHG

Reduction Plan adopted by a local jurisdiction should include the following elements as described in the State CEQA Guidelines Section 15183.5(b)(1):

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

The City of Santa Cruz has established consistency with the CEQA Guidelines for a qualified GHG reduction strategy with their most recent 2030 Climate Action Plan (CAP) (City of Santa Cruz, 2022). The City developed a CAP Project Review Checklist to assist applicants and City staff with determining a project's consistency with the CAP. If it is shown that a project will implement the measures listed in the CAP Project Review Checklist, it can be concluded that the project is consistent with the CAP, and thus, a project's GHG emissions would be considered less-than-significant. Completion of the CAP Project Review Checklist is voluntary. If an applicant opts out of CAP checklist submission or if a project will not implement all applicable measures in the checklist, the project may be subject to a project specific GHG analysis as part of the project's required CEQA review.

8.4.2 Analytical Methods

The City of Santa Cruz has established consistency with the CEQA Guidelines for a qualified GHG reduction strategy with their most recent 2030 Climate Action Plan (CAP) (City of Santa Cruz, 2022). The Project Applicant completed the CAP Project Review Checklist but was unable to implement all the required measures on the checklist.

Therefore, potential Project GHG emissions were identified using modeling. Specifically, GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1[35] for construction and operation of the Project. Input parameters, including the Project land use type and size and construction schedule, were based on information provided by the

[35] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.

City, or default model assumptions if Project specifics were unavailable. All assumptions and results are included in Appendix B. Impacts have been evaluated with respect to the thresholds of significance, as described above. In the event adverse environmental impacts would occur even with consideration of applicable policies and regulations, impacts would be potentially significant, and mitigation measures are provided to reduce impacts to less-than-significant. Additional information on how impacts were analyzed is provided below.

Construction

Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The analysis of GHG emissions used the same methodology and modeling inputs assumptions as the analysis of air quality impacts in Chapter 5 Air Quality. All details for construction criteria air pollutants discussed in Section 5.3.2, Analytical Methods, are also applicable for the estimation of construction related GHG emissions. See Section 5.3.2 for a discussion of construction emissions calculation methodology and modeling inputs assumptions used in the GHG emissions analysis.

Operation

Mobile Sources

The Project would generate GHG emissions from mobile sources (vehicular traffic) as a result of the passenger vehicles (residents and workers) and truck traffic associated with the operation of the facility. Based on the infrequent occurrence of truck traffic, mobile sources were modeled on a maximum/worst case day and annual basis. Project-generated vehicle emissions have been estimated using CalEEMod. Trip generation rates associated with the Project were based on the Project's Transportation Analysis prepared by Hexagon Transportation Consultants (2024). Based on the Project's Transportation Analysis (Hexagon, 2024), the Project would result in a net total of 2,206 additional daily trips.[36] For the purpose of this analysis, it is assumed that all mobile source emissions generated by the Project would occur within the MBARD jurisdictional boundaries.

Energy Sources

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. CalEEMod assumes compliance with the 2019 Title 24 code by default, which is conservative as the 2022 Title 24 code is currently applicable. CalEEMod was used to estimate GHG emissions from the Project's energy sources that include emissions associated with building electricity and natural gas usage. See Section 5.3.2, Existing Air Quality Conditions, for a discussion of the energy source calculations. Notably, the residential portion of the Project would be all-electric.

[36] Hexagon Transportation Consultants Inc. 2024. *908 Ocean Street Mixed-Use Development Transportation Study*.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water to the Project would require the use of electricity, which would result in associated indirect GHG emissions. CalEEMod default values were used to estimate the amount of water required for the site and the GHG emissions associated with the supply, conveyance, treatment, and distribution of water for the Project.

Solid Waste

The Project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values were used to estimate the amount of waste produced by the Project and the GHGs associated with the decomposition and cogeneration of the solid waste.

Refrigerants

Refrigerants are substances used in equipment for air conditioning (A/C) and refrigeration. Most of the refrigerants used today are hydrofluorocarbons or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. The Project includes A/C units and heat pumps. CalEEMod default values were applied based on the assumed land uses, which quantify refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate.

8.4.3 Project Impact Analysis

Impact GHG-1: Greenhouse Gas Emissions. The Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment (GHG-1). This is a *less-than-significant* impact.

Construction Emissions

Construction of the Project would result in GHG emissions that are primarily associated with use of off-road construction equipment, on-road trucks, and worker vehicles. Construction emissions associated with the Project are depicted in Table 8-2: Estimated Annual Construction GHG Emissions.

Table 8-2: Estimated Annual Construction GHG Emissions

Construction Year	Project Emissions ($MTCO_2e$)[1]
2025	335
2026	565
2027	748
2028	201
Total	**1,849**

Source: CalEEMod version 2022.1 Refer to Appendix B for the model assumptions and outputs.
1. Due to rounding, total $MTCO_2e$ may be marginally different from CalEEMod outputs.

Operational Emissions

Following the completion of construction activities, the Project would generate GHG emissions from mobile sources (vehicle trips), area sources (landscaping equipment), energy sources (electricity consumption), water conveyance and wastewater treatment, treatment of solid waste generation, and refrigerants. The estimated annual operational Project emissions from these sources are shown in Table 8-3: Estimated Annual Operational GHG Emissions.

Table 8-3: Estimated Annual Operational GHG Emission

Emission Source	Project Emissions ($MTCO_2e$)[1]
Construction Amortized (30 years)	62
Mobile	1,347
Area	20
Electricity	175
Natural Gas	3
Water and Wastewater	25
Waste	93
Refrigeration	0.5
Total	**1,726**

Source: CalEEMod version 2022.1 Refer to Appendix B for the model assumptions and outputs.
1. Due to rounding, total $MTCO_2e$ may be marginally different from CalEEMod outputs.

As shown in Table 8-3, the estimated increase in GHG emissions from operation of the Project would be approximately 1,726 $MTCO_2e$ per year, including amortized construction emissions. The majority of GHG emissions associated with the Project are from mobile and energy use (approximately 88 percent).

As mentioned previously, the MBARD does not have an appropriate quantitative threshold for GHG emissions, and the Project was not able to implement the measures on the CAP Project Review Checklist to enable it to be found consistent with the CAP, which would have concluded

that the Project's GHG emissions impact would be less-than-significant. Therefore, the City looked at other methods to assess the impacts of Project GHG emissions. The City's CAP identifies a target of 2.74 $MTCO_2e$ per capita per year in the year 2030. The CAP specifies reduction measures that can achieve this goal and indicates that the per capita emissions target can be met with implementation of the measures included in the CAP. Based on an average citywide household size of 2.24, the Project's net increase of 377 residential units would result in a population of 845 residents. The Project's estimated GHG emissions represent 2.0 $MTCO_2e$ per capita per year, which is below the CAP target. Although the CAP per capita target is not a specified threshold under CEQA, the fact that the Project's per capita emissions are below the CAP target would indicate that emissions could be considered less-than-significant. The Project also is required to comply with City of Santa Cruz Building Code and State of California Title 24 requirements, both of which were amended to meet AB 32 goals for the reduction of greenhouse gas emissions. Therefore, the Project GHG impact is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact GHG-2: Conflict with an Applicable GHG Reduction Plan. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (GHG-2). This is a *less-than-significant* impact.

City of Santa Cruz Climate Action Plan

As described above, the CAP includes measures in the following categories: building energy, transportation, water/waste/wastewater, climate restoration, climate economy, and sustainable municipal government measures. The Project does include some of measures applicable to the Project that are included in the CAP as summarized in Table 8-4: City of Santa Cruz Climate Action Plan Measures Included in Project.

Table 8-4: City of Santa Cruz Climate Action Plan Measures Included in Project

Measure	Description	Project Review
Energy		
BE 1.1	The project will be constructed as all electric.	The residential portion of the Project will be all electric.
Transportation		
T 1.3	The project will include a minimum bike parking of: **Residential**: one Class I bike parking space per unit and a minimum of one Class II bike parking space per four units; and **Non-residential**: 35% of calculated auto parking requirements, even when	The Project meets the minimum bike parking requirements for the residential use (389 units) by providing 389 Class I stalls and 97 Class II stalls. For the commercial use, the Project is exempt from bicycle parking requirements under Assembly Bill 2097. Therefore, commercial bike parking is not required. However, the Project is providing two (2) Class I stalls and six (6) Class II stalls for the commercial uses.

Measure	Description	Project Review
	not provided, with a minimum of 10% of the bike parking as Class I spaces.	
Water, Waste, and Wastewater		
W 3.1	The project will provide organic waste collection space in an amount equal to or greater than the trash and recycling collection space, per Santa Cruz Municipal Code (SCMC) Sec. 6.12.050 unless an exception applies per SCMC Sec. 6.12.033.	The Project would comply with Section 6.12.050 of the SCMC.
W 2.7	The project will provide multi-lingual signage or directions for waste handling.	The Project would provide multi-lingual signage for waste handling.
Climate Restoration		
C 1.1b	The project will protect all existing heritage trees on site, or, if heritage tree removal is approved, the Project will mitigate the approved removal (per Ordinance Chapter 9.56).	The Project will apply a Heritage Tree Permit for the removal of 13 heritage trees and fulfill the City's tree replacement requirements with replanting.

Source: City of Santa Cruz. 2022. *2030 Climate Action Plan*.

The Project would implement and be consistent with many of the recommended climate goals and actions listed in the CAP. Furthermore, completion of the CAP Project Review Checklist is voluntary. As discussed in Impact GHG-1, the City's CAP identifies a target of 2.74 $MTCO_2e$ per capita per year in the year 2030. The Project's estimated GHG emissions represent 2.0 $MTCO_2e$ per capita per year, which is below the CAP target. Thus, the Project would not conflict with the CAP and impacts would be *less-than-significant*.

AMBAG's Metropolitan Transportation Plan/Sustainable Communities Strategy

AMBAG's 2045 MTP/SCS is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks within the Monterey Bay Area. The 2045 MTP/SCS incorporates local land use projections and circulation networks from city and county general plans. Typically, a project would be consistent with the MTP/SCS if the Project does not exceed the underlying growth parameters within the MTP/SCS. The Project would result in an increase of approximately 845 residents to the City of Santa Cruz. The 2045 MTP/SCS estimates that the region would experience a 107,535 increase in population by 2045

for a total population of 869,800, compared to the existing 2024 population of 700,386 (California Department of Finance 2024). The Project population of 845 residents would be within AMBAG growth projections for the region and would not conflict with the 2045 MTP/SCS. Therefore, impacts would be *less-than-significant*.

CARB Scoping Plan

As previously noted, the 2022 Scoping Plan sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. The transportation, electricity, and industrial sectors are the largest GHG contributors in the State. The 2022 Scoping Plan plans to achieve the AB 1279 targets primarily through zero-emission transportation (e.g., electrifying cars, buses, trains, and trucks). Additional GHG reductions are achieved through decarbonizing the electricity and industrial sectors.

Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include implementing SB 100, which would achieve 100 percent clean electricity by 2045; achieving 100 percent zero emission vehicle sales in 2035 through Advanced Clean Cars II; and implementing the Advanced Clean Fleets regulation to deploy zero-electric vehicle buses and trucks. Additional transportation policies include the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, and Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation. The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate carbon dioxide removal projects and technology.

The 2022 Scoping Plan states that local CAPs that address the State's largest sources of emissions and prioritize transportation electrification, VMT reduction, and building decarbonization, contribute to the alignment between local climate action and the State's climate goals. As discussed above, the Project would be consistent with some of the Santa Cruz CAP Checklist. Further, the Project's GHG emissions associated with energy and mobile sources (approximately 88 percent) would be further reduced by the 2022 Scoping Plan measures described above. It should be noted that the City has no control over vehicle emissions, however, these emissions would decline in the future due to Statewide measures discussed above, as well as cleaner technology and fleet turnover.

The project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. Therefore, impacts would be *less-than-significant*.

CARB Scoping Plan Appendix D

The 2022 CARB Scoping Plan includes a set of Local Actions set forth in Appendix D to the Scoping Plan, which aim at providing local jurisdictions with tools to reduce GHG emissions in order to assist the State in reaching the reduction targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan includes a section for evaluating plan-level and project-level alignment with the State's Climate Goals within CEQA GHG analysis. Within this section, CARB identifies multiple recommendations and strategies that should be considered for new development in order to demonstrate consistency with the 2022 Scoping Plan. Specifically, this section is focused on strategies for residential and mixed-use projects. The document is organized into two categories: examples of plan-level GHG reduction actions that could be implemented by local governments and examples of onsite project design features and mitigation measures that could be applied to individual projects under CEQA.

The project would include a number of the example project design features from the 2022 CARB Scoping Plan for construction and operation. For instance, the Scoping Plan's construction measures include enforcing idling time restrictions on construction vehicles, requiring construction vehicles to operate highest tier engines commercially available, diverting and recycling construction waste, minimizing tree removal, and increased use of electric and renewable fuel powered construction equipment and required renewable diesel fuel where commercially available.

CARB Scoping Plan Appendix D notes that residential and mixed-use projects that meet the following three priority areas are clearly consistent with the State's goals and would accommodate growth in a manner which is consistent with the State's GHG reduction and equity prioritization goals.

- Transportation Electrification. Table 3 in Appendix D to the 2022 CARB Scoping Plan notes that to be clearly consistent with the State's goals, projects should provide EV charging infrastructure. As discussed above, the Project would have 20 percent of its parking with electric chargers and over 20 percent EV ready. The Project would also provide a large amount of bicycle parking on-site for both the residential and commercial use.
- VMT Reduction. The Scoping Plan notes that to be consistent with the VMT reduction attribute, projects should be located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer); do not result in the loss or conversion of natural and working lands; and consist of transit-supportive densities (minimum of 20 residential dwelling units per acre). The Project is an infill project surrounded by existing urban uses, does not result in the loss of natural and working lands (i.e., it would develop on an undeveloped site), and has a density of approximately 93 dwelling units per acre (389 dwelling units on a 4.2-acre site) (i.e., greater than the minimum 20 dwelling units per acre to be considered a transit-supportive density). The project is also locating high density

residential and other uses next to existing and proposed commercial retail services, office, and other uses.

- Building Decarbonization. Building decarbonization involves maximizing energy efficiency and eliminating the use of fossil fuel consumption. As mentioned above, the Project would not include the use of natural gas in the residential portions and would only include minimal natural gas usage for the commercial use. Further, the Project would not be wasteful or inefficient with its energy usage. Therefore, the Project would be developed in a manner that promotes energy efficiency and minimizes the reliance on fossil fuels.

As the Project would implement key residential and mixed-use project attributes included in Appendix D, the Project would be consistent with the actions and strategies set forth in Appendix D of the 2022 CARB Scoping Plan and would be consistent with the 2022 CARB Scoping Plan and the State's GHG reduction goals. Therefore, impacts would be *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

8.4.4 References

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9 Hazards and Hazardous Materials

9.1 Introduction

This chapter describes the existing hazards and hazardous materials conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential Project impacts, and identifies mitigation measures for any significant impacts related to implementation of the Project.

The analysis is based on a review of school locations, applicable plans, technical reports prepared for the Project by Haley & Aldrich (2022 and 2023), and reviews conducted by the County of Santa Cruz Health Services Agency-Environmental Health.

9.2 Scoping Issues Addressed

No public or agency comments related to hazards and hazardous materials were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

9.3 Environmental Setting

The Project site consists of 21 parcels with four commercial structures and 12 residential structures totaling 30,550 square feet (sf), and associated surface parking.; all of which would be demolished. Existing uses include vacant and occupied residential and commercial structures. The Project site is generally flat with no substantial topography.

9.3.1 Regulatory Setting

Federal

Toxic Substances Control Act (1976)

The Toxic Substances Control Act of 1976 provides the U.S. Environmental Protection Agency (EPA) with authority to require reporting, record-keeping, and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from the Toxic Substances Control Act, including food, drugs, cosmetics, and pesticides.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” was enacted by Congress in 1980. CERCLA provides a federal “Superfund” to clean up uncontrolled or abandoned hazardous waste sites, as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA was given power to seek out those parties responsible for any release and support their cooperation in the cleanup.

Emergency Planning and Community Right-To-Know Act

Authorized by Title III of the Superfund Amendments and Reauthorization Act, the Emergency Planning and Community Right-to-Know Act was enacted by Congress in 1986 as the national legislation on community safety. This law is designed to help local communities protect public health, safety, and the environment from chemical hazards. To implement the Emergency Planning and Community Right-to-Know Act, Congress requires each state to appoint a State Emergency Response Commission. The State Emergency Response Commissions are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. The Project site is located in Administrative, Mutual Aid, and Local Emergency Planning Committee Region II, Coastal (OES 2023). Broad representation by firefighters, health officials, government and media representatives, community groups, industrial facilities, and emergency managers supports that all necessary elements of the planning process are represented.

Chemical Accident Prevention Provisions (Risk Management Plan)

Code of Federal Regulations Title 40 Part 68, Chemical Accident Prevention Provisions, outlines the rules and requirements for regulated substances and thresholds of those substances. Owners and operators of stationary source facilities that store and handle over the threshold quantity of regulated substances, [37] as identified in Table 1 of 40 CFR Section 68.130, List of Regulated Toxic Substances and Threshold Quantities for Accidental Release Prevention, are required to implement accidental release prevention measures. This includes preparation of a Risk Management Plan (RMP) as described in 40 CFR Sections 68.150 through 68.185. The RMP would include management systems, hazards assessments, prevention programs, and emergency response procedures associated with the applicable regulated substances.

Hazardous Materials Transportation Act

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR) Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment

[37] Stationary source is defined in 40 CFR 68.3, Definitions, and means any buildings, structures, equipment, installations, or substance emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. See Chapter 4.3, Air Quality, for more information regarding stationary emission sources.

including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Occupational and Safety Health Act

The Occupational Safety and Health Administration (OSHA) is responsible at the federal level for supporting worker safety. OSHA sets federal standards for implementing workplace training, exposure limits, and safety procedures for the handling of hazardous substances and hazardous materials (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

Title 29 USC, Part 1926 et seq. requires employee training; personal protective equipment; safety equipment; and written procedures, programs, and plans for supporting worker safety when working with hazardous materials or in hazardous work environments during construction activities, including renovations and demolition projects and the handling, storage, and use of explosives. These standards also provide rules for the removal and disposal of asbestos, lead, LBP, and other lead materials. Although intended primarily to protect worker health and safety, these requirements also guide general facility safety. This regulation also requires that an engineering survey is prepared prior to demolition.

Title 29 USC, Part 1910 et seq. requires facilities that use, store, manufacture, handle, process, or move hazardous materials to conduct employee safety training; inventory safety equipment relevant to potential hazards; have knowledge on safety equipment use; prepare an illness prevention program; provide hazardous substance exposure warnings; prepare an emergency response plan and prepare a fire prevention plan.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid 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. The Federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste, as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank (UST) program.

Universal Wastes

Title 40 USC, Chapter 1, Subchapter I, Part 273 governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and allows that such waste is diverted to the appropriate treatment or recycling facility.

U.S. Department of Transportation

The Department of Transportation established standards for the transport of hazardous materials and hazardous wastes (49 USC, Part 172, Subchapter C – Shipping Papers). The standards include requirements for labeling, packaging, and shipping hazardous materials and hazardous wastes, as well as training requirements for personnel responsible for shipping papers and manifests.

Regional Screening Levels

The federal EPA provides regional screening levels (RSLs) for chemical contaminants to provide comparison values for residential and commercial/industrial exposures to soil, air, and tap water (drinking water). RSLs are available on the EPA's website and provide a screening level calculation tool to assist risk assessors, remediation project managers, and others involved with risk assessment and decision-making. RSLs are also used when a site is initially investigated to determine if potentially significant levels of contamination are present to warrant further investigation.

Federal Response Plan

The Federal Response Plan of 1999, as amended in 2003 (FEMA 2003) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

Oil Pollution Prevention

Oil Pollution Prevention regulations, Title 40 USC, Chapter 1, Subchapter D, Part 112, require the preparation of a spill prevention, control, and countermeasure (SPCC) plan if oil is stored in excess of 1,320 gallons in aboveground storage (or have a buried capacity of 42,000 gallons). SPCC regulations place restrictions on the management of petroleum materials and, therefore, have some bearing on hazardous materials management.

National Emission Standard for Asbestos

Title 40 USC, Chapter 1, Subchapter C, Part 61 – National Emission Standards for Hazardous Air Pollutants, Subpart M, established National Emission Standards for Hazardous Air Pollutants (NESHAP) and names ACM as one of these materials. ACM use, removal, and disposal are regulated by EPA under this law. In addition, notification of friable ACM removal prior to a proposed demolition project is required by this law.

State

Certified Unified Program

CalEPA implements and enforces a statewide hazardous materials program known as the Certified Unified Program, established by Senate Bill 1802 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs for hazardous materials:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention (CalARP) Program
- UST Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure Plans
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment Programs
- California Uniform Fire Code, Hazardous Materials Management Plans, and Hazardous Material Inventory Statements

CalEPA certifies local government agencies as Certified Unified Program Agencies (CUPAs) to implement hazardous waste and materials standards. Santa Cruz County Environmental Health Services is designated as the local CUPA in Santa Cruz County and would facilitate hazardous material and hazardous waste permitting for the Project.

Title 19 CCR, Chapter 2, Subchapter 3, Sections 2729-2734/California Health and Safety Code Division 20, Chapter 6.95, Sections 25500–25520 requires the preparation of a hazardous materials business plan (HMBP) by facility operators. The HMBP identifies the hazards, storage locations, and storage quantities for each hazardous chemical stored on site. The HMBP is submitted to the CUPA for emergency planning purposes. The Project site is currently subject to these requirements and there is an HMBP in place.

California Hazardous Waste Control Law

California Health and Safety Code Division 20, Chapter 6.5 establishes regulations to protect the public health and the environment by assisting generators of hazardous waste in meeting the responsibility for the safe disposal of hazardous waste. The California Hazardous Waste Control Law is administered by CalEPA and pertains to administering a state hazardous waste program

in lieu of the federal RCRA program, pursuant to Section 3006 of Public Law 94-580, as amended. The Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Title 22 CCR, Division 4.5, designates the Department of Toxic Substances Control (DTSC) to regulate hazardous wastes. These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers; prepare manifests before transporting waste off site; and use only permitted treatment, storage, and disposal facilities. Standards also include requirements for record keeping reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.

In addition, Chapter 31 of these regulations – Waste Minimization, Article 1 – Pollution Prevention and the Hazardous Waste Source Reduction and Management Review requires that generators of 12,000 kilograms/year of typical, operational hazardous waste evaluate their waste streams every four years and, as applicable, select and implement viable source reduction alternatives. This Act does not apply to non-typical hazardous waste, including ACM and PCBs, among others.

HHRA Note Number 3 presents recommended screening levels (derived from the EPA RSLs using DTSC-modified exposure and toxicity factors) for constituents in soil, tap water, and ambient air. The DTSC-modified screening level (DTSC-SL) should be used in conjunction with the EPA RSLs to evaluate chemical concentrations in environmental media at California sites and facilities.

California Accidental Release Prevention Program

Similar to the Federal Risk Management Program, the CalARP Program includes additional state requirements and an additional list of regulated substances and thresholds. The regulations of the program are contained in CCR Title 19, Division 2, Chapter 4.5. The intent of the CalARP Program is to provide first responders with basic information necessary to prevent or mitigate damage to public health, safety, and the environment from the release or threatened release of hazardous materials.

The RMP as described by CalARP is required for any owner or operator of a stationary source that has more than a threshold quantity of regulated substances specified in Tables 1–3, CCR, Title 19 Section 2770.5.

California Health and Safety Code

The handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare an HMBP that contains basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the Health and Safety Code establishes minimum statewide standards for HMBPs. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in quantities greater than or equal to 500 pounds of a solid substance, 55 gallons of a liquid, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount (highly toxic with a Threshold Limit Value of 10 ppm or less), or extremely hazardous substances in threshold planning quantities. In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California code, facilities are also required to prepare an RMP and CalARP Plan.

Aboveground Storage Tanks

Title 22 California Health and Safety Code, Division 20, Chapter 6.67, Sections 25270 to 25270.13 applies if a facility is subject to SPCC regulations under Title 40 USC Part 112, or if the facility has 10,000 gallons or more of petroleum in any or combination of aboveground storage tanks and connecting pipes. If a facility exceeds these criteria, it must prepare an SPCC Plan.

California Occupational Safety and Health Administration Hazard Handling Procedures

The California Division of Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Department of Transportation/California Highway Patrol

The California DTSC administers the transportation of hazardous materials throughout the state. Regulations applicable to the transportation of hazardous waste include Title 22, Division 4.5, Chapter 13 and Chapter 29, of the CCR, as well as Division 20, Chapter 6.5, Articles 6.5, 6.6, and 13 of the California Health and Safety Code. The DTSC requires that drivers transporting hazardous wastes obtain a certificate of driver training that shows the driver has met the minimum requirements concerning the transport of hazardous materials, including proper labeling and marking procedures, loading/handling processes, incident reporting and emergency procedures, and appropriate driving and parking rules.

Under Title 13 CCR, Division 2, Chapter 6, California regulates the transportation of hazardous waste originating or passing through the state. The California Highway Patrol (CHP) and the

California Department of Transportation (Caltrans) have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. CHP enforces materials and hazardous waste labeling and packing regulations that prevent leakage and spills of material in transit and provides detailed information to cleanup crews in the event of an incident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of CHP. CHP conducts regular inspections of licensed transporters to support regulatory compliance. Caltrans has emergency chemical spill identification teams at locations throughout the state. Hazardous waste must be regularly removed from generating sites by licensed hazardous waste transporters. Transported materials must be accompanied by hazardous waste manifests.

Cortese List/Government Code 65962.5

California Government Code Section 65962.5 requires that information regarding environmental impacts of hazardous substances and wastes be maintained and provided at least annually to the Secretary for Environmental Protection. Commonly referred to as the Cortese List, this information must include the following: sites impacted by hazardous wastes, public drinking water wells that contain detectable levels of contamination, USTs with unauthorized releases, solid waste disposal facilities from which there is migration of hazardous wastes, and all cease and desist and cleanup and abatement orders. This information is maintained by various agencies, including the DTSC, State Department of Health Services, State Water Resources Control Board (SWRCB), and local CUPAs. As each of the regulatory agencies typically now maintains these records in an electronic format, those requesting a Cortese List for a particular site are directed to the individual regulatory agencies. Typically, records searches are conducted via a regulatory database search company, such as the records search from Environmental Database Reports (EDR) included in the Phase I ESA for the Project. Database search companies usually conduct searches in accordance with American Society for Testing and Materials (ASTM) Standard of Practice E 1527-13 Standard Practice for ESAs. The list of databases that are searched during this process is more comprehensive than the Cortese List. As such, the database search conducted for the Project includes the Cortese List but is not limited to this list.

Regional Screening Levels

In California, the DTSC Human and Ecological Risk Office (HERO) incorporated the EPA RSLs (see 4.9.2.1, Federal Regulations) into the HERO human health risk assessment. HERO created Human Health Risk Assessment (HHRA) Note 3 incorporates HERO recommendations and DTSC-SLs based on review of the EPA RSLs. The DTSC-SL should be used in conjunction with the EPA RSLs to evaluate chemical concentrations in environmental media at California sites and facilities.

Environmental Screening Levels

ESLs provide conservative screening levels for over 100 chemicals found at sites with contaminated soil and groundwater. They are intended to help expedite the identification and

evaluation of potential environmental concerns at contaminated sites. The ESLs were developed by San Francisco Bay Regional Water Quality Control Board; however, they are used throughout the state. While ESLs are not intended to establish policy or regulation, they can be used as a conservative screening level for sites with contamination. Other agencies in California currently use the ESLs (as opposed to RSLs). In general, the ESLs could be used at any site in the State of California, provided all stakeholders agree (SFBRWQCB 2019). In recent experience, regulatory agencies in various regions use ESLs as regulatory cleanup levels. The ESLs are not generally used at sites where the contamination is solely related to a leaking underground storage tank (LUST); those sites are instead subject to the Low-Threat UST Closure Policy.

Lead-Based Paint

The California Department of Public Health enforces lead laws and regulations related to the prevention of lead poisoning in children, prevention of lead poisoning in occupational workers, accreditation and training for construction-related activities, lead exposure screening and reporting, disclosures, and limitations on the amount of lead found in products. Accredited lead specialists are required to find and abate lead hazards in a construction project and to perform lead-related construction work in an effective and safe manner. The specific regulations that are relevant to the Project are as follows:

- California Health & Safety Code Section 105250 establishes a program to accredit lead-related construction training providers and certify individuals to conduct lead-related construction activities.
- California Civil Code Section 1941.1; California Health & Safety Code Sections 17961, 17980, 124130, 17920.10, 105251 to 105257 deems a building to be in violation of the State Housing Law if it contains lead hazards and requires local enforcement agencies to enforce provisions related to lead hazards. Makes it a crime for a person to engage in specified acts related to lead hazard evaluation, abatement, and lead-related constructions courses, unless certified or accredited by the Department. Permits local enforcement agencies to order the abatement of lead hazards or issue a cease-and-desist order in response to lead hazards.
- California Civil Code Sections 1102 to 1102.16 requires the disclosure of known LBP hazards upon sale of a property.
- California Labor Code Sections 6716 to 6717 provides for the establishment of standards that protect the health and safety of employees who engage in lead-related construction work, including construction, demolition, renovation, and repair.
- California Health & Safety Code Sections 116875 to 116880 requires the use of lead-free pipes and fixtures in any installation or repair of a public water system or in a facility where water is provided for human consumption.
- California Health & Safety Code Sections 105185 to 105197 establishes an occupational lead poisoning prevention program to register and monitor laboratory reports of adult lead toxicity cases, monitor reported cases of occupational lead poisoning to ascertain lead poisoning sources, conduct investigations of take-home exposure cases, train

employees and health professionals regarding occupational lead poisoning prevention, and recommended means for lead poisoning prevention.

Asbestos and Air Quality

The Monterey Bay Air Resources District (MBARD) is responsible for overseeing compliance with the federal Asbestos NESHAPs in Santa Cruz County. The Asbestos NESHAP Program enforces compliance with the federal NESHAP regulation for asbestos and investigates all related complaints, as specified by California Health and Safety Code Section 39658(b)(1). Under Rule 424, MBARD requires surveys for asbestos prior to demolition or renovation activities which could disturb asbestos materials. The survey must be included with the notification to MBARD for demolition/renovation of regulated projects as defined under Rule 424 and 40 CFR Part 61, Subpart M (National Emission Standard for Asbestos).

The California Department of Consumer Affairs Contractors State License Board manages the licensing of asbestos abatement contractors.

California Dig Law

Title 1, Division 5, Chapter 3.1, Article 2, Section 4216 requires, prior to any excavation, [38] the excavator to delineate the area to be excavated, so that subsurface utilities can be identified and marked. The excavator will contact the regional notification center at least two days but not more than 14 days prior to excavation. The regional notification center will in turn identify and notify all appropriate owners and agencies with subsurface utilities in the area. Excavation will not begin until subsurface utilities are marked.

Local

Monterey Bay Air Resources District

MBARD requires under Regulation 4, Rule 439, that "there shall be no visible emissions whatsoever from building removals" and that work practice standards are to be followed during building removals to prevent visible emissions, to support that the structure is demolished inward toward the building pad, and to cease removal activities during wind speeds in excess of 15 miles per hour (MBARD 2006).

The MBARD outlines fee requirements under Regulation 3, Rule 306, for "persons subject to Rule 424, Section 4 Subpart M, National Emission Standards for Asbestos (40 CFR 61 Subpart M)" that are required to submit a written Notification of Demolition and Renovation to the District, including "any owner or operator of any demolition activity, regardless of whether any asbestos is present in the facility to be demolished; and any owner or operator of a renovation

[38] According to Title 1, Division 5, Chapter 3.1, Article 2, Section 4216(g), excavation is defined as "any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of tools, equipment, or explosives in any of the following ways: grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping, cable or pipe plowing and driving, or any other way."

activity where the total amount of Regulated Asbestos-Containing Material (RACM) to be stripped, removed or otherwise disturbed is at least 260 linear feet on pipes, 160 square feet on other facility components or 35 cubic feet off of facility components" (MBARD 2022).

County of Santa Cruz Environmental Health

Santa Cruz County Environmental Health Services is designated by CalEPA as the CUPA within the geographic boundaries of the County and is responsible for enforcing the local ordinance and state laws pertaining to use and storage of hazardous materials, including the issuance and administration of HMBPs and hazardous material management plans. The various fire departments work in conjunction with County Environmental Health in responding to reports of hazardous materials spills and accidents, enforcing hazardous materials regulations, and enforcing the fire codes as it relates to the use and storage of hazardous materials.

Septic tank destruction is required to be permitted through County Environmental Health. A Septic Tank Destruction Application is submitted, typically by a Qualified Professional, who then follows the Septic Tank Destruction Procedures published by County Environmental Health.

City of Santa Cruz General Plan

The City of Santa Cruz General Plan, Hazards, Safety, and Noise Element (City of Santa Cruz 2019a) includes objectives and policies on emergency access and hazardous materials. Goal HZ1 provides policies and actions that pertain to the City's emergency and disaster readiness. Policies HZ1.1 through HZ1.5 provide measures that facilitate the City's emergency preparedness, support rapid emergency response, provide public education on what to do in an emergency, continue to meet the fire safety and firefighting needs, and reduce potential fire hazards. Goal HZ4 provides policies and actions that pertain to reducing danger and impacts from hazardous materials. Policies HZ4.1 through HZ4.5 provide measures that regulate hazardous wastes with respect to potential leakage, explosions, fires, escape of harmful gases, or formation of new hazardous substances, support proper handling and disposal of hazardous waste, allow that resources are available for quick and proper response to hazardous waste emergencies, reduce the risk of exposure to hazardous materials from sites being developed or redeveloped, and maintain the City as a nuclear free zone.

9.3.2 Hazardous Materials

Definitions and Overview

As defined in the California Health and Safety Code Section 25501, "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety, or to the environment, if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons, or harmful to the environment if released into the workplace or the environment. Hazardous wastes are hazardous substances that no longer have a practical use, such as

material that has been abandoned, discarded, spilled, or contaminated, or is being stored prior to proper disposal.

California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261.10 provides the following definition for hazardous waste:

> [1] waste that exhibits the characteristics may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed or otherwise managed.

According to CCR Title 22, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (levels depend on the substance involved). Carcinogens, substances known to cause cancer, are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances, such as gasoline, hexane, and natural gas, are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which react violently with water) may cause explosions or generate gases or fumes.

Site Investigations

Soil and Groundwater Contamination

Phase I Environmental Site Assessments

According to two Phase I Environmental Site Assessments (ESAs) prepared by Haley & Aldrich (October 22, 2023, and August 15, 2023, respectively), there are four recognized environmental conditions (RECs) and one historical REC (HREC) associated with the Project site. Site investigations found a small residual petroleum hydrocarbon groundwater plume and elevated fuel constituent VOCs and chlorinated VOCs in soil vapor associated with the former operations of an automobile repair station. Stained soil, poor housekeeping, former and current hazardous materials use and storage, and a former UST were observed.

A summary description of each REC and HREC is provided below, as summarized from the Phase I ESAs:

REC #1: 908 Ocean Street

The 908 Ocean Street property was formerly an automobile repair station and had operated as such since the 1950s. Investigation and remedial activities identified petroleum hydrocarbon and volatile organic compound (VOC) constituents of concern (COCs) in soil, soil vapor, and groundwater associated with the former operations. Remedial activities have included the excavation and removal of seven in-ground hydraulic hoists (service bay area) and associated soil conditions, a clarifier system (oil/water separator) and associated COCs, and additional soil containing diesel and motor oil exceeding residential land use screening levels.

There is a residual petroleum hydrocarbon groundwater plume located in the southeastern area of the Project site, which does not appear to have migrated off-property, as confirmed by no detectible COCs in groundwater samples collected at the downgradient property line. Elevated fuel constituent VOCs and chlorinated VOCs were detected in soil vapor in the southern area of the Project site, near the former service bay area.

On March 16, 2022, Santa Cruz Environmental Health Division (CSCEHD) requested offsite delineation of the soil vapor to assess if vapor migration may be adversely affecting the Project site. In October 2022, two sub-slab vapor samples were collected beneath the Togo's restaurant (902 Ocean Street) in the southwestern portion of the Project site, and the reported concentrations did not exceed residential Environmental Screening Levels (ESLs). However, no vapor sampling has been conducted in the northwestern portion of the Subject Property where tetrachloroethene (PCE) concentrations were detected above the residential ESL on the adjacent 908 Ocean Street property.

The Project site is currently an open site assessment case under the oversight of the CSCEHD, Case No. RO0000375, GeoTracker Global ID T10000018627.

REC #2: 457 May Avenue

A 550-gallon gasoline UST was formerly located on the north end of the backyard area of the 457 May Avenue property, formerly occupied by John's Electric Motor Service. The UST was removed in 1996. During removal activities, the UST was found to be heavily pitted with a small perforation and a sheen was observed in the surrounding groundwater. A soil sample was reportedly collected below the UST; however, records of analytical results were not found. In the Limited Phase II Subsurface Investigation report prepared by AEI Consultants (AEI) and dated 14 July 2017, soil, soil vapor, and groundwater samples were collected to characterize soil, soil vapor, and groundwater associated with this former UST. However, these samples were collected at the adjacent vacant property to the south, approximately 80 feet south/cross gradient from the former UST location.

CSCEHD submitted a no further action (NFA) letter based on the results of AEI Consultant's report. Although an NFA letter was issued, Haley & Aldrich considers this former UST a REC given their findings that AEI Consultant's sampling activities did not accurately characterize site conditions at the UST location, and residual COCs may still be present.

REC #3: 457 May Avenue

457 May Avenue was formerly occupied by "Reid & Son Cabinet Makers" in 1960, followed by "Coast Counties Electric Contractors" from at least 1964 to 1976. Since at least 1976, this property was occupied by John's Electric Motor Service. While occupied by John's Electric Motor Service, the office area located on the northwestern corner of the building was formerly used as a drum storage area. Discussions with the tenant representative indicated the concrete slab of this area was heavily stained prior to the renovation of the office area, where the concrete floor became covered with wood flooring. In addition, stained soil and an odor were observed underneath a floor hatch on the west side of the building. According to the tenant representative, this area may have been the location of a former UST, though no records of a UST at this location were found. Additionally, stained soil and poor housekeeping of industrial materials were observed throughout the backyard area of the property (Haley & Aldrich, October 2023).

REC #4: 908 Ocean Street and 449 May Avenue

A 400-gallon waste oil UST and one unknown UST are or were formerly located on the Project site. No information was available on the status of removal for either UST. In the Limited Phase II Subsurface Investigation report prepared by AEI Consultants and dated 14 July 2017, a geophysical survey was conducted using ground penetrating radar to evaluate the presence of current or former USTs; however, no typical signatures were observed to suggest the presence of USTs. Additionally, records including an installation application and use permit for a 550-gallon gasoline UST at the 449 May Avenue property were found. Because no documentation of the status or removal of these USTs was found, USTs may still be present.

HREC #1: 449 May Avenue

449 May Avenue was formerly used as a sheet metal works facility from at least 1950 through 1971. Based on this previous site use, investigations were conducted at the property which identified isolated source areas of diesel, naphthalene, and lead in soil; and diesel and methyl tertiary butyl ether (MTBE) in groundwater. In July 2018, a limited remedial soil excavation was conducted to remove previously detected COCs in shallow soil that exceeded applicable residential screening thresholds. Additionally, two groundwater samples were collected at locations downgradient of previous detections of diesel and MTBE in groundwater, which confirmed this previous detection was isolated with no apparent upgradient source. A soil vapor sample was collected in the vicinity of the previous diesel detection in groundwater. Concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) compounds were detected in the soil vapor sample but were less than the then-current residential and commercial/industrial Environmental Screening Levels (ESLs).

Based on these results, CSCEHD issued a case closure letter for the property. Regulatory case closure was granted by CSCEHD with no site use restrictions.

Phase II Environmental Investigations

Subsequent to the two Phase I ESAs, two Phase II Environmental Investigations were prepared by Haley & Aldrich (September 27, 2023, and November 8, 2022) for the Project site to collect additional data to further characterize the Project site's impact subsurface conditions.

A summary description of each REC and HREC is provided below, as summarized from the Phase II ESAs:

908 Ocean Street

Soil vapor sampling was conducted on three parcels associated with 908 Ocean Street between July 2020 and January 2021 with samples collected from a network of five soil vapor probes as shown in Figure 9-1 Soil Sampling Sites – 908 Ocean Street. The findings are summarized as follows:

- Concentrations of petroleum hydrocarbon constituents (benzene, ethylbenzene, and naphthalene) and PCE in soil vapor were detected at concentrations above residential and/or commercial/industrial ESLs.
- Shallow soil in the vicinity of boring sites HA-2 and HA-4 contained lead concentrations exceeding commercial/industrial and/or construction worker ESLs. Results indicate a portion of the soil at the site may be expected to be characterized as California, non-RCRA hazardous waste if excavated for off-site disposal due to elevated lead concentrations.
- Elevated concentrations of arsenic were found in shallow soil on the northern side of the site.

475 May Avenue

Soil vapor sampling was conducted on two parcels associated with 475 May Avenue parcel in July and August of 2022. As shown in Figure 9-2 Soil Sampling Sites – 475 May Avenue, five boring sites took samples for soil, soil vapor and groundwater, one of which included the former UST. The findings are summarized as follows:

- Concentrations of PCE in soil vapor exceeded residential and/or commercial/industrial ESLs. Low levels of PCE were detected in shallow soil samples at each of the boring locations, at concentrations below Tier 1 ESLs. PCE was not detected in any of the groundwater samples.
- Concentrations of gasoline, diesel, benzene, and various metals exceeding Tier 1 ESLs were detected in groundwater samples.
- Shallow soil in the vicinity of HA-SB-02, HA-SV-04, and HA-SV-05 contained lead concentrations exceeding commercial/industrial and/or construction worker ESLs. Results indicate a portion of the soil may be expected to be characterized as California, non-RCRA hazardous waste if excavated for off-site disposal due to elevated lead

concentrations.

Cortese List

The Project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List); however, there are sites on the Cortese List (case-closed LUST cleanup sites) located adjacent to the Project site.

Lead and Asbestos

The Phase I ESAs noted that due to the age of the buildings on the Project site, asbestos-containing materials (ACMs) and lead-based paint (LBP) are suspected to be present in roof mastic, insulation, floor tiles, and/or other building materials, and painted portions of the buildings.

Proximity to Schools

No public schools are located within 0.25 miles of the Project site. The nearest schools is Monarch Community Elementary School located at 840 North Branciforte Avenue, approximately 0.4 miles east the Project site. Holy Cross School, located at 150 Emmett Street, is approximately 0.5 miles west of the Project site.

9.4 Impacts and Mitigation Measures

9.4.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

HAZ-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

HAZ-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.

HAZ-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

HAZ-4 Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

HAZ-5 Result in a safety hazard or excessive noise for people residing or working in the Project area, 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.

HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

9.4.2 Analytical Method

This impact analysis assumes that the Project would be constructed and operated in compliance with the policies and regulations applicable to hazards and hazardous materials, as described above in Section 9.3.1 Regulatory Setting. A review of project site investigations and applicable regulatory records was conducted to characterize the existing environmental setting in the study area, as described above in Section 9.3.2 Hazardous Materials, and to identify any existing hazardous waste and substances sites on or near the Project site that could affect construction or operation of the Project. Impacts have been evaluated with respect to the thresholds of significance, as described above. In the event adverse environmental impacts would occur even with consideration of applicable policies, regulations, and standard construction practices (see below), impacts would be potentially significant, and mitigation measures are provided to reduce impacts to less-than-significant.

9.4.3 Project Impact Analysis

As evaluated in the Initial Study (see Appendix A), the project would result in no impacts regarding creation of a significant hazard through the routine transport, use, or disposal of hazardous materials (HAZ-1); hazardous emissions near a school (HAZ-3); creation of safety hazards due to location near an airport (HAZ-5); impair implementation of or interfere with an emergency response or evacuation plan (HAZ-6); or exposure to a wildland fire hazard (HAZ-7). Thus, no further discussion is required for these topics. The impact analyses in the following section address potential release of or exposure to hazardous materials into the environment (HAZ-2 and HAZ-4).

Project Impacts

Impact HAZ-2/4: Release of Hazardous Materials. Demolition and excavation activities have the potential to create a significant hazard to the public or environment due to the improper handling, transportation, and disposal of impacted soils and hazardous building materials (HAZ-2 and 4). Impacts would be p*otentially significant*.

Based on Section 9.3.2 Hazardous Materials, the presence of known hazardous RECs and HRECs on the Project site is considered a potentially significant impact. The Project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to

Government Code Section 65962.5 (i.e., the Cortese List); however, there are sites on the Cortese List (case-closed LUST cleanup sites) located adjacent to the Project site. Additionally, based on the age of the buildings, ACMs and LBP are suspected to be present in roof mastic, insulation, floor tiles, and/or other building materials, and painted portions of the buildings.

Soil and Groundwater Contamination

There are four RECs and one HREC associated with the Project site. Site investigations found a small residual petroleum hydrocarbon groundwater plume and elevated fuel constituent VOCs and chlorinated VOCs in soil vapor associated with the former operations of an automobile repair station. Stained soil, poor housekeeping, former and current hazardous materials use and storage, and a former UST were observed. The Project site is currently an open site assessment case under the oversight of the Santa Cruz Environmental Health Division (CSCEHD), Case No. RO0000375, GeoTracker Global ID T10000018627.

Project construction could result in release of and/or exposure to hazardous materials. Additional investigation was recommended in the Phase I ESA to evaluate the current subsurface environmental conditions. Given the Project site's known petroleum hydrocarbon and VOC-impacted subsurface conditions, along with the possible presence of USTs, a Soil and Groundwater Management Plan was recommended to address the special handling and disposal of the soil, groundwater, and unanticipated subsurface features (i.e., USTs) that could be encountered during future construction (Haley & Aldrich, October 2023 and August 2023).

Implementation of MM HAZ-1-1 Soil and Groundwater Management Plan would avoid a significant hazard to the public or environment by addressing the special handling and disposal of the soil, groundwater, and unanticipated subsurface features (i.e., USTs) to be encountered during future construction activities.

With the adherence to applicable federal, state, and local rules and regulations and implementation of MM HAZ-1-1, the potentially significant impact of the Project related to the creation of hazards due to the excavation and disposal of impacted soils would be reduced to *less-than-significant*.

Lead and Asbestos

The Phase I ESAs noted that due to the age of the buildings on the Project site, ACMs and LBP are suspected to be present in roof mastic, insulation, floor tiles, and/or other building materials, and painted portions of the buildings.

Federal, state, and local rules and regulations would be followed and the recommendation in the Phase I ESAs to conduct an asbestos and LBP survey prior to the demolition of the buildings to determine whether pre-demolition abatement is required would be implemented to properly abate, dispose of, or protect ACM and LBP during project construction and operation. These rules and regulations include:

- Asbestos: Title 40 USC, Chapter 1, Subchapter C, Part 61 – National Emission Standards for Hazardous Air Pollutants, California Health and Safety Code Section 39658(b)(1) – Enforcement of NESHAP by the State of California, California Contractors State License Board – Licensing of Abatement Contractors, MBARD Regulation 3, Rule 306 – Fees for Asbestos Removal.
- Lead Based Paint: California Health & Safety Code Section 05250 – Lead-Related Construction Activities, California Civil Code Section 1941.1 and California Health & Safety Code Sections 17961, 17980, 124130, 17920.10, and 105251 to 105257 – Requirements for lead abatement contractor accreditation, California Labor Code Sections 6716 to 6717 – Requirements for health and safety of employees in lead-related construction work, and California Health & Safety Code Sections 105185 to 105197 – Occupational lead poisoning prevention program.

Based on the construction type and age, it is possible that the buildings containing LBP and asbestos and removal of these buildings has the potential to create a hazard due to disturbance and improper disposal. When improperly handled, these materials could be released during routine demolition, transport, and disposal, exposing the public to hazardous materials, a potentially significant impact.

Implementation of MM HAZ-1-2 Pre-Demolition Survey of Lead-Based Paints and Asbestos would avoid a significant hazard to the public or environment from improper handling, transportation, and disposal of LBPs and asbestos by having a California-licensed contractor evaluate the presence of LBPs and asbestos prior to any demolition of the Project site. Any LBPs and/or asbestos above applicable regulatory levels will be properly abated in accordance with rules and regulations applicable for asbestos removal and disposal.

With adherence to the above listed regulations, the recommendations outlined in the Phase I ESAs, and implementation of MM HAZ-1-2, the potentially significant impact of the Project related to the creation of a hazards due to improper handling, transportation, and disposal of asbestos would be reduced to *less-than-significant*.

Mitigation Measures

Implementation of MM HAZ-1-1 Soil and Groundwater Management Plan and MM HAZ-1-2 Pre-Demolition Survey of Lead-Based Paints and Asbestos and compliance with federal, State, and local regulations would reduce the impact to a *less-than-significant* level.

MM HAZ-1-1 Soil and Groundwater Management Plan

Prior to issuance of Residential and Non-Residential Demolition Authorization Permits, a Soil and Groundwater Management Plan (SGMP) shall be prepared and implemented for management of impacted (contaminated) soils that are encountered during construction and excavation activities. The SGMP should outline soil handling, testing, and disposal requirements. The SGMP should also include health and safety procedures for onsite workers, transportation requirements, dust control techniques, and monitoring and reporting

requirements. The SGMP and subsequent soil removal work should be overseen by an environmental remediation professional with experience in contaminated soil removal and disposal. Records of removal and final disposition of soil, including but not limited to analytical reports, trucking logs, onsite monitoring and field logs, and dump receipts, shall be maintained by the Project Applicant.

MM HAZ-1-2 Pre-Demolition Survey of Lead-Based Paints and Asbestos

Prior to issuance of Residential and Non-Residential Demolition Authorization Permits, buildings on the Project site shall be surveyed and evaluated for the presence of lead-based paints (LBPs) and/or asbestos containing materials (ACM). Any buildings that contains LBPs or ACM above applicable regulatory levels shall be properly abated in accordance with rules and regulations applicable for asbestos removal and disposal. The following best management practices are recommended:

- Remove and dispose of ACM prior to renovation using a licensed abatement contractor in accordance with federal, state, and local regulations and ordnances.
    - Bid packages should include specifications for renovation to control ACM and ensure appropriate removal techniques.
    - Third party oversight should be contracted to document appropriate abatement techniques and equipment are used, and proper disposal is achieved.
- Maintenance and renovation activities involving less than 100 square feet of ACM would include the following precautions:
    - No cutting, sanding, or drilling of ACM or suspect ACM.
    - Wetting ACM or suspect ACM prior to activities which could disturb the material.
    - Dust removal with HEPA filtration vacuums or wet wiping with disposable towels.
    - Adherence to federal, state, and local regulations for property ACM disposal.
- Flaking or peeling LBP should be removed by a licensed lead abatement contractor following applicable federal, state, and local regulations.
    - The renovation contractor should implement health and safety according to OSHA 29 CFR 1926.62, Lead in Construction.
    - Dispose of all painted material as construction debris in accordance with federal, state, and local regulations; debris containing LBP should not be recycled.

9.5 References

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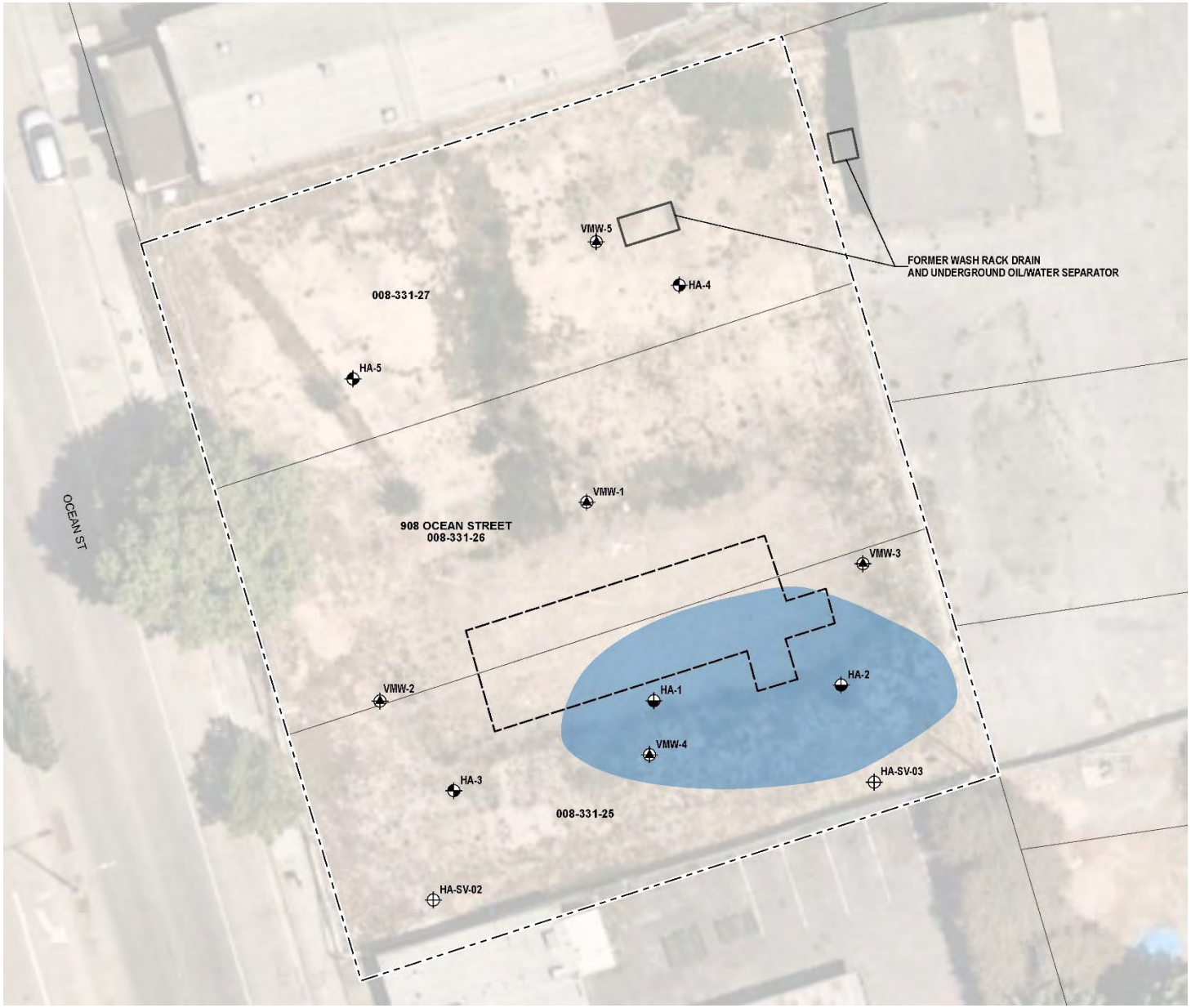


Source: Haley Aldrich and High Street Residential, 2024

Kimley»Horn

Not to scale

Figure 9-1 Soil Sampling Sites – 908 Ocean Street

908 Ocean Street Mixed-Use Development

Draft EIR

Source: Haley Aldrich and High Street Residential, 2024

Kimley»Horn

Not to scale

Figure 9-2 Soil Sampling Sites – 475 May Avenue

908 Ocean Street Mixed-Use Development

Draft EIR

10 Land Use and Planning

10.1 Introduction

This chapter describes the existing land use conditions of the Project site and vicinity and reviews applicable plans, policies and regulations that pertain to the Project as identified for review in the State CEQA Guidelines.

10.2 Scoping Issues Addressed

No public or agency comments related to land use and planning were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

10.3 Environmental Setting

10.3.1 Regulatory Setting

Local

The City of Santa Cruz General Plan 2030 and Title 24 (Zoning) of the Municipal Code govern land use and development for the Project. The Project site is not located within the coastal zone.

10.3.2 Vicinity Land Uses

The 4.15-acre project site is located on the east side of Ocean Street in the Ocean Street neighborhood of the City of Santa Cruz, as defined in the City's General Plan (City of Santa Cruz, 2012). The Project site is also located within the boundaries of the Ocean Street Area Plan which extends along the entire Ocean Street corridor from Highway 17 south to East Cliff Drive (City of Santa Cruz 2014).

The Project site consists of 21 parcels with four commercial structures and 12 residential structures and associated surface parking, some of which are vacant. Existing land uses include residential and commercial uses.

The Project site is bordered by Ocean Street. Commercial uses are found to the west, and commercial uses front Water Street on the south and May Street on the east. A mix of commercial and residential uses exist east of the Project site and along Hubbard Street on the north.

10.3.3 Relevant Plans and Zoning Regulations

City of Santa Cruz Plans

City of Santa Cruz General Plan 2030

The Project site has a General Plan designation of Mixed-Use Medium Density (MXMD) with a 0.75 to 1.75 FAR, 10 to 30 du/ac. This designation applies to sites along the Ocean Street corridor and the Mission Street corridor between Swift Street and Laurel Street. It accommodates mixed-use development at a scale that is similar to existing buildings along the corridor. The typical commercial uses include restaurants, grocery stores, furniture stores, general merchandise, medical and legal offices, and auto parts stores, as well as mixed-use projects that include these commercial uses on the ground floor.

Zoning Code

The Project site is zoned MU-OM Mixed-Use Ocean Medium Density and MU-OH Mixed-Use Ocean High Density. The purpose of the MU-OM and MU-OH districts is to encourage high-quality neighborhood- and visitor-serving commercial development along Ocean Street and adjacent thoroughfares, particularly hotels and motels, while accommodating other multi-story commercial development in both exclusively commercial and medium-density mixed-use developments to promote a vibrant and pedestrian oriented environment for residents, workers and visitors consistent with the Ocean Street Area Plan. Both districts allow a mix of residential and commercial uses within each proposed development, or exclusively commercial development.

Section 24.12.185 and the Ocean Street Area Plan provide design standards that apply to both districts. New development within these two zoning designations are also required incorporate active commercial uses along the site frontage per requirements of Chapter 24.12 Community Design of the Santa Cruz Municipal Code.

Ocean Street Area Plan

The Project site is located within the City of Santa Cruz's Ocean Street Area Plan. The Ocean Street Area Plan includes policy guidance and design standards to create a welcoming and high-quality community character along the Ocean Street corridor. Ocean Street is a 1.2-mile-long north-south corridor in the City of Santa Cruz. It stretches from Highway 17 at the north to San Lorenzo River at the south, intersecting with other major streets that link the corridor to other parts of the city.

The Ocean Street Concept illustrates the overall development vision for the corridor and explains the types of development, streetscape improvements, and urban principles for long-term implementation. The Plan includes goals, policies and actions regarding community design, land use and mobility.

As shown in Figure 10-1 Ocean Street Area Plan – Illustrative Plan, the Project site is identified as one of three "Catalyst Sites" suitable for a mixed-use building facing Ocean Street with

apartments or condominiums located above ground-floor retail stores, and residential buildings adjacent to May Avenue. Building heights call for two- to four-stories along Ocean Street and one- to three-stories fronting May Avenue.

Relevant Regional Plans

Metropolitan Transportation Plan / Sustainable Communities Strategy

The Association of Monterey Bay Area Governments (AMBAG), as a metropolitan planning organization (MPO), is required by state and federal laws to develop and adopt a long-range transportation planning document known as a Metropolitan Transportation Plan (MTP). California's 2008 Senate Bill (SB) 375 requires each of the state's 18 metropolitan areas to develop a Sustainable Communities Strategy (SCS)—an integrated transportation, land use, and housing plan that addresses ways to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. Moving Forward Monterey Bay 2045 is the MTP/SCS for the three-county Monterey Bay Area.

At the heart of SB 375 is the requirement to coordinate transportation investments with land use patterns such that the region makes informed decisions about where to invest the region's limited resources and simultaneously reduces greenhouse gases by providing more direct access to destinations as well as by providing alternative transportation options. The Plan is required to analyze where people are going and how they want to get there in order to build a transportation network that addresses the mobility and accessibility needs of the region. One strategy included in the Plan to achieve this goal is more focused growth in high quality transit corridors. Another strategy is to provide more travel choices as well as a safe and efficient transportation system with improved access to jobs and education for the region's residents.

The MTP/SCS identifies Opportunity Areas with the highest chance for successful sustainable growth in the future. Opportunity Areas are generally located where Transit Priority Areas (TPAs) and Economic Development Areas (EDAs) within the AMBAG region overlap. An Opportunity Area is an area within 0.5 miles of an existing or planned "high-quality transit corridor" (as defined in California Public Resources Code Section 21064.3) that has the potential for transit-oriented development, including mixed use. Opportunity Areas are places in the region with the highest chance for successful sustainable growth in the future. This effort also identified TPAs as locations that have both supportive land use densities and high-quality transit service/connections for each Opportunity Area. Opportunity Areas are used to identify a set of potential Transit Priority Projects that supports the SCS.

The Project is located within Opportunity Area SC-2: City of Santa Cruz, Downtown including Water Street and Soquel Avenue. Opportunity Area SC-2 is designated as an existing/planned Opportunity Area as it currently has characteristics of both a TPA and EDA. Key factors considered in Opportunity Area SC-2's boundaries were existing transit and walksheds, and future high-quality transit thresholds, median household income, residential density, activity density, and Place Types. Place Types identified were primarily Urban, Town, and Suburban, which support the high activity densities identified in the area. A series of existing transit and

proposed high-quality transit stops were identified throughout the area, primarily along Soquel Avenue, Water Street, and in Downtown Santa Cruz. Transit walksheds meeting the established thresholds were also identified in the area.

Santa Cruz County Regional Transportation Plan

Additionally, the Santa Cruz County Regional Transportation Commission's (SCCRTC) 2040 Santa Cruz County Regional Transportation Plan (RTP), adopted in June 2018, provides guidance for transportation policy and projects through the year 2040. The RTP identifies 11 "key destinations" (i.e., employment and commercial centers) within Santa Cruz County. Downtown Santa Cruz is identified as a key destination. The RTP's Target 1A seeks to increase the percentage of people who can travel to key destinations within a 30-minute walk, bike, or transit trip by 20 percent by 2020 and 40 percent by 2035. The Project is located within the maximum travel buffer for the Downtown Santa Cruz key destination.

10.4 Impacts and Mitigation Measures

10.4.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

LAND-1 Physically divide an established community;

LAND-2 Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

10.4.2 Project Impact Analysis

As evaluated in the Initial Study (see Appendix A), the project would result in no impact regarding physical division of an established community, and thus, no further discussion is required for this topic. The impact analyses in the following section address potential conflicts with plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect (LAND-2).

Project Impacts

Impact LAND-2: Conflicts with Policies and Regulations. The Project would not conflict with policies or regulations, adopted for the purpose of avoiding or mitigating an environmental effect (LAND-2). This is considered a *less-than-significant* impact.

General Plan and Zoning

The Project site is designated Mixed-Use Medium Density (MXMD) in the City General Plan 2030 and is zoned MU-OM Mixed-Use Ocean Medium Density and MU-OH Mixed-Use Ocean

High Density. The Project is a mixed-use commercial and residential project that is consistent with the General Plan MXMD land use designation that accommodates mixed-use development. Furthermore, the Project location and uses are consistent with the sustainable transportation and land use planning goals set forth in the City's Climate Action Plan that encourage higher density development along transit corridors and activity centers to support efficient, accessible, and sustainable transportation options. There are no apparent conflicts between the Project and General Plan policies adopted for the purpose of avoiding or mitigating an environmental effect, as summarized in Table 10-1: Review of Applicable General Plan Policies at the end of this chapter.

In accordance with Appendix G of the state CEQA Guidelines, the Project was reviewed to identify potential conflicts with policies or regulations adopted for the purpose of avoiding or mitigating an environmental impact. There are no apparent conflicts between the Project and land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, as summarized in Table 10-1: Review of Applicable General Plan Policies.

It is noted that there are other policies in these plans which are applicable to the Project, and which address a broader range of land use, project design, circulation, and planning concerns. Project consistency with local adopted plans and policies will be reviewed by City Staff and determined ultimately by the Planning Commission.

Ocean Street Area Plan

The Project site is located within the City of Santa Cruz's Ocean Street Area Plan. The Ocean Street Area Plan includes policy guidance and design standards to create a welcoming and high-quality community character along the Ocean Street corridor. Consistent with Policy CD-01.3, the Project would construct a mixed-use development that includes the assembly of multiple small parcels into one parcel to allow for high-quality development. The Project location is in proximity to transit, bicycle, and pedestrian facilities, which would facilitate use of alternative modes of transportation, consistent with Ocean Street Area Plan transportation policies LU-01.3, M-01.3.

Because the Plan is focused on land uses, streetscape, and urban design, there are few policies that would serve as mitigation to environmental impacts. The Project would be consistent with Policy CD-02.3 that requires new development to minimize impacts relating to noise and lighting on adjacent residential neighborhoods, as well as minimizing impacts relative to traffic and parking, to the greatest extent possible. As explained in the Initial Study (Appendix A) of this EIR, the Project would not cause substantial noise on adjacent residential neighborhoods or result in lighting impacts to adjacent residences. The Project also minimizes impacts to transportation through facilitation of alternate transportation modes due to the Project's proximity to transit, bicycle and pedestrian facilities and through provision of onsite bicycle parking.

Policy CD-01.4 calls for preservation of buildings that have been identified as historic resources, where feasible. As discussed in Section 6.4.2, the Project would result in demolition of one

existing structure that is considered a historical resource pursuant to CEQA. However, the policy calls for preservation of identified historic resources, where feasible. Additionally, the Ocean Street Area Plan identifies the Project site and adjacent parcels along Hubbard Street as opportunity sites for redevelopment, thus envisioning redevelopment of the area.

Thus, the Project would not conflict with adopted for the purpose of avoiding or mitigating an environmental effect, Plan and therefore impacts are considered *less-than-significant*.

Consistency with Regional Plans

The State CEQA Guidelines section 15125(d) require that a discussion be provided regarding any inconsistencies between a proposed project and applicable general and regional plans. Examples of other regional plans include air quality plans, water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans and regional land use plans. As discussed in the Initial Study (Appendix A) of this EIR, the Project would not conflict with the Monterey Bay Unified Air Pollution Control District's "Air Quality Management Plan."

As discussed in the Initial Study (Appendix A) of this EIR, he project site is not located adjacent to a water course or water body. The project would not result in new discharges or conflict with provisions in the Central Coast Basin Plan as all project storm water would be directed into the City's storm drain system with pre-treatment in a bioretention basin to prevent water quality degradation in accordance with the City's stormwater requirements. A sustainable groundwater management plan for the area in which the Project is located has not yet been prepared. The Project would not conflict with or obstruct implementation of an adopted water quality or groundwater plans.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Table 10-1: Review of Applicable General Plan Policies

Includes policies related to avoiding or mitigating environmental impacts.

Element	Policy Number	Policy	Potential Conflict
Historic Preservation, Arts and Culture	**HA1.2.2**	Require preparation of archaeological investigations on sites proposed for development within areas identified as "Highly Sensitive" or "Sensitive" on the "Areas of Historical Archaeological Sensitivity" map, except for exempt uses within "Sensitive" areas as described below, prior to approval of development permits.	NO CONFLICT: An archaeological investigation was conducted for the Project.
Community Design	**CD1.2**	Ensure that the scale, bulk and setbacks of new development preserve important public scenic views and vistas.	NO CONFLICT: The project site is not part of a scenic view, and the proposed Project development would not have an adverse effect on a scenic view as none have been identified, mapped or observed that include the Project site.
	CD3.2	Ensure that the scale, bulk and setbacks of new development preserve public views of city landmarks where possible.	NO CONFLICT: The Project would not affect public views of City landmarks as none exist in the vicinity of the Project.
Land Use	**LU1.2**	Ensure that growth and development does not lead to the overdraft of any water source, the creation of unacceptable levels of air pollution, or the loss of prime agricultural land.	NO CONFLICT: Project impacts have been evaluated, and the Project would not lead to water source overdraft, significant air pollution, or loss of prime agricultural land.
	LU1.2.1	Environmental review for specific projects shall be accompanied by sufficient technical data and reviewed by appropriate departments.	NO CONFLICT: Project technical studies and EIR have been reviewed by City staff.
	LU1.3	Ensure that facilities and services required by a development are available, proportionate, and appropriate to development densities and use intensities.	NO CONFLICT: Public services are available.
	LU1.4	Ensure that new development pays its proportional share of the costs of expanded infrastructure needed to serve new development.	NO CONFLICT: No expansion of infrastructure is needed to serve the Project.

Element	Policy Number	Policy	Potential Conflict
	LU4.1.1	Support compact mixed-use development Downtown, along primary transportation corridors, and in employment centers.	NO CONFLICT: The Project consists of a mixed-use development along Ocean Street, a primary transportation corridor, which will help facilitate alternative transportation and/or minimize transportation demand.
Mobility	**M3.3.4**	Mitigate safety, noise, and air quality impacts from roadways on adjacent land uses through setbacks, landscaping, and other measures.	NO CONFLICT: Project-specific air emission impacts would be less-than-significant. Noise would be attenuated by screening all mechanical equipment and appurtenances as required by the City's standard conditions of approval that would be applied to the Project.
Civic and Community Facilities	**CC5.1.8**	Require new development to maintain predevelopment runoff levels.	NO CONFLICT: The Project is consistent with City's stormwater management requirements and regulations.
	CC5.1.9	Reduce stormwater pollution.	NO CONFLICT: The Project is consistent with City's stormwater management requirements and regulations.
	CC6.17	Require new developments to design service areas that encourage recycling.	NO CONFLICT: The Project includes an on-site trash enclosure that includes areas for recycling facilities designed in accordance with City requirements.
Hazards, Safety, and Noise	**HZ2.2.1**	Require future development projects to implement applicable Monterey Bay Unified Air Pollution Control District (MBUAPCD) control measure and/ or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines."	NO CONFLICT: No significant criteria air pollutant emission impacts were identified, and no mitigation is required.
	HZ3.1.1	Require land uses to operate at noise levels that do not significantly increase surrounding ambient noise.	NO CONFLICT: No significant impacts were identified related to project increases in ambient noise levels.
	HZ3.1.3	Ensure that construction activities are managed to minimize overall noise impacts on surrounding land uses.	NO CONFLICT: No significant impacts were identified as explained in the Initial Study (Appendix A).

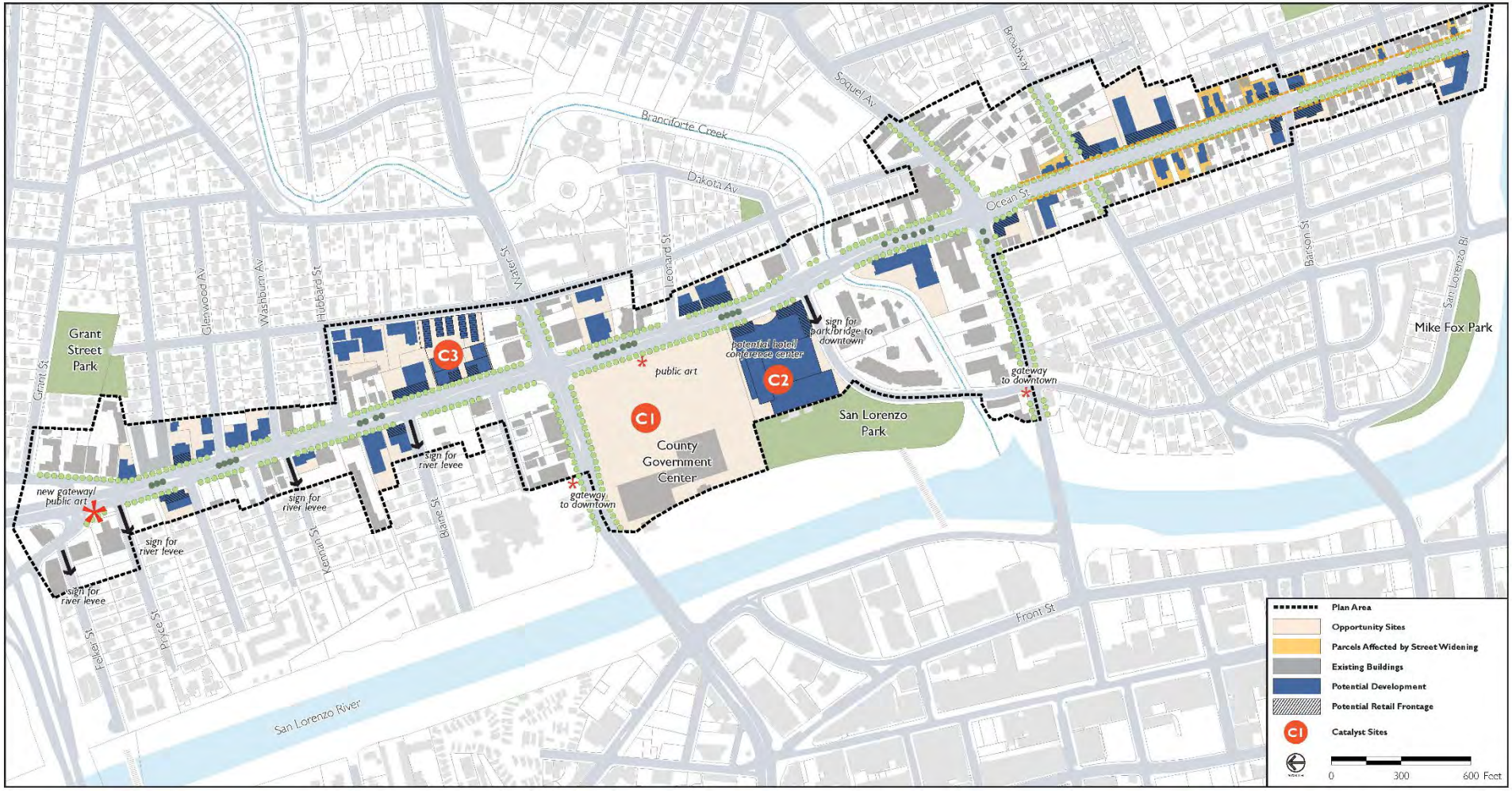
Element	Policy Number	Policy	Potential Conflict
	HZ3.1.6	Require evaluation of noise mitigation measures for projects that would substantially increase noise.	NO CONFLICT: Inclusion of screening mechanical equipment and appurtenances in future development to attenuate exterior noise levels is a required standard condition of approval that would be applied to the Project.
	HZ6.3.6	Require site specific geologic investigation(s) by qualified professionals for proposed development in potential liquefaction areas shown on the Liquefaction Hazard Map to assess potential liquefaction hazards and require developments to incorporate the design and other mitigation measures recommended by the investigation(s).	NO CONFLICT: A Project geotechnical report (Cornerstone, 2022) was prepared, and implementation of recommendations will be required by the City.
	HZ4.4	Reduce the risk of exposure to hazardous materials from sites being developed or redeveloped.	NO CONFLICT: The Project would be subject to all appliable federal, state and local regulations to address the risk of exposure of hazardous materials, as described in Chapter 9, Hazards and Hazardous Materials. Additionally, MM HAZ-1-1 and MM HAZ-1-2 would be implemented to provide for the proper disposal of impacted soils and groundwater, and lead and asbestos from demolished building materials.
Parks, Recreation, and Open Space	**PR1.3.1**	Ensure that adequate park land is provided in conjunction with new development.	NO CONFLICT: The Project will be required to pay park dedication fee.
Natural Resources and Conservation	**NRC1.2.1**	Evaluate new uses for potential impacts to watershed, riverine, stream, and riparian environments.	NO CONFLICT: No potentially significant Project impacts to aquatic resources were identified.
	NRC2.1.3	Evaluate development for impacts to special-status plant and animal species.	NO CONFLICT: No potentially significant Project impacts to special-status plant or animal species were identified.
	NRC 7.1.4	Require new development to provide for passive and natural heating and cooling opportunities, including beneficial site orientation and dedication of solar easement.	NO CONFLICT: Project building layout is in a west-to-east orientation with south-facing windows generally provided based on preliminary renderings.

10.5 References

City of Santa Cruz. 2012. City of Santa Cruz General Plan 2030. Adopted June 2012

City of Santa Cruz. 2014. Ocean Street Area Plan. Adopted January 2014.

Association of Monterey Bay Area Governments. June 2022. 2045 Metropolitan Transportation Plan / Sustainable Communities Strategy.



Source: Design, Community & Environment, 2014

Figure 10-1 Ocean Street Area Plan – Illustrative Plan

908 Ocean Street Mixed-Use Development

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11 Public Services

11.1 Introduction

This chapter analyzes potential impacts of the Project on the following public services:

- Fire Protection Services
- Police Protection Services
- Parks and Recreation

Water and wastewater utility service is addressed in Chapter 12 Utilities and Service Systems. Energy is addressed in Chapter 7 Energy.

11.2 Scoping Issues Addressed

No public or agency comments related to public services were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

11.2 Environmental Setting

11.2.1 Regulatory Setting

Federal

There are no federal regulations pertaining to public services resources related to the Project.

State

Fire Protection

Fire hazards are addressed mainly through the application of the California Fire Code (CFC) and the California Building Code (CBC). The Fire Code addresses access, including roads, and vegetation removal in high fire hazard areas. The CBC requires development in high fire hazard areas to show proof of nearby water sources and adequate fire flows.

Police Services

All law enforcement agencies within California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for police officers.

Parks and Recreation

Since the passage of the 1975 Quimby Act (California Government Code Section 66477), cities and counties have been authorized to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees that can be used for purposes of parkland.

Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed. Jurisdictions 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. Jurisdictions with a lower ratio can only require the provision of up to 3 acres of park space per 1,000 residents. The calculation of a jurisdiction's park space to population ratio is based on a comparison of the population count of the last US Census to the amount of publicly owned parkland at the time of the Census.

11.2.2 Fire Protection Services

The City of Santa Cruz Fire Department is an all-hazard emergency response and fire protection agency that serves the City, the University of California at Santa Cruz (UCSC), and participates in mutual aid responses within the County and State. The Fire Department has a long-term contract for full fire protection services with UCSC, and an automatic aid agreement with County Fire/CalFire into Paradise Park. The City of Santa Cruz Fire Department maintains mutual aid agreements with all surrounding fire agencies to provide, and receive, aid on an as needed basis. The department is also a participant in the California Fire Assistance Agreement (CFAA) which allows for statewide mutual aid.

The Fire Department provides the following services: structural fire suppression, wildland fire suppression; emergency medical services (paramedic), hazardous materials incident response; marine rescue, technical rope/cliff rescue, technical rescue and fire investigation[39] . In addition, the department serves the community through a wide array of non-emergency interactions by providing fire prevention, community risk reduction, public education, disaster preparedness training, and ongoing emergency management preparation.

Existing Facilities and Operations

The City of Santa Cruz Fire Department operates out of four fire stations, including a station at the University of California at Santa Cruz, and houses its administrative functions at a separate office downtown. The Department also maintains a Marine Rescue Headquarters (Station Five) on the Municipal Wharf. The Department currently has four engines, one type 3 engine and one truck.

The Department is staffed with over 70 staff members, which includes firefighter/paramedics, captains, battalion chiefs, division chiefs, fire prevention staff, training staff, and administrative staff. Additionally, the Department employes about 70 seasonal lifeguards, as well as six temporary workers that service fire hydrants and conduct life safety inspections throughout the

[39] City of Santa Cruz Fire Department website: https://www.cityofsantacruz.com/government/city-departments/fire-department/about.

City. The Fire Department has a minimum staffing standard of 15 firefighters and one battalion chief on duty per day.[40]

Average response times from each of the four fire stations is approximately 5 minutes. The Department's goal is to respond to emergency calls (fire suppression, EMS and special operations) in less than five minutes 90% of the time . In 2023, the Department had an estimated 100 fire investigations, 400 construction-project inspections, 146,087 lifeguard contacts with the public and 9,500 911 calls for service. Approximately 90 percent of the emergency service calls were responded to within five minutes (Shields, City of Santa Cruz Fire Department, personal communication, May 2024).

Since 2017, the Department has recognized the need for additional staff and facilities, including expanded fire station capacity and additional equipment, to accommodate City growth, particularly new taller buildings. In addition, the Department does not have a Training Facility, the construction of which was included as a recommendation in the Department's "Three Year Strategic Plan, 2009-2011."A Standards of Coverage study is underway to assess Department operations, response times and facility and staffing needs is underway and is expected to be completed in the fall of 2024 (Shields, City of Santa Cruz Fire Department, personal communication, May 2024).

11.2.3 Police Protection Services

The City of Santa Cruz Police Department provides crime protection and prevention activities throughout the City, including patrols, response to calls, education and community outreach. Its range of services include patrol, investigations, traffic, parks unit, neighborhood enforcement team, gang unit, dive team, hostage negotiation team, tactical team and School Resource officer. The City has mutual aid agreements with county law enforcement (Sheriff's Office, Capitola, Scotts Valley, Watsonville, California Highway Patrol, State Parks and UCSC Police Departments).

The Police Department operates out of one police station/headquarters, located in downtown Santa Cruz. The Department's existing facility and vehicles are adequate for the existing population (Garcia, City of Santa Cruz Police Department, personal communication, May 2024).The Department is currently staffed by 94 authorized sworn officer positions and 25 non-sworn (civilian) positions.[41] Police Department staff have indicated that the department is currently understaffed, and that a study regarding staffing requirements will be initiated in the next six months.

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[40] City of Santa Cruz Fire Department website: https://www.cityofsantacruz.com/government/city-departments/fire-department/about.
[41] City of Santa Cruz Police Department website: https://www.cityofsantacruz.com/government/city-departments/police/about-the-scpd.

The City is divided into five patrol beats that are designed to maximize coverage and provide efficient response to calls for service: West, East, Beach, Central, and Downtown. Approximately 39% of the annual calls are for service in the Downtown area (City of Santa Cruz, October 2017). The average response time within the City in 2023 for high priority "Red Calls: was five minutes, 30 seconds. Dispatching services are provided through the Santa Cruz Consolidated Emergency Communications Center.

11.2.4 Parks and Recreation

Santa Cruz offers residents and visitors a wide range of parks, open space, beaches, trails, and recreational opportunities. The City operates and maintains a range of neighborhood parks, community/regional parks, community facilities, and recreational programs. Most of these parks, facilities and programs are operated and maintained by the City Parks and Recreation Department. Some facilities and programs are operated and organized in partnership with community organizations.

The City manages, maintains and operates more than 1,700 acres of parks and open space lands, including various community/recreational facilities. In addition to maintaining the existing park system, the City must develop new parks or add amenities/facilities within existing parks to meet community recreational needs. The City also manages the Heritage Tree Program and Urban Forest Program and maintains street and median landscaping within public rights-of-way. Within the City limits, open space and beaches are also provided on State- owned lands, including three State Park units and the University of California campus.

Neighborhood and community parks within proximity to the Project site include; Grant Park, approximately a quarter mile north of the Project site, Central Park, approximately a quarter-mile south of the Project site, San Lorenzo Park, approximately a quarter-mile west of the Project site, and the San Lorenzo Riverwalk, approximately one-third mile west of the Project site. Harvey West Park, which contains open space and community- and regional-serving recreational facilities, is located approximately one mile northeast of the Project site.

New playground equipment at Grant Park is budgeted in the City's Capital Investment Program (CIP). The City also is in the process of developing a redesign plan for San Lorenzo Park that is expected to be completed in 2024. Funding for future park improvements to implement the San Lorenzo Park Redesign Plan has not been identified.

The City's Parks Master Plan 2030 was completed in August 2020 and is a tool to guide the City in parks, facility, beach and open space planning on a long-term basis. The Plan was adopted by the City Council in October 2020. The Plan includes goals, policies and actions for the provision of parks and recreational services. These include general recommendations for new and/or expanded recreational uses. The Master Plan also provides specific recommendations for improvements at the City's individual parks, beaches, open spaces, and recreational facilities. It also includes improvements to existing facilities, but no new parks or facilities are specifically identified.

The General Plan 2030 established per capita goals for neighborhood and community parks to ensure adequate parks throughout the City. The City's standard is to provide neighborhood parks at a ratio of 2.0 acres per 1,000 people with a service radius of ½ mile. The City's goal for community parks is 2.5 acres per 1,000 people with a service radius of 1.5 miles. According to the Parks Master Plan 2030, the City is currently underserved for neighborhood and community park space. To meet existing goals, a total of 67 acres of parks would need to be created to meet the forecasted population growth associated with the City of Santa Cruz General Plan 2030 growth estimates (City of Santa Cruz 2020).

The Parks Master Plan does not specify locations for new parks or recreational facilities, but some of the Plan's policies and actions support new and expanded recreational uses and/or facilities. For many recommended new or expanded uses, specific site locations are not identified in the Master Plan, and, in some cases additional study is recommended in order to identify suitable locations. The Parks Master Plan supports consideration of recreational facilities identified below after additional studies are conducted in the future to further evaluate potential uses and site locations. In addition, new, expanded or renovated facilities or structures are recommended in the Parks Master Plan at a variety of existing parks throughout the City, including San Lorenzo and DeLaveaga Parks (City of Santa Cruz 2020).

- Athletic Fields: Goal III-Policy D, Action 1 calls for conducting an athletic field feasibility study to explore locations and options for additional multi-use field space.
- Bike Parks and Mountain Bike Facilities: Goal III-Policy G, Action 1, calls for development of more bike parks, pump tracks, and jump facilities and features to meet a variety of skill levels, and Goal III-Policy F, Action 1 calls for consideration of spurs from multi-use trails for mountain bikers.
- Community Gardens: Community garden space is supported in higher-density or lower-income areas (Goal 1-Policy C, Action 4), on the east side of the San Lorenzo River and in the Beach area (Goal III-Policy G, Action 1c), and is suggested for consideration at specific locations (Round Tree Park, Star of the Sea Park, and Beach Area neighborhood).
- Dog Facilities: Goal III-Policy I and supporting actions directs the City to seek opportunities to enhance off-leash dog use experiences while minimizing conflicts with other park uses and wildlife.
- Playgrounds. Potential opportunities for new or expanded playground areas are recommended at Central Park, Garfield Park, Harvey West Park, DeLaveaga Park, Main Beach, San Lorenzo Park, Sgt. Derby Park, and University Terrace Park.
- Pickleball Facility: Goal III-Policy G, Action 1g calls for the identification of a location for a pickleball facility with 6-10 courts and/or smaller facilities that can be located in different areas of the City. Potential partnerships or locations for further consideration include: the UCSC tennis courts at 207 Natural Bridges Drive, Lower DeLaveaga Park and Washington Grove, Frederick Street Park, Sgt. Derby Park, San Lorenzo Park, and Star of the Sea Park.

- Tennis Courts: The proposed plan supports consideration of adding a tennis court facility on the east side of the San Lorenzo River (Goal III-Policy G, Action 1f).
- Trails: Goal II-Policy F, calls for enhancement of trail programs, trails, and infrastructure. (City of Santa Cruz 2020).

The City imposes a "Parks and Recreation Facilities Tax" (pursuant to Chapter 5.72 of the Municipal Code) on new residential development (including mobile homes) within the City, payable at the time of issuance of a building permit. The collected taxes are placed into a special fund, and "shall be used and expended solely for the acquisition, improvement and expansion of public park, playground and recreational facilities in the city" (section 5.72.100). Projects that have dedicated land or fees in accordance with Municipal Code Chapter 23.28 requirements for subdivisions are exempt from this tax. The City also is preparing a study of park fees that is expected to be completed by Fall 2024.

11.3 Impacts and Mitigation Measures

11.3.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

PUB-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physical altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a. Fire Protection
b. Police Protection
c. Parks
d. Schools
e. Other public facilities;

PUB-2 Increase the use of existing neighborhood and community parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;

PUB-3 Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment;

PUB-4 Conflict with established recreational, educational, religious, or scientific uses of the area.

11.3.2 Project Impact Analysis

As discussed in the Initial Study (Appendix A), the Project would not result in the provision of or need for new or physically altered governmental related to schools (PUB-1d-Schools) or other public facilities (PUB-1e). The Project does not include public recreational facilities or require construction or expansion of recreational facilities that would result in impacts (PUB-3). The Project site is located within a developed commercial, mixed-use and residential neighborhood, and would not conflict with established recreational, educational, religious, or scientific uses of the area as none exist in the area adjacent to or in proximity of the Project site (PUB-4).

The following impact analyses address potential impacts to public services that would require new or physically altered fire or police protection facilities or parks (PUB-1) and potential impacts to use and potential degradation of existing parks and recreational facilities (PUB-2).

Impact PUB-1a: Fire Protection. The Project would result in increased population that would result in increased fire protection and emergency service demands, which could result in the need to construct new or expanded fire stations, however, the impacts of fire station construction or expansion are not expected to be significant (PUB-1a). Therefore, this is considered is a *less-than-significant* impact.

The Project would result in construction of 389 residential units and remove 12 existing units for a net increase of 377 units. Based on the citywide average household size of 2.24 persons per household (California Department of Finance, 2024), the Project would result in a net increase of 844 residents. The project would result in a net decrease of approximately 5,400 square feet of commercial space.

The Project would result in a potential increase in service calls that would be partially offset by existing calls from existing onsite development that would be removed with the Project. It is not expected that the Project would reduce response times. However, the Project would contribute to an existing facility deficiency experienced by the Fire Department, as well as contribute to a cumulative impact regarding Fire Department facility deficiencies that is addressed in Chapter 13 CEQA Considerations.

The City's Fire Department has identified the need for an expanded or new fire station and has indicated that the existing downtown fire station is inadequate in terms of space and equipment to meet existing needs, as well as, future growth. The Project would contribute to an existing need for additional facilities. The Fire Department has indicated that it is likely that expanded or new fire facilities would be at the site of Station 2 on Soquel Avenue in the eastern part of the City or potentially near UCSC . Expansion or new construction at these locations would be considered infill development on a sites surrounded by development. The site on the east side of the City is also adjacent to a City-owned, paved, public parking lot. Development to accommodate potential new or expanded fire protection facilities in the future would not be expected to result in significant physical impacts as potential sites would be located within existing developed areas and sites.

Therefore, the impact related to increased fire protection demands and the need for new or expanded facilities is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact PUB-1b: Police Protection. The Project would result in increased population that would result in increased police protection service demands but would not result in the need to construct new or expanded police facilities (PUB-1b). Therefore, this is considered is a *less-than-significant* impact.

The Project would result in construction of 389 residential units and remove 12 existing units for a net increase of 377 units. Based on the citywide average household size of 2.24 persons per household (CA Department of Finance, 2024), the Project would result in a net increase of 844 residents. The project would result in a net decrease of approximately 5,400 square feet of commercial space.

According to the City's Police Department, there are adequate police protection facilities to serve the growth accommodated by the Project. No additional equipment or facilities will be needed to maintain acceptable response times and service levels. The Project would not reduce response times or require new or physically altered police protection facilities that could result in significant physical impacts. Furthermore, it is expected that the change in use and redevelopment could lead to a reduction in crime and calls for service in the Project area (Garcia, Bush, City of Santa Cruz Police Department, personal communication, May 2024).

Therefore, the impact related to increased police protection demands and new for new or expanded facilities is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact PUB-1c: Parks. The Project would result in increased population that would result in increased demands for parks but would not result in the need to expand existing parks or acquire new parks (PUB-1c). Therefore, this is considered is a *less-than-significant* impact.

The Project would result in construction of 389 residential units and remove 12 existing units for a net increase of 377 units. Based on the citywide average household size of 2.24 persons per household (CA Department of Finance, 2024), the Project would result in a net increase of 844 residents. Project residents would have access to several nearby parks and other recreational facilities, including San Lorenzo Park and Grant Park, the parks closest to the Project site. The City has current plans for a redesign at San Lorenzo Park and facility upgrades at Grant Park. Discussions with City staff indicate that these parks would be adequate to serve the Project's residents (Downing, City of Santa Cruz Parks and Recreation Department, personal communication, May 2024).

The increased population resulting from the Project would not, in and of itself, trigger the need for a new park as it does not meet the City's standard for a new neighborhood park, and existing nearby parks would be adequate to serve the Project's residents. While, the City's Parks Master Plan 2030 identifies an existing deficit of 67 acres of park land throughout the City, this is an existing condition that cannot be corrected by any one individual development project, especially given limited availability of land for new parks. The City's 2030 Parks Master Plan identifies park needs and improvements to existing parks and recreational facilities but does not propose creating additional park land. The Master Plan includes improvements to existing facilities, and no new parks or facilities are specifically identified. The projects and recommendations in the Parks Master Plan are intended support the City's resident and visitor population. Furthermore, the Parks Master Plan identifies potential new facilities and uses that could be developed throughout the City after further study and also recommends a broad range of improvements and upgrades for existing facilities and potential new facilities, which would be in support of the Plans goals and policies to provide adequate parks and recreational facilities throughout the City for its population.

Thus, the Project and associated residential demand for parks would not be of a level that would require new or physically altered parks, and the Project's impact regarding parks and new for new or expanded facilities is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact PUB-2: Parks and Recreation. The Project would result in increased population that would result in increased use for some parks and recreational facilities but would not result in some deterioration of existing parks and recreational facilities (PUB-2). Therefore, this is considered is a *less-than-significant* impact.

The Project would result in a net increase of approximately 844 new residents, as described above. Project residents would have access to several nearby parks and other recreational facilities, including San Lorenzo Park and Grant Park, the parks closest to the Project site. As indicated above, the City also has current plans for a redesign at San Lorenzo Park and facility upgrades at Grant Park, and City staff have indicated that these parks would be adequate to serve the Project. Use of these and other parks and recreational facilities as a result of the Project, in and of itself, would not lead to a level of use that would result in substantial deterioration of any one park or facility.

The City's 2030 Parks Master Plan identifies park needs and improvements to existing recreation facilities and potential new facilities or uses after further study. The projects and recommendations in the Parks Master Plan are intended support the City's resident and visitor population. While increased use at some facilities may occur as a result of the Project, the level of incremental use by Project residents would not be expected to be of a magnitude that would cause substantial physical deterioration to existing parks or recreational facilities. Furthermore, the policies and actions included in the Parks Master Plan are intended to maintain and

enhance parks and recreation facilities such that they do not substantially deteriorate (City of Santa Cruz 2020).

Furthermore, the City imposes a "Parks and Recreation Facilities Tax" (pursuant to Chapter 5.72 of the Municipal Code) on new residential development (including mobile homes) within the City, payable at the time of issuance of a building permit. The collected taxes collected are placed into a special fund, and "shall be used and expended solely for the acquisition, improvement and expansion of public park, playground and recreational facilities in the city" (section 5.72.100). Projects that have dedicated land or fees in accordance with Municipal Code Chapter 23.28 requirements for subdivisions are exempt from this tax.

Therefore, the impact related to increased park use and potential substantial deterioration of existing parks and recreational facilities is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

11.4 References

California Department of Finance. 2024. Population and Housing Estimates for Cities, Counties, and the State — January 1, 2023, and 2024. Available online at: https://dof.ca.gov/forecasting/demographics/estimates-e1/.

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12 Utilities and Service Systems

12.1 Introduction

This section analyzes impacts of the proposed project related to public utilities (water supply and solid waste disposal) and energy conservation based on a review of existing City plans and other exiting data.

12.2 Scoping Issues Addressed

No public or agency comments related to public services were received during the public scoping period in response to the Notice of Preparation (NOP). Comments received are included in Appendix A.

12.3 Environmental Setting

12.3.1 Regulatory Setting

State

Green Building Standards Code

In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (hereafter the "CALGreen Code") that requires the installation of water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. The CALGreen Code was incorporated as Part 11 into Title 24 of the California Code of Regulations. The CALGreen Code was revised in 2013 with the revisions taking effect on January 1, 2014; however, these revisions do not have substantial implications to the water use already contemplated by the 2010 CALGreen Code. The CALGreen Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. All new development must satisfy the indoor water use infrastructure standards necessary to meet the CALGreen Code. The CALGreen Code requires residential and nonresidential water efficiency and conservation measures for new buildings and structures that will reduce the overall potable water use inside the building by 20%. The 20% water savings can be achieved in one of the following ways: 1) installation of plumbing fixtures and fittings that meet the 20% reduced flow rate specified in the CALGreen Code, or 2) by demonstrating a 20% reduction in water use from the building "water use baseline".

Making Conservation a California Way of Life Regulations

On July 3, 2024, the State Water Resources Control Board adopted the Making Conservation a California Way of Life regulation, which becomes effective in 2025. The regulation implements Assembly Bill 1668 and Senate Bill 606, which were signed into law in 2018, to develop a regulatory framework to achieve long-term water use efficiency with the purpose of adapting to climate change and more intense and frequent droughts in California. Making Conservation a California Way of Life establishes individualized efficiency goals for each Urban Retail Water

Supplier. Urban Retail Water Suppliers would be held to annual "urban water use objectives." These goals are based on the unique characteristics of the supplier's service area and give suppliers the flexibility to implement locally appropriate solutions. The proposed regulation would require suppliers to annually calculate their objective, which is the sum of efficiency budgets for a subset of urban water uses: residential indoor water use, residential outdoor water use, real water loss and commercial, industrial and institutional landscapes with dedicated irrigation meters. Each efficiency budget will be calculated using a statewide efficiency standard and local service area characteristics such as population, climate, and landscape area. Once implemented, these goals are expected to reduce urban water use, helping California adapt to the water supply impacts brought on by climate change. (California Water Boards 2024b). The regulation will lessen the need for the emergency water use reduction targets that were important in recent droughts (California Water Boards 2024a).

California Water Code

as California Water Code section 10910 et seq. establishes requirements for assessing water supply availability for proposed projects as a part of CEQA. A water supply assessment (WSA) is required for "projects" of 500 or more residential units, 500,000 square feet or more of retail commercial space, 250,000 square feet or more of office commercial space, 500 or more hotel rooms, specified industrial uses, or a project that would result in a water demand equal to or greater than the amount needed to serve a 500-unit residential project. These assessments, prepared by "public water systems" responsible for service, address whether there are adequate existing or projected water supplies available to serve proposed projects over a 20-year period, in addition to existing demand and other anticipated development in the service area. The Project uses do not meet the requirements for preparation of a WSA.

California Integrated Waste Management Act

AB 939, known as the California Integrated Waste Management Act of 1989, required all California cities and counties to divert 50% of the waste generated within their boundaries by the year 2000. The act requires each California city and county to prepare, adopt, and submit to CalRecycle a Source Reduction and Recycling Element (SRRE) that demonstrates how the jurisdiction will meet the California Integrated Waste Management Act's mandated diversion goals. Each jurisdiction's SRRE must include specific components, as defined in California Public Resources Code sections 41003 and 41303. In addition, the SRRE must include a program for the management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation, and (4) land disposal.

Assembly Bill 341

AB 341, adopted in October 2011, amended the California Integrated Waste Management Act and established a statewide policy goal to divert 75% of solid waste from landfills by 2020. AB 341 focused on mandatory commercial recycling and requires California commercial enterprises and public entities that generate 4 or more cubic yards per week of waste to

arrange for recycling services. As noted above in Section 4.16.1.3, Solid Waste, the County's diversion rate is approximately 58%. The State of California also did not meet the meet the 75% recycling goal by 2020 as set out in AB 341 (the state's 2019 recycling rate was 37%), CalRecycle remains committed to achieving this goal (CalRecycle 2021a).

Assembly Bill 1826

AB 1826 (2014) requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate on a weekly basis. Additionally, AB 1826 requires that, after January 1, 2016, all local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings with five or more units. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time.

Local

City of Santa Cruz 2020 Urban Water Management Plan

In 1983, the California State Legislature (Legislature) enacted the Urban Water Management Planning Act (California Water Code, sections 10610–10656), which requires specified urban water suppliers within the state to prepare an Urban Water Management Plant (UWMP) and update it every 5 years. The City's 2020 UWMP, which was adopted in 2021, provides information on water usage, water supply sources, including planned future sources, and water reliability planning within the Santa Cruz Water Department's service area. Additionally, the UWMP evaluates the reliability of water supplies in five-year increments to the year 2045 for the following scenarios: normal year, single dry year, and a five-year drought period.

City of Santa Cruz General Plan

The Civic and Community Facilities Element of the City's General Plan 2030 includes goals, policies, and actions that set forth measures to promote water use efficiency and to reduce solid waste generation and promote recycling. Specifically, Policy CC3.5 and supporting actions promote maximum water use efficiency and water conservation, and Action CC3.11.1 promotes water conservation. Goal CC6 strives for minimal solid waste production and includes policies that seek to achieve a goal of zero waste (Policy CC6.1); provide convenient, economical and efficient waste and recycling collection service (Policy CC6.2); operate and maintain the City's Resource Recovery Facility (RRF) in compliance with adopted plans and regulations, ensuring public health and environmental protection (Policy CC6.3); and extend the life of the City's landfill (Policy CC6.4).

City of Santa Cruz Municipal Code

Water Supply and Conservation.

Title 16 of the City's Municipal Code addresses water, sewers, and other public services. Title 16 chapters relevant to water service include:

- Chapter 16.01 Water Shortage Regulations and Restrictions
- Chapter 16.02 Water Conservation
- Chapter 16.03 Plumbing Fixture Retrofit Regulations
- Chapter 16.04 Water Services
- Chapter 16.08 Sewer System
- Chapter 16.09 Water System Improvements
- Chapter 16.11 Water Service Accounts
- Chapter 16.13 Unified Utilities Billing System
- Chapter 16.14 System Development Charges
- Chapter 16.15 Water Use
- Chapter 16.16 Water –Efficient Landscaping

The City of Santa Cruz has enacted several ordinances regarding water conservation. Chapter 16.01 identifies regulations and restrictions during declared times of water shortages. Chapter 16.02 sets forth water conservation provisions to prevent the waste or unreasonable use or method of use of water. Chapter 16.16 sets forth requirements for water-efficient landscaping and also is intended to comply with the California Government Code section 65591 et seq., the Water Conservation in Landscaping Act. The regulations are applicable to applicants for new, increased, or modified water service within the City's water service area.

Solid Waste

The City's Municipal Code, Chapter 6.12, focuses on regulations and requirements for solid waste. Specifically, the City's Municipal Code, Section 6.12.030, requires the collection of acceptable waste and recyclables be made at least once per week, and requires that refuse be separated into solid waste, green waste, food waste, or recyclable materials. The City's Municipal Code, Section 6.12.050, requires waste receptacle be stored in a manner that facilitates a safe and sanitary condition that does not impose a barrier to efficient and physically safe collection by City collection crews.

12.3.2 Water Supply

City of Santa Cruz Water Service Area

The City of Santa Cruz Water Department provides drinking water to an area approximately 20 square miles in size, including the entire City of Santa Cruz, adjoining unincorporated areas of Santa Cruz County, a small part of the City of Capitola, the University of California at Santa Cruz campus that is within City limits and coastal agricultural lands north of the City. The unincorporated areas served by the City include Live Oak, the area along Graham Hill Road that extends north of the City, and limited service along the coast north of the city, primarily along State Highway 1. The City's service to the coast north of the City consists of limited numbers of connections that primarily derive from the City's agreements with landowners along its water pipelines. The City also provides approximately 12 million gallons per year (MGY) of raw water

for agricultural irrigation along the coast north of the City (City of Santa Cruz Water Department 2021b).

Existing Water Supplies

All of the City's water supplies are obtained from local sources. No water is purchased from state or federal sources or imported to the region from outside the Santa Cruz area. The City's water system relies predominantly on local surface water supplies, which include the North Coast sources (Liddell Spring and Laguna, Majors, and Reggiardo Creeks), the San Lorenzo River (Felton Diversion, Tait Diversion, and Tait Wells), and Loch Lomond Reservoir. Together, these surface water sources represent approximately 95% of the City's total annual water production. The balance of the City's supply comes from groundwater, all of which is extracted from the Beltz Well system the Santa Cruz in the Santa Cruz Mid-County Groundwater Basin (City of Santa Cruz 2021a). During the past ten years, the North Coast sources represented 20 percent of the total water supply, the San Lorenzo River represented 58 percent, Loch Lomond Reservoir (Newell Creek) represented 16 percent, and Beltz Well system contributed the remaining 6 percent. (City of Santa Cruz Water Department 2024).

The North Coast water sources consist of surface diversions from three coastal creeks and a natural spring located approximately 6 to 8 miles northwest of downtown Santa Cruz. The San Lorenzo River is the City's largest source of water supply, and the main water diversion is the Tait Diversion adjacent to the Coast Pump Station on State Highway 9 near City limits. The Tait Diversion is supplemented by shallow, auxiliary wells located directly across the river referred to as the Tait Wells. The Felton Diversion, which is an inflatable dam and intake structure built in 1974, located about six miles upstream from the Tait Diversion. When the Felton Diversion is being operated, water is pumped through the Felton Booster Station to Loch Lomond Reservoir (City of Santa Cruz Water Department 2021a).

Loch Lomond Reservoir is located near the town of Ben Lomond in the Santa Cruz Mountains. The reservoir was constructed in 1960 and has a maximum capacity of 2,810 million gallons. The reservoir provides surface water storage, and the reservoir and surrounding watershed also are used for public recreation purposes, including fishing, boating, hiking, and picnicking (swimming and wading are prohibited). In addition to the City, the San Lorenzo Valley Water District is entitled by contract to receive a portion of the water stored in Loch Lomond (City of Santa Cruz 2021a).

The water stored in Loch Lomond Reservoir is used to help meet dry-season water demand and provide back-up supply during winter storms when river diversions can be problematic due to turbidity issues. The City follows a variety of policies, procedures and legal restrictions in operating its water supply system, and the amount of water produced from each of the City surface water sources is controlled by different water rights and operational agreements. In general, the water supply system is managed to use available flowing sources to meet daily demands as much as possible. Groundwater and stored water from Loch Lomond Reservoir are used primarily in the summer and fall months when flows in the coast and river sources decline (City of Santa Cruz 2021b).

Even though groundwater constitutes only up to about 5% of the City water supply on an annual basis, it is a crucial component of the water system for meeting peak season demands, maintaining pressure in the eastern portion of the distribution system, and for weathering periods of drought. The Beltz Well system consists of four production wells and two water treatment plants located in the eastern portion of the City water service area (City of Santa Cruz 2021a). The wells are in the Mid-County groundwater basin, and the City is a member agency of the Santa Cruz Mid-County Groundwater Agency (MGA). The MGA prepared a Groundwater Sustainability Plan as required by the passage of the State's Sustainable Groundwater Management Act (SGMA) in 2014. The DWR classifies the Basin as a high priority basin in a state of critical overdraft because of active seawater intrusion.

The City does not currently operate a recycled water system in its service area; however, the Pasatiempo Golf Course, located within the City's service area, now receives disinfected secondary effluent from the City of Scotts Valley that it treats to tertiary standards at the Pasatiempo Golf Course Tertiary Plant for use as recycled water golf course irrigation. This reduces the demand for potable water from the Santa Cruz water system that would otherwise be used for irrigation (City of Santa Cruz 2021a).

In 2019, the City approved an agreement with the Soquel Creek Water District to allow the District to utilize a portion of the treated effluent produced by the City's wastewater Treatment Facility (WWTF) for groundwater replenishment as part of the District's Pure Water Soquel project. Pure Water Soquel will treat a portion of secondary effluent water from the City's WWTF with a new tertiary treatment facility located at the City's WWTF. That tertiary-treated water will then be pumped to a new Advanced Water Purification Facility located in Live Oak for further purification using advanced water purification methods for injection into the ground to replenish the groundwater basin. The agreement also included additional benefits of providing a facility to produce Title 22 recycled water for the City's use at the WWTF. In the future, a portion of that water could be used for a recycled water and irrigation water for La Barranca Park, which runs along Bay Street near the WWTF. Pure Water Soquel will also reduce the City's discharge of treated secondary wastewater to the Monterey Bay National Marine Sanctuary (City of Santa Cruz 2020).

Water Supply Augmentation Strategies

Since 2015, the City of Santa Cruz has been pursuing its Water Supply Augmentation Strategy (WSAS) developed by the Water Supply Advisory Committee (WSAC) as described in the 2020 UWMP. The WSAC was formed in 2014 when the City Council approved formation and membership of the citizen committee with the charge to "explore, through an iterative, fact-based process, the City's water profile, including supply, demand and future risks; analyze potential solutions to deliver a safe, adequate, reliable, affordable and environmentally sustainable water supply; and, to develop recommendations for City Council consideration" (WSAC 2015). The committee developed the Water Supply Advisory Committee Final Report on Agreements and Recommendations, which was accepted by the City Council in November 2015. The Final Report was incorporated by reference into the 2015 Urban Water Management Plan,

and the guiding recommendations continue to serve as the water supply management strategy for the City.

The WSAC recommendations are designed to address the "Problem Statement" included in the WSAC Final report:

> "Santa Cruz's water supply reliability issue is the result of having only a marginally adequate amount of storage to serve demand during dry and critically dry years when the system's reservoir doesn't fill completely. Both expected requirements for fish flow releases and anticipated impacts of climate change will turn a marginally adequate situation into a seriously inadequate one in the coming years. Santa Cruz's lack of storage makes it particularly vulnerable to multi-year droughts. The key management strategy currently available for dealing with this vulnerability is to very conservatively manage available storage. This strategy typically results in regular calls for annual curtailments of demand that may lead to modest, significant, or even critical requirements for reduction. In addition, the Santa Cruz supply lacks diversity, thereby further increasing the system's vulnerability to drought conditions and other risks…" (WSAC 2015)

The overarching goal of the WSAS is to provide significant improvement in the sufficiency and reliability of the City water supply. As presented in the 2015 UWMP, the WSAS portfolio elements include the following (WSAC 2015):

- Element 0: Demand Management. Additional water conservation with a goal of achieving an additional 200 to 250 MGY of demand reduction by 2035 by expanding water conservation programs.
- Element 1: Transfers and Exchanges. Passive recharge of regional aquifers by working to develop agreements for delivering surface water to the Soquel Creek Water District and/or the Scotts Valley Water District so they can rest their groundwater wells, help the aquifers recover, and potentially store water for use by the City in dry periods.
- Element 2: Aquifer Storage and Recovery (ASR). Active recharge of regional aquifers by using existing infrastructure and potential new infrastructure in the Purisima aquifer in the Soquel-Aptos Basin (now referred to as the Santa Cruz Mid-County Groundwater Basin), in the Santa Margarita/Lompico/Butano aquifers (now referred to as the Santa Margarita Groundwater Basin) in the Scotts Valley area, or in both to store water that can be available for use by the City in dry periods.
- Element 3: Recycled Water or Desalination. A potable water supply using advanced-treated recycled water as its source as a supplemental or replacement supply in the event the groundwater storage strategies described in Element 1 and Element 2 prove insufficient to meet the goals of cost-effectiveness, timeliness, or yield. In the event advanced-treated recycled water does not meet the City's needs, desalination would

become Element 3.

The Santa Cruz Water Department has been actively pursuing these recommendations since 2015 and continues to make steady progress. The WSAC recommended that the Water Department prepare information about the range of water supply augmentation projects to be compared to support a data-driven decision making about which options to pursue to address the water supply reliability gap.

Additionally, in collaboration with the Soquel Creek Water District (District), the City is currently working on the Santa Cruz Mid-County Regional Water Resources Optimization Study. The primary purpose of the Optimization Study is for the District and City to collaboratively identify and evaluate potential opportunities to optimize select projects and management actions (PMA) identified in the Basin's Groundwater Sustainability Plan to most effectively achieve/maintain groundwater basin sustainability. Additionally, the Study is evaluating the PMAs for their ability to improve regional water supply reliability. Projects that are the focus of the Optimization Study include:

- Water transfers/exchanges between the District and the City
- City's ASR Project
- District's Pure Water Soquel Project (City of Santa Cruz Water Department 2024).

Progress toward implementation of Elements 1 through 3 is described below as reported in a recent City evaluation (City of Santa Cruz Water Department 2024), followed by a discussion of water supply policy and implementation plan development. Conservation, or demand management, is not considered a water supply for the purposes of this evaluation.

Implementation of Transfers and Exchanges (WSAS Element 1)

The City has been working with Soquel Creek Water District to evaluate the feasibility of water transfers and exchanges since 2015 through the development of a formal pilot agreement, studies to assess the compatibility of surface and groundwater resources in distribution systems, and eventually piloting of water transfers since 2018. The transfer agreement extends through 2026, and additional piloting will continue as water supply conditions allow.

The City and Scotts Valley Water District are currently pursuing the Intertie-1 Project to construct an intertie and pump station to link the two water systems. In 2022, the Department of Water Resources awarded a $9,449,786 grant under the Urban and Multibenefit Drought Relief Grant Program that includes funding for the project. Project design has been completed, and construction is planned to begin in late 2024.

Future transfers and exchanges with local agencies, including Soquel Creek Water District, Scotts Valley Water District, Central Water District, and San Lorenzo Valley Water District would be facilitated by the water rights modifications to place of use proposed in the Santa Cruz

Water Rights Project described herein. The Santa Cruz Water Rights Project EIR additionally examines implementation of water transfers and exchanges with local agencies.

Limitations of the transfer and exchange strategy include that it is limited both by availability of surface water for transfer and by the demand of other-agency systems to utilize transferred water when available.

Implementation of Aquifer Storage and Recovery (WSAS Element 2)

The City has been evaluating the feasibility of ASR in both the Santa Cruz Mid-County and in the Santa Margarita Groundwater Basins, with the most recent work primarily focused on the portion of Santa Cruz Mid-County Basin within the City of Santa Cruz service area. To help advance the ASR project, the City has completed groundwater modeling of over 20 scenarios, a well siting study, a geochemical analysis study, pilot testing at the existing Beltz 12, Belt 9 and Beltz 8 wells, and demonstration studies at the existing Beltz 12 and Beltz 8 well facilities to better understand potential water quality and operational constraints.

ASR in both basins would be facilitated by the water rights modifications proposed in the Santa Cruz Water Rights Project. The Santa Cruz Water Rights Project EIR additionally examines implementation of ASR. Next steps for the City's ASR project include finalizing designs and initiation of construction for permanent ASR operations at Beltz 8 and Beltz 12.

Implementation of Recycled Water or Desalination (WSAS Element 3)

Since 2000, the City has been examining the use of recycled water through commissioned engineering studies regarding potential uses of recycled water for agricultural irrigation, landscape irrigation, groundwater recharge, direct potable reuse, and use of recycled water from neighboring water districts. These studies include the following:

- Alternative Water Supply Study (Carollo Engineers, 2000)
- Evaluation of Regional Water Supply Alternatives (Carollo Engineers, 2002)
- Integrated Water Plan Environmental Impact Report (EIR) (City of Santa Cruz, 2005)
- Opportunities and Limitations for Recycled Water Use (Kennedy/Jenks, 2010)
- Current and Potential Future Opportunities for Indirect and Direct Potable Reuse of Recycled Water Use (Kennedy/Jenks, 2010)
- Regional Recycled Water Facilities Planning Study, Phase 1 (Kennedy/Jenks, 2018).

The City of Santa Cruz is continuing to actively investigate the feasibility of recycled water through an ongoing Santa Cruz Recycled Water Feasibility Study Phase 2.

While further study of recycled water has currently been prioritized over seawater desalination, the feasibility of desalination continues to be explored. In 2018, the Desalination Feasibility

Update Review was prepared, and an updated review of feasibility is now being prepared as part of the Water Supply Augmentation Implementation Plan described blow.

Securing Our Water Future Policy and Water Supply Augmentation Implementation Plan

In 2022, the Water Department worked extensively with the Water Commission to complete a comparison of the water supply augmentation strategies identified in the WSAS, to develop a water supply augmentation policy, Securing Our Water Future (SOWF), since adopted by City Council, and to initiate the Water Supply Augmentation Implementation Plan (WSAIP) as part of the final phase of implementing the WSAS.

The SOWF policy provides a comprehensive framework to guide selection and incremental implementation of necessary water supply augmentation projects. It defines how water supply projects will be selected and provides estimated high-level yield and costs associated with water supply augmentation projects. The policy direction includes a provision that the volume of water needed to meet the reliability goal be reviewed and potentially revised no less frequently than every five years based on ongoing research and monitoring of the impacts of climate change on local water conditions. This "adaptive management" approach is critically important to support appropriate timing of implementation of water supply augmentation projects.

The objective of the WSAIP which is now underway is to continue the assessment to develop one or more projects to prepare a water supply portfolio to ensure water supply is available to meet the City's public health and safety and economic sustainability goals. The WSAIP will utilize guiding principles and criteria defined in the SOWF and set expectations for transparence in how the projects will be evaluated and prioritized.

Santa Cruz Water Rights Project

The Santa Cruz Water Rights Project supports the implementation of the WSAS and involves the modification of the City's existing water rights to increase the flexibility of the water system by improving the City's ability to utilize surface water within existing allocations. This project also adds into the City's water rights Agreed Flows bypass flow requirements for all of the City's surface water sources which are protective of local anadromous fisheries. The success of this project is necessary for fisheries protection and to facilitate future water supply projects. The primary components of the Santa Cruz Water Rights Project include:

- Water rights modifications related to place of use, method of diversion, points of diversion and rediversion, underground storage and purpose of use, extension of time, and Agreed Flows stream bypass requirements for fish habitats (see Table 6-3 above);
- Water supply augmentation components, including new ASR facilities at unidentified locations, ASR facilities at the existing Beltz well facilities, water transfers and exchanges and intertie improvements; and

- Surface water diversion improvements, including the Felton Diversion fish passage improvements and the Tait Diversion and Coast Pump Station improvements.

The State Water Resources Control Board noticed the City's water rights change petitions in February 2021. Subsequently, the project's Draft EIR was released for public review in summer 2021. The Final EIR was certified by Santa Cruz City Council in November 2021 (City of Santa Cruz 2021b). The State Water Resources Control Board is considering action on the City's water rights change petitions.

Santa Cruz Water Program (Capital Investment Program)

City of Santa Cruz has embarked on an ambitious capital investment program, the Santa Cruz Water Program, to secure the City's future water supply portfolio, to improve reliability and resiliency in the face of climate change, and to address aged infrastructure. Major investments are planned in the coming years to meet these goals. Some elements of the program will help contribute to the WSAS and support water supply reliability such as improvements to the Graham Hill Water Treatment Plant, raw water pipeline improvements, and Tait diversion, as described below as reported in a recent City evaluation (City of Santa Cruz Water Department 2024).

Graham Hill Water Treatment Plant Projects

Upgrades to the City's Graham Hill Water Treatment Plant are critical to the implementation of the WSAS to allow treatment of higher turbidity source water that otherwise would need to be bypassed during high flow periods such as during and after storm events. Recent and ongoing projects include major maintenance repairs to the flocculation, sedimentation and filtration basins that have been completed, and replacement of three of the four concrete tanks that is currently underway. Simultaneous with these component repair and replacement projects, staff has been developing the Climate Resilient Santa Cruz: Graham Hill Water Treatment Plant Facility Improvements Project (FIP).

The FIP consists of improvements at the facility to address aging infrastructure and to provide for efficiently and reliably meeting future water quality objectives and water supply needs. At this time, the FIP is finalizing 100% design drawings. The project includes the following:

- Reliable Water Treatment Plant Capacity. The Proposed Project would be designed to reliably produce a maximum of 18.2 million gallons per day, under a broad range of source water conditions.
- New and Upgraded Water Treatment and Related Processes.
- New and Upgraded Buildings.
- Infrastructure and Site Improvements.
- Project Operations and Maintenance.

- Project Construction.

The Final Environmental Impact Report was released in July 2024 and certified by City Council in September 2024. The project construction is anticipated to commence in phases over a four-year period (from 2025 through 2030) while maintaining ongoing operations and continuous production of drinking water at GHWTP.

Raw Water Transmission Pipeline Projects

The City is planning improvements to raw water conveyance through upgrades to both the North Coast system and Newell Creek Pipeline. These projects will improve reliability and reduce hydraulic constraints to improve delivery of raw water to the Graham Hill Water Treatment Plant.

The Water Department operates a network of diversions and 19 miles of pipeline to extract and bring raw from the North Coast sources into the City. In 2005, the City certified the programmatic Final Environmental Impact Report for the North Coast System analyzing system-wide improvements to the network, and has since completed three phases of pipeline replacement and diversion improvements. To complete the remainder of the improvements, in 2021, the City completed a new Planning Study and Implementation Plan to consider a number of changes that have occurred in the North Coast System since the 2005 Environmental Impact Report. The study provided recommendations for a slightly modified alignment as well as detailed estimates for construction timelines and budget. The remaining segments of the pipeline replacement and rehabilitation of the Majors Diversion have been combined into a single final project, the North Coast System Phase 4 project. Project design is estimated to commence in 2030 and project completion is targeted for early 2030s.

The Newell Creek Pipeline Improvement Project will replace the existing Newell Creek Pipeline (NCP), which is a 9.25-mile long raw water pipeline constructed in 1960 in conjunction with construction of the Newell Creek Dam an Graham Hill Water Treatment Plant. The NCP is a critical component of the City's raw water supply infrastructure. It conveys untreated water to and from the Loch Lomond Reservoir, which is the City's only raw water storage facility. The NCP conveys water from City's Felton Diversion to Loch Lomond Reservoir and also conveys water from the Reservoir to the Graham Hill Water Treatment Plant. The pipeline is critical to supplying the water system during dry seasons and during storm events when other water sources cannot be treated at the water treatment plant. The pipeline generally would be installed within existing road pavement, road right-of-way, which includes road pavement and unpaved shoulders adjacent to the paved road, and/or existing City easements. The Final Environmental Impact Report for the NCP Improvement Project was certified by Santa Cruz City Council in May 2022. Construction of the project will proceed in three phases, with completion all phases anticipated by early 2030s.

Tait Diversion Improvements

The City is also investigating improvements to the Tait Diversion facility that would improve reliability and fish screening. As described in the Santa Cruz Water Rights Project EIR, if the Tait Diversion is added as a new point of diversion to existing Felton water rights, Tait Diversion capacity would be increased to accommodate the combined diversion of water under both the Tait and the Felton water rights at this facility. This could benefit fisheries by allowing water diverted under the Felton water rights to bypass the Felton Diversion and remain in the San Lorenzo River until it reaches the Tait Diversion downstream. Planning, design and construction is anticipated to be completed by early 2030s.

Existing and Future Water Demand

The City's 2020 UWMP reports that until the early 2000s, the general trend in the City of Santa Cruz water system use was one in which water use rose roughly in parallel with account and population growth over time, except during two major drought periods in the late 1970s and the early 1990s. Around 2000, this pattern changed and system demand began a long period of decline, accelerated by rate increases, drought, economic downturn, and other factors.

In 2015, after two years of water rationing, annual water use fell to a level of about 2.5 billion gallons, similar to the level experienced during the 1970s drought. In 2023, demand was still at a similar level as 2015, about 2.5 billion gallons, despite several years of above long-term average rainfall from 2016 and 2023. While demand did rebound following droughts in the 1970s and 1980s, demand has not rebounded to pre-drought conditions following 2014, contrary to previous projections. Today, even with 30 percent population growth since the 1980s, the City is using less water than in the 1980s due to conservation efforts including plumbing code changes and water efficient appliances and landscapes. In 2023, water demand in the service area was slightly below 2,500 MGY (City of Santa Cruz Water Department 2024).

In September 2024, the Water Department updated its demand projections to reflect known cumulative development projects and anticipated growth within the Water Department's service area, including the proposed Project. The results indicate that demand could reach 2,800 MGY by the year 2035 and reach approximately 3,000 MGY year by 2045, which is about 8.6 percent higher than forecast in the 2020 UWMP due to higher projected levels of housing development, particularly with respect to multi-family and accessory dwelling unit (ADU) residential development. For reference, the estimated projected demand in 2045, 3,000 MGY, is approximately equal to the City's water use in 1968 (City of Santa Cruz Water Department 2024).

Water Supply Availability

The water supply reliability and drought risk assessments included in 2020 UWMP found water supply to be adequate in normal and single dry years, but show a potential lack of adequate supplies during near-term multiple consecutive dry years. Santa Cruz has had periodic water shortages for the last several decades, driven by droughts. Yet, even with 30 percent population growth since the 1980s, the City is using less water now as it was then as indicated above.

The City's supply problem has been caused by cyclical shortfalls in rain, exacerbated by a long-term lack of ability to capture and store rainfall – features of the emerging climate change phenomenon of "weather whiplash" that results in so-called "normal" rainfall years becoming a thing of the past. Because of climate change, the City's water supply problem must be solved regardless of whether or not the City grows. To address supply vulnerability, the City is implementing its WSAS developed and recommended by the WSAC, in addition to ongoing water conservation, including the development of ASR facilities, transfers and/or exchanges with neighboring water districts, and increased use of recycled water, as described further below.

The City's updated its water supply analysis with the updated 2024 demand projections. The data, methods, and basis for assumed water shortage conditions are consistent with those in the City's 2020 UWMP.

The City of Santa Cruz utilized the Confluence® model to analyze the variability of water supplies to determine potential water supply shortages. The City has been utilizing the Confluence® model to support water supply planning activities since 2003 and this model was also used to generate the results for the 2010, 2015, and 2020 UWMP. The model accounts for the variation in demand both within and between years, the availability of water from various sources, and the capacity of infrastructure to pump and treat the water. The City is in the process of transitioning to a new water system model developed by University of Massachusetts' Hydrosystem Research Group. Before the Confluence® model was retired from use by the City, model runs for the current scenario were completed under projected demands of up to 2,900 MGY which form the basis for this analysis (City of Santa Cruz Water Department 2024).

The City is safeguarding against future water shortages by actively implementing future water projects as described above. Implementation of these projects is therefore assumed in the City's water supply planning process. Consistent with the WSAS and 2020 UWMP, the following assumptions about future water projects have been used in developing projected water supplies over the 25-year planning horizon of this evaluation.

- In 2025, the City will have implemented proposed water rights modifications, including implementation of the Agreed Flows which are protective of local anadromous fisheries, as described in the Santa Cruz Water Rights Project Final EIR
- In 2030, the City will have implemented the following components of the WSAS and planned infrastructure projects:
    - ASR in the Santa Cruz Mid-County Groundwater Basin and/or the Santa Margarita Groundwater Basin, sized for up to 4.5 million gallons per day (MGD) injection and 8.0 MGD extraction as described in the Santa Cruz Water Rights Project Final EIR,

- Improvements to the Tait Diversion on the San Lorenzo River as described in the Santa Cruz Water Rights Project Final EIR and as included in the Santa Cruz Water Program,
- Facility improvements at the Graham Hill Water Treatment Plan that will allow treatment of more turbid water as included in the Santa Cruz Water Program, and
- Replacement of major transmission pipelines on the North Coast and the NCP as included in the Santa Cruz Water Program.

For the purposes of assessing water system reliability, the City has selected the following years from the historical record to represent DWR definitions for year type:

- Average/Normal Year: This condition represents the water supplies available during normal conditions. This could be a single year or averaged range of years that most closely represents the average water supply available. In this reliability assessment, the year 2010 is used to represent the average year because flows in the San Lorenzo River during this year were very close to the historical average.
- Single Dry Year: A year that represents the lowest water supply available to the agency. In this reliability assessment, the year 1977 is used as the single dry year because it was the single driest year in this historical record.
- Multiple Dry Years: Multiple dry years in this evaluation is consistent with the five-consecutive-year drought representing the driest five-year historical period for the supplier. The period 1973-1977 is used as the five-consecutive-year drought because it is the period in the historic record that was most challenging from a water supply perspective, particularly due to the two extremely dry years of 1976-1977.

To demonstrate supply reliability over time for each base year type modelled, Table 12-1: Projected Supply and Demand Comparison through 2045 illustrates projected supply available relative to demand over the 20-plus-year planning horizon of 2024 update used in this assessment. As illustrated, in the near term (2025) with proposed water rights modifications assumed but before implementation of ASR and planned infrastructure projects, City projects having sufficient water supply available in normal years and single dry years. Under near-term multi-year drought conditions, with proposed water rights modifications assumed but before implementation of the ASR and planned infrastructure projects, available supplies would meet projected demand in years one through three of the multi-year drought scenario, but would fall short of demand by four percent in year four, and 23 percent in year five (City of Santa Cruz Water Department 2024).

In the 2030 – 2040 analysis period, assuming implementation of the City's proposed water rights modifications, ASR and planned infrastructure improvements, the City projects having

sufficient water supply available in normal years, single dry years, and multiple dry years to serve anticipated demand (City of Santa Cruz Water Department 2024).

Table 12-1: Projected Supply and Demand Comparison through 2045

			2025 (MG)	2030 (MG)	2035 (MG)	2040 (MG)	2045* (MG)
Normal Year		Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,600	2,800	2,800	2,900	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
Single Dry Year		Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,600	2,800	2,800	2,900	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
Multiple Dry Years	First year	Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,600	2,800	2,800	2,900	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Second year	Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,600	2,800	2,800	2,900	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Third year	Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,600	2,800	2,800	2,900	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Fourth year	Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,500	2,800	2,800	2,900	2,900
		Supply Shortage	**100**	**0**	**0**	**0**	**100**
	Fifth year	Supply	2,600	2,800	2,800	2,900	3,000
		Demand	2,000	2,800	2,800	2,900	2,900
		Supply Shortage	**600**	**0**	**0**	**0**	**100**

NOTES: Projected water supply values shown in this table represent output values from the City's Confluence® (water supply) model utilizing historic hydrology and demands up to 2,900 MG. The Confluence® model utilizes system demands to model water supply from City sources. Consistent with the WSAS, the following assumptions about future water projects have been used in developing projected water supplies. In 2025, the City will have implemented proposed water rights modifications as described in the Santa Cruz Water Rights Project Final EIR, and in 2030, the City will have implemented the following components of the WSAS and planned infrastructure projects: ASR in the Santa Cruz Mid-County Groundwater Basin and/or the Santa Margarita Groundwater Basin, sized for up to 4.5 MGD injection and 8.0 MGD extraction as described in the Santa Cruz Water Rights Project Final EIR (specifically for this analysis, 3.0 MGD injection and 6.0 MGD extraction was assumed); improvements to the Tait Diversion on the San Lorenzo River as described in the Santa Cruz Water Rights Project Final EIR and as included in the Santa Cruz Water Program; facility improvements at the Graham Hill Water Treatment Plant that will allow treatment of more turbid water as included in the Santa Cruz Water Program; and replacement of major transmission pipelines on the North Coast and the NCP as included in the Santa Cruz Water Program. Projected demand is based upon the 2024 Update of the City of Santa Cruz's Long-Range Water Demand Forecast (City of Santa Cruz Water Department 2024, Appendix A).
* Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model was 2,900 MG. While this results in an apparent three percent shortage in all 2045 scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand.

Source: City of Santa Cruz Water Department 2024

In 2045, the analysis shows a three percent deficit across all year types. A three percent shortage is considered a negligible amount in the scale of this twenty-year supply and demand analysis. Furthermore, although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model before it was retired from use by the City was 2,900 MG. While this results in an apparent three percent shortage in all 2045 year-type scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand. That is, if the model had been instructed to keep supplying water up to 3,000 MG, rather than stopping when the modeled demand of 2,900 MG was satisfied, the system would likely have had additional water available which the model did not supply since the set demand of 2,900 MG was already met. Moreover, implementation of the City's SOWF Policy and its adaptive management approach would ensure that future water supply projects would be fine-tuned to eliminate any minor projected future shortages (City of Santa Cruz Water Department 2024).

The City has chosen to conduct this analysis using both historic hydrology and a selected climate change hydrology, CMIP-5, mirroring the approach utilized for the 2020 Urban Water Management Plan. The scenario used is the CMIP5 50-99 scenario which has been adjusted to include warmer air temperatures. The five-year consecutive drought period was selected as the driest period identified from the climate change hydrology resulting in the greatest projected supply shortages (City of Santa Cruz Water Department 2024).

To demonstrate supply reliability over time for each base year type modelled under a climate change scenario, Table 12-2: Climate Change Scenario Projected Supply and Demand Comparison illustrates projected supply available relative to demand over the 20-plus-year planning horizon of this assessment. As shown, in the near term (2025) in this climate change scenario with proposed water rights modifications but before implementation of ASR and planned infrastructure projects, the City projects having sufficient water supplies available in normal years. In a near-term single dry year in this climate scenario, a four percent shortage would result. In the multi-year drought scenario, available supplies would meet projected demand in years one through three, but would fall short of demand by 19 percent in year four and 15 percent in year five (City of Santa Cruz Water Department 2024).

In the 2030 – 2040 analysis period, with implementation of ASR and planned infrastructure projects, available supplies would meet projected demand in normal and single dry years. In the multi-year drought scenario, available supplies would meet projected demand in years one through four of the multi-year drought scenario, but would fall short of demand in year five by four percent (2030, 2035) to seven percent (2040) (City of Santa Cruz Water Department 2024).

Table 12-2: Climate Change Scenario Projected Supply and Demand Comparison

			2025 (MG)	2030 (MG)	2035 (MG)	2040 (MG)	2045* (MG)
Normal Year		Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,600	2,800	2,800	2,800	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
Single Dry Year		Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,500	2,800	2,800	2,800	2,900
		Supply Shortage	**100**	**0**	**0**	**0**	**100**
Multiple Dry Years	First year	Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,600	2,800	2,800	2,800	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Second year	Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,600	2,800	2,800	2,800	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Third year	Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,600	2,800	2,800	2,800	2,900
		Supply Shortage	**0**	**0**	**0**	**0**	**100**
	Fourth year	Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,100	2,800	2,800	2,800	2,900
		Supply Shortage	**500**	**0**	**0**	**0**	**100**
	Fifth year	Modeled Supply	2,600	2,800	2,800	2,800	3,000
		Forecast Demand	2,200	2,700	2,700	2,700	2,700
		Supply Shortage	**400**	**100**	**100**	**100**	**300**

Notes: Projected water supply values shown in this table represent output values from the City's Confluence® (water supply) model utilizing historic hydrology. The Confluence® model utilizes system demands to model water supply from City sources. Consistent with the WSAS, the following assumptions about future water projects have been used in developing projected water supplies. In 2025, the City will have implemented proposed water rights modifications as described in the Santa Cruz Water Rights Project Final EIR, and in 2030, the City will have implemented the following components of the WSAS and planned infrastructure projects: ASR in the Santa Cruz Mid-County Groundwater Basin and/or the Santa Margarita Groundwater Basin, sized for up to 4.5 MGD injection and 8.0 MGD extraction as described in the Santa Cruz Water Rights Project Final EIR (specifically for this analysis, 4.5 MGD injection and 6.5 MGD extraction was assumed); improvements to the Tait Diversion on the San Lorenzo River as described in the Santa Cruz Water Rights Project Final EIR and as included in the Santa Cruz Water Program; facility improvements at the Graham Hill Water Treatment Plant that will allow treatment of more turbid water as included in the Santa Cruz Water Program; and replacement of major transmission pipelines on the North Coast and the NCP as included in the Santa Cruz Water Program. Projected demand is based upon the 2024 Update of the City of Santa Cruz's Long-Range Water Demand Forecast (City of Santa Cruz Water Department 2024, Appendix A).
* Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model was 2,900 MG. While this results in an apparent three to ten percent shortage in the 2045 scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand.

Source: City of Santa Cruz Water Department 2024

In 2045, the analysis shows a three percent deficit across a normal year, single dry year, and years one through four of the multi-year dry sequence, increasing to ten percent in year five. Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model before it was retired from use by the City was 2,900 MG. While this results in an apparent three to ten percent shortage in the 2045 scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand. That is, if the model had been instructed to keep supplying water up to 3,000 MG, rather than stopping when the modeled demand of 2,900 MG was satisfied, the system would likely have had additional water available which the model did not supply since the set demand of 2,900 MG was already met(City of Santa Cruz Water Department 2024).

While a shortage is projected under these scenarios with implementation of the ASR and planned infrastructure projects, the City is currently planning for water supply augmentation through its SOWF Policy and WSAIP that would meet projected supply under plausible worst-case conditions. Moreover, implementation of the adaptive management approach from SOWF Policy would ensure that future water supply projects would be fine-tuned to eliminate any projected future shortages (City of Santa Cruz Water Department 2024).

The SOWF was structured to incorporate changing demands and climate projections over time and includes a reliability goal based on adequate supply to meet all customer demand. As noted in the SOWF, expected increases in demand in the water service area are not expected to drive the size or timing of needed water supply augmentation projects. Longer dry periods under climate change conditions are understood to be the primary challenge driving the need to augment the City's water supply (City of Santa Cruz Water Department 2024).

12.3.3 Solid Waste Disposal and Generation

Solid waste collection and disposal services, including recycling services, are provided to City residents, businesses, and institutions within the City's boundaries by the City of Santa Cruz. The City's Resource Recovery Facility (RRF) is located approximately 3miles west of the City off Highway 1 at 605 Dimeo Lane. The site covers 100 acres with 67 acres available for disposal use. The RRF only accepts municipal solid waste and serves as a sorting facility to remove any recyclable or composting materials. The recycling center accepts a variety of recyclable materials.

The RRF is permitted to receive a total of 10,484,325 cubic yards (cy) of solid waste, including wood waste, tires, sludge (biosolids), mixed municipal wastes, metals, inert wastes, industrial wastes, green materials, dead animals, and construction/demolition wastes (CalRecycle 2024b). As of July 31, 2021, the landfill had a remaining capacity of approximately 5.3 million cy (approximately 51%) and is anticipated to reach maximum final capacity in the year 2054 (City of Santa Cruz 2021c). The RRF has a maximum permitted daily solid waste throughput capacity of 535 tons, and a maximum permitted green waste throughput capacity of 12,500 cy (CalRecycle 2024b). In 2023, 65,687 tons of solid waste were disposed of at the RRF (CalRecycle

2023), which is an average of approximately 180 tons per day (approximately 34% of daily capacity).

Operations at the RRF comply with all regulations, plans, and permits required by the California Integrated Waste Management Board, the SWRCB, and the MBARD (City of Santa Cruz 2019). In late 2019, the City installed a food scrap preprocessing system at the RRF and launched its curbside food scrap collection program in 2022, in compliance with SB 1383 to reduce GHG emissions. Approximately 40 tons of food waste per week is diverted from the landfill through residential and commercial collections. Preprocessed food scrap mash is delivered from the RRF to a facility in Santa Clara, where it is processed into animal feed. Eventually, the City plans to process all food scraps into energy at the Wastewater Treatment Facility (City of Santa Cruz 2022, 2023).

The project site contains existing residential and commercial uses that generate solid waste. There are a total of 12 residential structures and four commercial buildings with 14,962 square feet of commercial space on the site. As indicated in Table 3-1 in Section 3.3.2, Project Components, above, six of the residential structures are either vacant or not habitable structures (i.e., garage), and one 1,032-square-foot commercial unit is vacant. Therefore, for the purposes of this analysis, the Project site is assumed to contain six single-family residences and three commercial units with 13,930 square feet of commercial space that are generating solid waste under existing conditions.

CalRecycle provides general information for planning purposes on estimated solid waste generation rates based on land use (CalRecycle 2024a). For multifamily residential uses, the estimates provided range from a minimum of 3.6 pounds per unit per day to 8.6 pounds per unit per day. Single-family uses generate an estimate 7.8 pounds per unit per day to 11.4 pounds per unit per day. Estimates for commercial retail uses range from 2.5 pounds per 1,000 square feet per day to 0.046 pounds per square foot per day.

Based on estimated solid waste generation rates for single-family residential and commercial retail uses provided by CalRecycle, the existing six occupied single-family residential units on site generate approximately 47 to 52 pounds per day, or 17,082 to 18,834 pounds per year; the existing three occupied commercial buildings totaling 13,930 square feet generate approximately 35 to 641 pounds per day, or 12,711 to 233,885 pounds per year. Combined, this would equate to a maximum estimate of approximately 0.35 tons per day, or 126 tons per year, which represents an increment of waste disposed at the City's RRF daily and yearly.

12.4 Impacts and Mitigation Measures

12.4.1 Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), the City of Santa Cruz CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if the Project would:

UTIL-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

UTIL-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

UTIL-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

UTIL-4 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.

UTIL-5 Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

12.4.2 Project Impact Analysis

As evaluated in the Initial Study (see Appendix A), the Project would result in no impact regarding requirements for new or expanded utilities (UTIL-1) and would result in a less-than-significant impact regarding wastewater treatment (UTIL-3). Thus, no further discussion is required for these topics. The impact analyses in the following section address potential impacts to water supply (UTIL-2) and solid waste (UTIL-4 and UTIL-5).

Impact UTIL-2: Water Supply. The Project would result in new development with a demand for potable water in a system that, under existing conditions, has adequate supplies during normal years and single-dry years, but is subject to potential supply shortfalls during the fourth and fifth years of a multi-year drought scenario. The additional Project demand would not result in a substantial increase in water demand during dry years and would not be of a magnitude to affect the level of curtailment that might be in effect (UTIL-2). Therefore, the impact is considered a *less-than-significant impact*.

The proposed project would result in a net increase of 377 new multi-family residential units and a net decrease of approximately 5,400 square feet of commercial uses. Based on water demand rates documented in the City's adopted 2020 UWMP, the Project could result in a water demand of approximately 12.3 MGY, based on multi-family residential (MFR) water demand rates used in the 2020 UWMP and rates for commercial uses developed by the City and included in the General Plan 2030 EIR. The Project water demand represents a negligible amount (approximately 0.4 percent) of the total existing and 2,800 MGY of future water demand projected for the year 2030 with the 2024 demand projections.

The Project and other development projects that are under construction, approved, or have pending development applications were considered in the 2024 water demand projections and

updated water supply evaluation. Thus, the Project and other foreseeable development water demand is within the water demand accounted for in this update.

The 2024 updated water demand projections and water supply evaluation indicate that in the near term (2025), the City projects having sufficient water supply available in normal years and single dry years. Under near-term multi-year drought conditions, available supplies would meet projected demand in years one through three of the multi-year drought scenario but would fall short of demand by four percent in year four, and 23 percent in year five.

In the 2030-2040 analysis period, the City projects having sufficient water supply available in normal years, single dry years, and multiple dry years to serve anticipated demand.

In 2045, the analysis shows a negligible three percent deficit across all year types. Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model was 2,900 MG. While this results in an apparent three percent shortage in all 2045 year-type scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand.

Under the climate change scenario in the near term (2025), the City projects having sufficient water supplies available in normal years. In a near-term single dry year in the climate scenario, a four percent shortage would result. In the multi-year drought scenario, available supplies would meet projected demand in years one through three, but would fall short of demand by 19 percent in year four and 15 percent in year five.

Under the climate change scenario in the 2030-2040 analysis period, available supplies would meet projected demand in normal and single dry years. In the multi-year drought scenario, available supplies would meet projected demand in years one through four of the multi-year drought scenario, but would fall short of demand in year five by four percent (2030, 2035) to seven percent (2040).

Under the climate change scenario in 2045, the analysis shows a three percent deficit across a normal year, single dry year, and years one through four of the multi-year dry sequence, increasing to ten percent in year five. Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model before it was retired from use by the City was 2,900 MG. While this results in an apparent three to ten percent shortage in the 2045 scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand.

In the near-term, the projected shortfall would require aggressive reduction savings according to the City's Water Shortage Contingency Plan (2021a). As required by California Water Code and to manage risks due to water supply shortages that can be expected in the future, the 2020 UWMP includes a Water Shortage Contingency Plan that addresses how the City's water system would be managed during a water shortage emergency that arises as a result of drought, which could result in required customer water use reductions when shortfalls occur. With

implementation of planned water augmentation projects and strategies and after the year 2030, potential shortfalls are projected to be a negligible four percent.

During periods of dry years and drought, water customers could be subject to water curtailment as enacted by the City. A multiple-dry year scenario could require substantial curtailment by all water customers until a number of planned water supply projects and strategies are expected to be implemented by 2030. The Project is expected to be constructed and occupied in 2028, which would be within the period of projected near-term water shortages during the fifth year of a drought. However, the Project's estimated water demand is very minimal compared to the total projected water demand in 2030 (approximately 0.04 percent of the total demand). If a shortage and subsequent curtailment were to occur, the Project's demand when spread out among all users would not be a substantial increase as to cause further curtailment than would already be required throughout the service area. Therefore, the impact of increased water demand on water supplies due to the Project is considered less than significant as there are sufficient supplies from existing sources to serve the project during normal and single-year dry periods, and the Project's minimal demand during multiple-year droughts would not be substantial in comparison to total demand.

Project users would be required to comply with required curtailment orders if imposed as would all of the service area customers. In addition, the Project would be subject to City development standards and requirements that include requirements for installation of water conservation fixtures and landscaping for new construction. In addition, the project would pay the required "System Development Charge" for the required new service connection. This charge as set forth in Chapter 16.14 of the City's Municipal Code is intended to mitigate the water supply impacts caused by new development in the City of Santa Cruz water service area, and the funds are used for construction of public water system improvements and conservation programs.

The City also considered availability of water supplies to serve the project and other "reasonably foreseeable future development," which the City determined to be projects that are under construction or have been approved. The 2024 updated water demand projections and water supply analysis considered all cumulative development projects, including pending permit applications as well as approved projects and projects under construction (see Appendix G). Thus, based on results of the 2024 demand projections and analysis explained above, the demand from the Project and reasonably foreseeable development would not result in more stringent contingency measures than already anticipated for a multiple dry year period.

Therefore, water supplies with implementation of planned augmentation projects are sufficient to serve the project and reasonably foreseeable development, and the impact regarding water supply availability is *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact UTIL-4/5: Solid Waste Generation. The Project would result in increased population associated with the development of new residential units that would result in increased generation of solid waste. However, the project would not result in the generation of solid waste in excess or state or local standards, or of the capacity of local infrastructure, or impair attainment of solid waste reduction goals (UTIL-4 and UTIL-5). Therefore, this is considered is a *less-than-significant* impact.

The Project would result in construction of 389 residential units and remove 12 existing units for a net increase of 377 units. Based on the citywide average household size of 2.24 persons per household (CA Department of Finance, 2024), the Project would result in a net increase of 844 residents. The project would result in a net decrease of approximately 5,400 square feet of commercial space.

The Project would result in an associated increase in the generation of solid waste from construction and operation of the Project. Construction activities would result in generation of solid waste that would likely include scrap lumber, concrete, residual wastes, packing materials, plastics, and soils. Per CALGreen, at least 65% of all construction and demolition waste is required to be diverted from landfills. Any hazardous wastes that are generated during construction activities would be managed and disposed of in compliance with all applicable federal, state, and local laws. The remaining 35% of construction material that is not required to be recycled would either be disposed of or voluntarily recycled at a solid waste facility with available capacity. It is expected that construction waste would generally be recycled and reused to the maximum extent possible, due to the cost of disposing of such materials, in accordance with applicable regulations.

Once operational, the Project would result in the generation of solid waste on a regular basis in association with the residential and commercial uses on site. As described above, CalRecycle provides general information for planning purposes on estimated solid waste generation rates based on land use (CalRecycle 2024a). For multifamily residential uses, the estimates provided range from a minimum of 3.6 pounds per unit per day to 8.6 pounds per unit per day. Single-family uses generate an estimate 7.8 pounds per unit per day to 11.4 pounds per unit per day. Estimates for commercial retail uses range from 2.5 pounds per 1,000 square feet per day to 0.046 pounds per square foot per day.

As described above, based on estimated solid waste generation rates provided by CalRecycle, the existing occupied uses on the project site generate approximately 0.35 tons per day, or 126 tons per year, which represents an increment of waste disposed at the City's RRF daily and yearly.

The Project would result in the development of 389 residential units and 9,570 square feet of commercial space on the project site. Based on estimated solid waste generation rates provided by CalRecycle, the proposed residential uses on the project site would generate approximately 1,400 to 3,345 pounds of solid waste per day and the proposed commercial uses on the project site would generate approximately 24 to 440 pounds of solid waste per day.

Using the most conservative (i.e., largest) estimates, this would equate to a maximum solid waste generation of approximately 1.9 tons of solid waste per day, or 691 tons of solid waste per year. The estimated net increase in solid waste generation is 1.55 tons per day, or 565 tons per year.

As described above, solid waste generated by future development accommodated by the Project would be disposed of at the City's RRF, which is expected to reach capacity in the year 2054. As described above, the City's RRF has a remaining capacity of approximately 51%, respectively, or approximately 5.3 million cy of solid waste. Daily throughput in 2023 averaged 34% of the RRF's permitted daily capacity of 535 tons. Thus, adequate landfill capacity is available during the timeframe of the proposed project and beyond to serve development accommodated by the project. Given this, the City's RRF would have adequate capacity to accommodate the net increase in solid waste generated by the project of 1.55 tons per day, and the impact would be *less-than-significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

12.5 References

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13 CEQA Considerations

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. The EIR must also discuss (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, and (4) growth-inducing impacts of the proposed project.

Section 2.5 Summary of Impact and Mitigation Measures and Chapters 5 through 12 provides a summary of the proposed project's environmental effects, mitigation measures, and the level of impact significance both before and after mitigation.

This section addresses the other required topics identified above, as well as cumulative impacts.

13.1 Significant Unavoidable Impacts

The State California Environmental Quality Act (CEQA) Guidelines require a description of any significant impacts, including those that can be mitigated but not reduced to a level of insignificance (section 15126.2(c)). Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the Project is being proposed, notwithstanding their effect, should be described. This EIR identified the following significant unavoidable project impacts: cultural resources (historical resources). As discussed in Chapter 6, Cultural Resources and Tribal Cultural Resources of this EIR, the structure at 130 Hubbard Street is a historical resource that would be demolished to accommodate the Project and could not be mitigated without an alternative design. Alternatives that would protect this historical resource are analyzed in Chapter 14 Alternatives.

13.2 Significant Irreversible Environmental Changes

The State CEQA Guidelines require a discussion of significant irreversible environmental changes with project implementation, including uses of nonrenewable resources during the initial and continued phases of the Project (section 15126.6(c)). The Guidelines indicate that use of nonrenewable resources during the initial and continued phases of the Project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Irreversible damage can also result from environmental accidents associated with the Project. Section 15227 further requires this discussion only for adoption of a plan, policy or ordinance by a public agency; the adoption by a Local Agency Formation Commission (LAFCO) of a resolution making determinations; and projects which require preparation of an EIS under the National Environmental Policy Act (NEPA). The Project does not meet these requirements as a mixed-use development project, and no further review is required.

13.3 Growth Inducement

CEQA requires that any growth-inducing aspect of a project be discussed in an EIR. This discussion should include consideration of ways in which the Project could directly or indirectly foster economic or population growth in adjacent and/or surrounding areas. Projects which could remove obstacles to population growth (such as major public service expansion) must also be considered in this discussion. According to CEQA, it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment.

As of 2024, the City has a population of 62,776 and an estimated 24,506 housing units in the City (California Department of Finance 2024). The Project would result in construction of 389 residential units and removal of 12 existing units for a net increase of 377 units. Based on the citywide average household size of 2.24 persons per household (CA Department of Finance, 2024), the Project would result in a net increase of approximately 845 residents. The Project would also result in a net decrease of approximately 5,863 square feet of commercial building space.

Thus, the Project could directly foster population growth, but might not foster economic growth with a reduction of commercial space, although depending on the types of uses that ultimately occupy the Project, commercial uses could also generate more revenue than existing commercial uses on the Project site. In addition, some of the non-residential space could be used for services for the Project residents.

The Association of Monterey Bay Area Governments (AMBAG) develops population and housing forecasts for the region. For the year 20230, the period closest to expected completion of the Project, the 2022 Regional Growth Forecast for the City of Santa Cruz estimates a population of 72,218 and 25,578 housing units With the new housing units and population resulting from the Project, the City's population would be 62,776, which is below the regional population forecast for the year 2030. Therefore, while the Project would directly induce population growth, the new population resulting from the Project would not be substantial as it would be within regional forecasts. The Project site also is designated for mixed-use medium density development in the City's General Plan 2030, and the City's adopted Ocean Street Area Plan identifies the site as one of three "Catalyst Sites" for redevelopment, and thus the population resulting from the Project would be consistent with potential development envisioned for the site in adopted City plans.

The Project does not include offsite improvements or extension of water or sewer into undeveloped areas, and thus, the Project site would not remove obstacles to development and population growth. Therefore, the Project would not indirectly foster population or economic growth.

13.4 Cumulative Impacts

13.4.1 State CEQA Requirements

The State CEQA Guidelines section 15130(a) requires that an EIR discuss cumulative impacts of a project "when the Project's incremental effect is cumulatively considerable." As defined in Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the Project evaluated in the EIR together with other projects causing related impacts. As defined in section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," the lead agency need not consider the effect significant.

CEQA requires an evaluation of cumulative impacts when they are significant. When the combined cumulative impact associated with the Project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. Furthermore, according to the California State CEQA Guidelines section 15130 (a)(1), there is no need to evaluate cumulative impacts to which the Project does not contribute.

An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus not significant when, for example, a project funds its fair share of a mitigation measure designed to alleviate the cumulative impact. An EIR shall examine reasonable, feasible options for mitigating or avoiding the Project's contribution to any significant cumulative effects.

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide detail as great as that provided for the impacts that are attributable to the Project alone. The discussion should be guided by standards of practicality and reasonableness and should focus on the cumulative impact to which the identified project contributes.

Discussion of cumulative impacts may consider either a list of past, present, and probable future projects producing cumulative impacts; or a summary of growth projections contained in an adopted plan that evaluates conditions contributing to cumulative impacts, such as those contained in a General Plan. If a lead agency determines that a cumulative effect has been adequately addressed in a prior EIR, that cumulative effect is not required to be examined in a later EIR pursuant to CEQA (Pub. Resources Code section 21094(e)(1). The section further indicates that cumulative effects are adequately addressed if the cumulative effect has been mitigated or avoided as a result of the prior EIR and adopted findings or can be mitigated or avoided by site-specific revisions, imposition of conditions or other means in connection with the approval of the later project (Id., subsection (e)(4)).

If a cumulative impact was addressed adequately in a prior EIR for a general plan, and the Project is consistent with that plan or action, then an EIR for such a project need not further analyze that cumulative impact, as provided in the State CEQA Guidelines section 15183(j). Therefore, future projects that are determined to be consistent with the General Plan may rely on this analysis to streamline their environmental review.

13.4.2 Cumulative Analysis

Cumulative Development

The analysis of cumulative impacts may consider either (1) a list of past, present, and probable future projects producing cumulative impacts or (2) a summary of growth projections contained either in an adopted plan that evaluates conditions contributing to cumulative impacts or in a certified environmental document for such a plan. Examples of plans that can be used for such purposes include a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. Projects that are relevant to the cumulative analysis include projects that could:

- Contribute incremental environmental effects on the same resources as, and would have similar impacts to, those discussed in this EIR applicable to the Proposed Project.
- Be located within the defined geographic scope for the cumulative effect. The defined geographic scope is dependent on the environmental resource affected.
- Contribute impacts that coincide with Project impacts during either construction (short-term) or operation (long-term).

This EIR uses the list-based approach for the identification of cumulative projects. Based on the above factors, cumulative projects considered for the analysis include other residential and commercial development projects that are under construction or approved within the City or whose impacts would otherwise combine with the impacts of the Project. Proposed development projects with pending use permit applications also are considered. Table 13-1: City of Santa Cruz Cumulative Projects identifies cumulative projects, including: projects under construction or recently constructed; approved projects; projects with pending use permit applications; and other known planned development projects within the City, which was provided by the City Planning and Community Development Department. (Appendix F) provides a detailed list of these projects.) Cumulative development with the proposed Project would result in a net increase of approximately 3,630 new residential units, a net decrease of approximately 40,000 square feet of commercial uses, a net increase of approximately 46,500 square feet of industrial uses, a decrease in office space and an increase of approximately 400 hotel rooms.

Table 13-1: City of Santa Cruz Cumulative Projects

	Residential (DUs)	Commercial (sf)	Industrial (sf)	Office (sf)	Hotel (rooms)
Finaled Permits in 2024	2	450	8,870		
Under Construction	569	-57,605	7,500	590	165
Approved	1,732	-51,251	22,015	-4,131	232
Pending Applications	278	6,944	3,080	81	
Others (1)					
831 Almar (2)	120	4,000	5,000		
530, 542, 548 Ocean (2)	199	3,000			
2020 North Pacific (2)	260	11,125			
201 River	12				
313 Swift - School	80				
Subtotal	**3,252**	**-88,732**	**46,465**	**-3,460**	**397**
Proposed Project	377	-5,395			
TOTAL	**3,629**	**-83,337**	**46,465**	**-3,460**	**397**

Notes:
1. Pre-application or Significant Projects on Planning websites.
2. Does not account for existing non-residential sf.

Source: City of Santa Cruz (Through April 2024).

In addition to development within the City, residential development at the University of California Santa Cruz (UCSC) campus would result in 39 new employee housing units, a net decrease of 59 student housing units, and a net increase of approximately 2,580 student beds.

It also is noted that the City is in the process of developing a series of amendments to the Downtown Plan that include extending the boundary of the existing Downtown Plan to incorporate an area south of Laurel Street. The September 2022 Notice of Preparation (NOP) of a Subsequent EIR indicates that the amendments could facilitate additional development as a result of various circulation, land use and infrastructure revisions. For purposes of environmental review, the NOP indicates that the project area covered by the amendments could potentially accommodate 1,800 housing units and 60,000 square feet (sf) of gross commercial area, as well as accommodate construction of a new approximately 180,000 sf permanent sports and entertainment arena for the Santa Cruz Warriors basketball team. Such development and growth would be expected to occur over a 20-year period, and specific development projects would not be included in the amendments. The proposed Plan amendments were drafted and released in June 2024. A Draft EIR is expected to be released for public review in Fall 2024, and thus, environmental impacts of this expansion are not yet known.

Cumulative Impact Analysis

Aesthetics

The geographic area for consideration of cumulative impacts would be the Project study area from which project locations may be visible. There are no other cumulative projects that are within the same viewshed as the Project site. Therefore, no cumulative aesthetics impacts have been identified.

Air Quality

The geographic area for consideration of cumulative impacts would be the North Central Coast Air Basin in which the Project site is located. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants (i.e., CAAQS for PM_{10}) is a result of past and present development, and the MBARD develops and implements plans for future attainment of these ambient air quality standards. Based on these considerations, Project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. Specifically, MBARD considers criteria air pollutant emissions from an individual Project that exceed the applicable emissions thresholds to be a substantial contribution to a cumulative impact on regional air quality, and Projects that do not exceed the Project-level thresholds may conclude that they are not cumulatively considerable.

Additionally, according to MBUAPCD CEQA Guidelines, "A consistency analysis and determination serve as the Project's analysis of cumulative impacts on regional air quality. Project emissions which are not consistent with the AQMP (Air Quality Management Plan) are not accommodated in the AQMP and will have a significant cumulative impact unless offset."

As discussed in Chapter 5 Air Quality, the Project was found to be consistent with the AQMP based on use of the District's methodology. As discussed in Chapter 5, the Project would not exceed the MBARD significance thresholds for any criteria air pollutant. Therefore, the Project's contribution to cumulative air emissions would not be cumulatively considerable.

Substantial Pollutant Concentrations

As indicated above, the entire Air Basin is the geographic context for the evaluation of cumulative air quality impacts related to substantial pollutant concentrations and related health effects. There are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual Project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual Projects. As addressed in Impact AIR-2, construction and operation of the Project would not result in the exceedances of the MBARD significance thresholds, and the MBARD thresholds are based on levels that the Air Basin can accommodate without affecting the attainment date for the ambient air quality standards, which are established to protect public health and welfare. Therefore, the Project's contribution to cumulative pollutant concentrations would not be cumulatively considerable.

Biological Resources

The geographic area for consideration of cumulative impacts would be the Project study area where biological resources exist. As described in the Initial Study (Appendix A), the Project study area is located in an urban setting and there are no wetlands or jurisdictional waters nor known sensitive habitat or habitat for special-status species. Most cumulative projects are located within the City's developed urban area, and there are no cumulative projects in the immediate vicinity of the Project. Therefore, no cumulative biological impacts have been identified within.

Cultural Resources

The geographic area for consideration of cumulative impacts would be the Project site and areas supporting cultural resources similar to those found in the Project area. Additionally, impacts to cultural resources are site specific. There are no other areas where other cumulative projects and growth would overlap with the Project. Both the City's General Plan 2030 and the University's adopted 2005 LRDP and certified EIR include policies and measures to conduct appropriate review for cultural resources and provide site-specific mitigation as may be required. With implementation of measures required by the City and UCSC for review and mitigation of potential cultural resource impacts associated with new development, potential site-specific impacts would be less-than-significant. Thus, there would be no significant cumulative impacts related to cultural resources.

Energy

The geographics area for consideration of cumulative impacts would Santa Cruz County. As discussed in Impact ENE-1 and Impact ENE-2, the Project would not result in wasteful, inefficient, or unnecessary use of energy during construction or operations, nor would it conflict with an applicable energy plan. Any nearby projects may have a concurrent construction period during which primarily petroleum would be used; however, it is expected that such usage would be temporary and would not constitute a wasteful, inefficient, or unnecessary consumption of energy. Regarding operations, it is anticipated that all projects would also be designed to be comparable to other similar projects of scale and configuration and would not contribute to any potential cumulative energy impacts.

Furthermore, any commercial and residential cumulative projects that include long-term energy demand would be subject to CALGreen, which provides energy efficiency standards. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, as applicable, further reducing the inefficient use of energy. Various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would also serve to reduce the transportation fuel demand of cumulative projects. Thus, there would be no significant cumulative impacts related to energy.

Greenhouse Gas Emissions

It is generally the case that an individual project of the Project's size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.[42] The State CEQA Guidelines generally address GHG emissions as a cumulative impact because of the global nature of climate change. [43] As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself". GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of project related GHG emissions would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project as well as other cumulative related projects, would be subject to all applicable regulatory requirements, which would further reduce GHG emissions.

As described in Chapter 8 Greenhouse Gas Emissions, the Project would not conflict with any GHG reduction plan. Therefore, the Project's cumulative contribution of GHG emissions would be less-than-significant and the Project's contribution to GHG emissions would not be cumulatively considerable.

Geology and Soils

The geographic area for consideration of cumulative impacts would be the Project site and areas within similar seismic or geologic hazard areas. All cumulative projects greater than four residential units in size would be subject to City requirements for preparation of geotechnical studies. Individual projects would be designed based on site-specific conditions. Therefore, no significant cumulative impacts have been identified regarding geology and soils.

Hazards and Hazardous Materials

The geographic area for consideration of cumulative impacts would be the Project site and areas with similar exposure to hazards and hazardous materials at the Project site. Disposal of impacted soils and hazardous building materials is Project site specific.

As discussed in the Initial Study (see Appendix A), the Project would not impact create or release hazardous materials, is not located near an airport nor a high fire hazard area and would not impact emergency response efforts. Therefore, the Project's contribution to cumulative hazards and hazardous materials would not be cumulatively considerable.

Hydrology and Water Quality

The geographic area for consideration of cumulative impacts would be the Project site and areas within the same drainage area in which the Project site is located. There are no other

[42] California Air Pollution Control Officers Association.2008. *CEQA and Climate Change White Paper*. https://www.ourair.org/wp-content/uploads/CAPCOA-CEQA-and-Climate-Change.pdf
[43] Pub. Resources Code § 21083, subd. (b)(2).

cumulative projects that are within the same drainage area as the Project site. Therefore, there are no known cumulative impacts related to hydrology and water quality.

Noise

The geographic area for consideration of cumulative impacts would be the Project site and areas with similar exposure to noise levels as the Project site. There are no other cumulative projects that would be exposed to noise levels similar to the Project, and therefore the Project would not contribute to cumulative noise impacts.

Population and Housing

The geographic area for consideration of cumulative impacts would be the City of Santa Cruz. Cumulative development within the City, including the proposed Project, would result in an increased population of approximately 8,130 residents based on existing average household sizes within the City. With addition of cumulative UCSC residential projects, total population within the City could increase by approximately 10,650 residents, which would increase the City's population from the existing 2024 population of 62,776 to approximately 73,420. Cumulative population exceeds the AMBAG forecast of 72,218 for the year 2030 but does not exceed the forecast of 75,257 in 2035.

While cumulative population could potentially exceed regional population forecasts for 2030, the exact timing of completion of cumulative projects is not known. Cumulative population increases would be the result of development projects that are already under construction, approved or pending and found to be consistent with City plans. Additionally, the City's Regional Housing Needs Allocation (RHNA) set forth in the City's recently adopted Housing Element identifies a housing of 3,736 new residential units between the years 2023 and 2031. Furthermore, the regional growth projections rely on employment-driven methodologies and do not take into account land use or growth projections. The regional growth projections also are updated every four years, and AMBAG has embarked upon the update for the next regional forecast. Therefore, the cumulative housing and population increases would not be considered substantial or cumulatively significant.

Cumulative population and housing increases could increase with future development and growth arising from changes to the Downtown Plan. The Downtown Plan Expansion EIR is under preparation to evaluate direct and indirect impacts resulting from adoption and implementation of amendments to the Downtown Plan. However, no specific development projects are proposed, and growth would be expected to occur over a longer period of time.

Public Services

The geographic area for consideration of cumulative impacts would be the City of Santa Cruz service area in which the Project site is located that is served by the City Fire, Police and Parks Departments.

Fire Protection

Cumulative development and growth could result in the need for expanded or new fire facilities. According to the City's Fire Department, the existing downtown fire station is inadequate in terms of space and equipment to meet existing needs, which would be further impacted by the Project and other cumulative development. Should expansion be proposed, it is likely that expanded or new fire facilities would be at the existing eastside location of Station 2. Expansion or new construction would be considered infill development at this site, which is surrounded by development. While existing and cumulative development may require new or physically altered fire protection facilities, locations for expansion or construction are expected to be located within developed areas and are not expected to result in significant physical impacts. Therefore, no significant cumulative impact related to fire protection services is anticipated as potential expansion of existing facilities or construction of new facilities would not result in significant physical impact on the environment. It is noted that cumulative development would result in increased calls for service and likely require additional staff.

Police Protection

Cumulative development and growth would result in increased service calls with additional population, and minimal increases in non-residential square footage. According to the City's Police Department, the department is currently understaffed, and a planned future staffing study will help determine additional staffing as development and population growth occur. While additional staff and/or vehicles may be needed in the future to serve cumulative development, it is not expected that a potential increase would lead to the need for new or expanded Police Department facilities. Therefore, cumulative development and growth would not result in a significant cumulative impact related to police protection services as no new facilities would be required to serve cumulative development.

Schools

Schools and educational services are provided to City residents by the Santa Cruz City Schools District (District), as well as a number of private schools, for grades K through 12. Potential cumulative development that could affect school enrollment includes development and growth within the City and surrounding areas as well as the Project. As discussed in the Initial Study (Appendix A), development of the Project would result in an estimated enrollment increase of 80 students throughout all grades based on studies available at the time the Initial Study was prepared.[44]

According to the District's updated 2024 Developer Fee Justification Study for the Santa Cruz School Districts (Table 8), District facilities have the capacity to accommodate 6,262 students. The District's updated 2024 Fee Study identifies a capacity need for 6,828 students based on

[44] Based on an average generation rate of .2132 students per household per the SCSDs *2022 Developer Fee Justification Study for the Santa Cruz School Districts*, Schoolworks Inc., March 2024, page 5.

projected development is needed, resulting in a deficit capacity for 566 students.[45] The District has identified a need for 2.85 acres for new facilities (1.12 acres for grades Kindergarten-6 and 1.73 acres for grades 9-12). No sites have been identified to accommodate this demand.

As shown in Table 13-1 City Cumulative Projects, the Project and other cumulative projects would result in a net increase of 3,629 residential units (3,252 cumulative units plus 377 Project units), resulting in a cumulative estimated enrollment increase of approximately 774 students based on the District's updated student generation rate of 0.2132 students per household. Since the enrollment space needed exceeds the District's existing school capacity, except for grades 7-8, there is no existing excess capacity available to accommodate students from cumulative development.

While existing and cumulative development may require new or physically altered school facilities, locations for expansion or construction currently are unknown, but are expected to be within developed areas. The school impact fee study prepared for the School District indicates that the District's planned use of the development impact fees would include the following types of projects:

- New Schools: When there is enough development activity occurring in a single area, the District would build a new school.
- Additions to Existing Schools: The District would accommodate students at existing schools by building needed classrooms and/or support facilities such as cafeterias, restrooms, gyms and libraries as needed to increase the school capacity. Schools may also need upgrades of the technology and tele-communication systems to be able to increase their capacity.
- Portable Replacement Projects: Some of the District's capacity is in temporary facilities, which could be replaced with new permanent or modular classrooms to provide adequate space for students. In addition, old portables that have reached the end of their life expectancy, will need to be replaced to maintain the existing service level. These types of projects are considered modernization projects in the State Building Program.
- Modernization/Upgrade Projects: The District would modernize or upgrade older schools to be equivalent to new schools so students will be housed in equitable facilities to those students housed in new schools. These projects may include updates to the building structures to meet current building standards, along with upgrades to the current fire and safety standards and any access compliance standards.

[45] Per the District's 2024 Developer Fee Study, available capacity consists of: grades Kindergarden-6 = (529 deficit); grades 7-8 = 201, grades 9-12 = (220 deficit), and special education = (18 deficit).

Potential addition or expansion of school classroom facilities is not expected to result in significant physical impacts due to the location of existing facilities within developed areas or within developed footprints of existing school facilities. It is not known which campuses may need to be expanded in the future to accommodate the additional enrollment. A new school campus within the City would likely occur within developed areas on sites with existing or previous development, and thus, construction of new facilities are not expected to result in significant physical impacts. Additionally, the Project and other cumulative projects would be required to pay school impact fees to fund necessary facility expansion and/or additions. Therefore, student generation arising from cumulative development and potential school facility expansion would not be expected to result in significant physical impacts, and thus, would not result in a significant cumulative impact.

Parks and Recreation

Cumulative development, including the Project and development identified on Table 13-1, would result in construction of approximately 3,630 new residential units with an associated increased population of approximately 8,130 residents. Cumulative development would result in the need for additional park lands given the City's park land per population standards included in the City's adopted Parks Master Plan 2030. Given these standards, a need for approximately 16 acres of new neighborhood parks would be required, which would be in addition to an existing deficiency of approximately 67 acres.

As discussed in Chapter 11 Public Services, the Parks Master Plan does not specify locations for new parks, but some of the Plan's policies and actions support new and expanded recreational uses and/or facilities. Overall, the Plan's goals, policies and actions address the provision of additional parks and recreational facilities and new or expanded recreational uses. The Parks Master Plan supports consideration of recreational facilities after additional studies are conducted in the future to further evaluate potential uses and site locations. The Plan does recommend new, expanded or renovated facilities at a variety of parks throughout the City. The goals, policies and actions also promote sustainability and include specific actions to avoid environmental impacts associated with future park and recreational facility improvements or expanded uses.

The EIR prepared for the Parks Master Plan concluded that potential impacts resulting from future development of park and trail improvements would be avoided or minimized with implementation of the policies and actions included in the Master Plan, compliance with regulations, and implementation of mitigation measures specified in the EIR that would be applicable to types of park and recreational development specified in the EIR, which would impacts to a less-than-significant level (City of Santa Cruz 2020). Therefore, cumulative development would not result in a significant cumulative impact related to potential physical impacts associated with provision of future new parks and recreational facilities to maintain service objectives.

Furthermore, the City imposes a "Parks and Recreation Facilities Tax" (pursuant to Chapter 5.72 of the Municipal Code) on new residential development (including mobile homes) within the

City, payable at the time of issuance of a building permit. The collected taxes collected are placed into a special fund, and "shall be used and expended solely for the acquisition, improvement and expansion of public park, playground and recreational facilities in the city" (section 5.72.100).

Additionally, potential increased use of existing parks resulting from cumulative development is expected to be spread out throughout the City so that no substantial deterioration would occur at any one facility. Cumulative impacts resulting from citywide development growth, including the Project and UCSC growth, would not result in a significant cumulative impact to parks such that a substantial deterioration would occur at any one park or recreational facility within the City.

Therefore, cumulative development would not result in a significant cumulative impact on parks and recreational facilities.

Utilities

The geographic area for consideration of cumulative impacts would be the City of Santa Cruz service area in which the Project site is located. All City services supplied to the Project site include the entire City, except for water and wastewater treatment services, which also includes areas located outside the City.

Water Supply

Background on the existing and projected future demand and supplies is provided in Chapter 12 Utilities and Service Systems, which indicates that supplies are adequate in the near term (to 2030) under normal and single-dry year periods, but there would be a shortage of four to twenty three percent in years four and five of the multiple dry year scenario. After 2030, the analysis shows no shortages through 2040. However, by 2045 when the analysis shows be a slight shortfall (approximately three percent) in normal, single dry and all years of a multiple dry period.

Under the climate change scenario in the near term, the analysis show a four percent shortage in a single dry year and nineteen to fifteen percent shortages in years four and five of a multi-year drought. Under the climate change scenario after 2030, the analysis shows four to seven percent shortages in year five of a multi-year drought through 2040. Under the climate change scenario by 2045 the analysis shows a slight shortfall (approximately three percent) in normal, single dry and years one through four of multi-year drought and a larger ten percent shortage in year five of a multi-year drought.

Although the demand projected for 2045 is 3,000 MG, the maximum demand modeled in the Confluence® model was 2,900 MG. While this results in an apparent three to ten percent shortage in the 2045 scenarios, it is anticipated that the modeled shortages would have been smaller or absent if Confluence® model runs had been completed using 3,000 MG as the maximum demand.

Cumulative development as summarized on Table 13-1 was included in the 2024 updated water demand projections, which also included updated projections within the City's water service area. Overall, the updated demand projection is higher in 2045 (3,000 MGY) than the 2,800 MGY projection identified in the 2020 UWMP. The 2024 water demand projections also account for additional growth in the City and service area within unincorporated Santa Cruz County beyond the cumulative development projects considered in this EIR. Total water demand within the City's water service area would increase from a current demand of approximately 2,600 MGY to a forecasted demand of 3,000 MGY in 2045 based on the 2024 updated demand projections.

Without augmented water supplies, cumulative development and associated water demand during dry periods would result in a potentially significant cumulative impact on water supplies. Water demand resulting from cumulative development projects, would lead to potential near-term shortfalls (2025-2030) depending on the level of development construction, and also negligible shortfalls (approximately four percent) in the fifth year of a multi-year drought under climate change forecasts to the year 2040 and in normal, single dry year and multiple dry years by the year 2045, with a slightly higher shortfall in the fifth year of a multi-year drought. This is considered *a significant cumulative impact* without implementation of the City's water supply augmentation projects and strategies. The City is currently planning for water supply augmentation through its SOWF Policy and Water Supply Augmentation Implementation Plan, which the City anticipates would meet projected supply under worst-case conditions (City of Santa Cruz Water Department 2024). Furthermore, projected increases in water demand within the service area are not expected to drive the size or timing of needed water supply augmentation projects. Longer dry periods under the climate change scenario is the primary factor driving the need to augment the City's water supply.

The Project would contribute to significant cumulative impacts related to water supply availability. However, all development projects would be subject to City requirements for installation of water-conserving fixtures and landscaping in accordance with current Municipal Code and building requirements. Under multi-year drought conditions, the Project, like other City customers, could be subject to water use restrictions. The increase in water demand due to the Project would not substantially exacerbate water supply reliability in the future or during a drought because the amount of additional demand when spread across all service area customers would not result in any noticeable increase in the timing or extent of curtailment in customer use that would otherwise be implemented during drought conditions.

In addition, the Project would pay the required "System Development Charge" that is required for a new or upgraded service connection or where a project adds new residential uses. This charge, as set forth in Chapter 16.14 of the Municipal Code, funds public water system improvements, and is assessed so projects pay the proportional share of the costs of new and existing water facilities necessary to meet the demand resulting from new or enlarged water services. This charge is intended to mitigate the water supply impacts caused by new development in the City's water service area, and the funds are used for construction of public water system improvements and conservation programs. Payment of the System Development

Charge and implementation of other water conservation measures would mitigate the Project's contribution to cumulative water supply impacts. Therefore, the Project's incremental contribution to a significant cumulative water supply impact would not be cumulatively considerable.

Wastewater Treatment

The geographical area for the analysis of cumulative wastewater impacts includes the area served by the City's wastewater treatment facility (WWTF), which includes the City of Santa Cruz and lands within the Santa Cruz Sanitation District (south to Seascape) and two small county service areas. The City and County each have specified rights to treatment capacity.

Wastewater generated by cumulative growth within the City is estimated at approximately 0.5 mgd based on estimated water use and factoring out landscaping water use. There is adequate remaining capacity within the City's treatment allocation (4.0 mgd remaining) to accommodate cumulative growth, including the Project. Thus, cumulative impacts on wastewater treatment would be less-than-significant.

Solid Waste

The geographic area considered for the analysis of cumulative impacts related to solid waste generation and landfill capacity is the area served by the City's Resource Recover Center (RRF). As indicated above, the City's RRF has a remaining capacity of approximately 5.3 million cy and an estimated closure year of 2054 (City of Santa Cruz 2021).

Construction and operation of past, present, and reasonably foreseeable future projects in the City would require disposal at the City's RRF. Cumulative development amounts described in Table 13-1 above could be expected to generate a net increase in solid waste of approximately 18 tons per day, or 6,701 tons per year, based on estimated solid waste generation rates provided by CalRecycle.[46]

As indicated above, the RRF has a maximum permitted daily solid waste throughput capacity of 535 tons (CalRecycle 2024b), and in 2023, an average of 180 tons per day (approximately 34% of daily capacity) were disposed of at the RRF (CalRecycle 2023). Therefore, the RRF would be expected to have sufficient capacity to accommodate the net increase in solid waste generated from cumulative development, estimated to be approximately 18 tons per day, plus the net increase of solid waste generated from the project, estimated to be 1.55 tons per day, while still remaining well below its maximum permitted daily solid waste throughput capacity.

Furthermore, cumulative projects would be required to adhere to applicable solid waste regulations, including the California Integrated Waste Management Act and related regulations, which would serve to continue to require reduction, recycling, and reuse to reduce the amount

[46] Estimated solid waste generation rates used in the analysis are as follows: general residential = 12.23 lb./household/day; commercial retail = 0.046 lb./square foot/day; industrial = 62.5 lb./1,000 square feet/day; office = 0.006 lb./square foot/day; hotel/motel = 4 lb./room/day.

of solid waste sent to landfills. Therefore, given regulatory requirements related to reuse and recycling, as well as remaining landfill capacities, area landfills would have adequate capacity to serve cumulative development, and cumulative impacts on landfill capacity would be less-than-significant.

Traffic and Transportation

The geographic area for consideration of cumulative impacts would be within the City and region. CEQA Guidelines section 15064.3, subdivision (b) codifies the switch from LOS to vehicle miles traveled (VMT) as the metric for transportation analysis pursuant to state legislation adopted in 2013 which made significant changes to how transportation impacts are to be evaluated under CEQA as explained in the Initial Study in Appendix A.

As explained in the Initial Study (Appendix A), City staff reviewed the Project in accordance with the City's adopted guidelines. The Project meets the screening criteria because it is located in a VMT Efficient Area based on the Santa Cruz County Residential Screening Map, and, therefore, the Project is located in an area that produces VMT per capita that is at least 15-percent below the Countywide average). In addition to the map-based screen criteria, the Project is also within ½ mile of a major transit stop that provides service at an interval of 15 minutes or less during AM and PM peak hours.

The Project would not result in a significant impact related to VMT based on the City's adopted threshold and guidelines and was screened out from further VMT impact review. The State Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) that were used to develop the City's VMT Guidelines indicates that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less-than-significant cumulative impact (California Office of Planning and Research 2018). Thus, cumulative development would not result in significant cumulative impacts related to transportation.

Wildfire

The geographic area of analysis for cumulative impacts related to wildfire is generally the vicinity of the Project site. The Project site is not located in or near a state responsibility area nor a high fire hazard area as identified in the City's General Plan 2030 (DEIR Figure 4.6-1). The Project site is located in a developed urban area. The Project and other cumulative development projects as identified in Appendix F would occur in developed areas throughout the City. The project is not in proximity to cumulative development within developed areas on the UCSC campus.

Cumulative development in the vicinity of the Project would not require the installation or maintenance of wildfire-associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities). Furthermore, cumulative development projects within

the City are required to maintain access for emergency service providers and to evacuation routes during construction and operation. Additionally, cumulative development would be required to comply with applicable building and fire code requirements, including fuel-modification requirements. Therefore, the cumulative development is not anticipated to interfere with emergency and evacuation plan, exacerbate existing wildfire hazards and impacts or expose people or structures to significant wildfire risks, and would not result in a significant cumulative impact regarding wildfires.

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14 Alternatives

14.1 Introduction

According to State CEQA Guidelines (section 15126.6), an EIR shall describe a range of reasonable alternatives to the Project or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project and evaluate the comparative merits of the alternatives. The guidelines further require that the discussion focus on alternatives capable of eliminating significant adverse impacts of the Project or reducing them to a level of insignificance even if these alternatives would impede to some degree the attainment of the Project objectives or would be more costly. The alternatives analysis also should identify any significant effects that may result from a given alternative. 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 potentially feasible project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. The range of alternatives is governed by a "rule of reason" that requires the EIR to set forth only those potentially feasible alternatives necessary to permit a reasoned choice. The alternatives shall be limited to those that would avoid or substantially lessen any of the significant effects of the Project. Of those alternatives, the EIR need examine in detail only those that the lead agency determines could feasibly attain most of the basic objectives of the Project. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. Alternatives in an EIR must be "potentially feasible." Agency decision makers ultimately decide what is "actually feasible."

"Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (State CEQA Guidelines, section 15364). Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or already owns the alternative site). None of these factors establishes a fixed limit on the scope of reasonable alternatives. The concept of feasibility also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. Moreover, feasibility under CEQA encompasses "desirability" to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.

14.2 Summary of Impacts and Project Objectives

14.2.1 Significant Project Impacts

The following three potentially significant impacts have been identified. Impacts HAZ-2/4 and CUL-4 can be mitigated to a less-than-significant level, but Impact CUL-1 cannot and is a significant unavoidable impact.

- CUL-1: Historical Resources. Project development would cause a substantial adverse change in the significance of a historical resource due to demolition.
- CUL-4: Tribal Cultural Resources. Project development could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 resource (CUL-4).
- HAZ-2/4: Release of Hazardous Materials. Demolition and excavation activities have the potential to create a significant hazard to the public or environment due to the improper handling, transportation, and disposal of impacted soils and hazardous building materials (HAZ-2 and 4).

14.2.2 Summary of Project Objectives

1. Redevelop an underutilized site identified as a "Catalyst Site" in the Ocean Street Area Plan with a high-quality, mixed-use project with residential and commercial uses that improves the vitality of the Ocean Street corridor.
2. Support goals of the Housing Element to:
    a. Provide a diversity in housing types, from studios to 4-bedroom units, and affordability levels, including very low income, low income and market-rate units, to accommodate the present and future housing needs of Santa Cruz residents. (Policy 2.1, Goal 2).
    b. Provide affordable units at a lower level of affordability than that which is required by the City's Inclusionary Ordinance. (Policy 6.2b, Goal 2).
    c. Develop high density housing in an infill location proximate to transit, recreational amenities and retail options. (Policy 1.2, Policy 7.3a).
3. Construct a project that will contribute to the City's housing needs while promoting an environmentally sustainable and compact infill community.
4. Develop ground floor commercial spaces that activate street frontages and support a mix of retailers to serve residents and visitors alike.
5. Develop a well-designed project with broad amenity offerings for future residents that will be a desirable place to live.
6. Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.

7. Develop a Project that is implements design and circulation concepts and goals set forth in the Ocean Street Area Plan.

14.3 Alternatives Analysis

Section 15126.6(c) of State CEQA Guidelines indicates that the range of potential alternatives 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. In developing the alternatives, consideration was given to modification and/or elimination of Project elements or recommendations that would eliminate or substantially reduce identified significant impacts while attaining most of the Project objectives.

The EIR also should identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts.

14.3.1 Alternatives Eliminated from Further Consideration

The EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts.

Construct Replica Building

A project that includes replications of the existing eligible historic structure would not be consistent with the Secretary of the Interior's Standards for Rehabilitation of historic properties. The standards specifically call for new additions or new related construction to be differentiated from the preserved historic structure to protect the historic compatibility of the property (Standard 9). The Standards do not call for replication of a historic resource, although reconstruction may be recommended in some situations.

According to the Secretary of the Interior's Standards for Rehabilitation, reconstruction is defined as "the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location." "Reconstruction" is the fourth treatment standard for historic resources after preservation, rehabilitation, and restoration, and is intended for use in those instances where the historic building or feature is no longer present. Since this is not the case with the Project, reconstruction would not be an appropriate alternative with regards to mitigation of impacts to

historical resources. Thus, replication would not be an appropriate alternative for the significant impact of demolition of an eligible historic resource.

14.3.2 Alternatives Considered

Based on the above discussion, the following section evaluates the following alternatives:

- No Project Alternative: Required by CEQA
- Alternative 1: Preservation of Historical Resource
- Alternative 2: Relocation of Historical Resource
- Alternative 3: Reduced Project Size

Each alternative is described and analyzed below, and the ability of each alternative to meet project objectives also is addressed.

No Project Alternative

Section 15126.6(e) of the State CEQA Guidelines requires that the impacts of a "no project" alternative be evaluated in comparison to the proposed project. Section 15126(e) also requires that the No Project Alternative discuss the existing conditions that were in effect at the time the Notice of Preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.

Project Description

Under the No Project Alternative, the Project would not be approved, and therefore, none of the identified Project impacts would occur. For the purpose of the Alternatives discussion, the No Project Alternative assumes that in the foreseeable future, another project to redevelop the Project site could be proposed. However, it is noted that no redevelopment of the Project site would be inconsistent with the General Plan forecasts and intentions for redevelopment of the site and Project area. Per the adopted Ocean Street Area Plan, another development project may be proposed for the Project site in the future, although the type and amount of development that may be proposed is unknown at this time.

Impacts

The No Project Alternative would not result in construction of the Project and none of the impacts identified in this EIR would occur. No new significant impacts would occur under this alternative. Since redevelopment of the Project site is encouraged in the City's General Plan and Ocean Street Area Plan to provide additional residential uses, it is likely that some form of a mixed-used commercial-residential project would be proposed at some point in the future, although the type and timing of such a project are not known. However, some of the impacts identified in this EIR could result at some unknown time in the future and at an unknown magnitude depending on the development proposal.

Ability to Meeting Project Objectives

The No Project alternative would not meet any of the Project objectives.

Alternative 1: Preservation of Historical Resource

Project Description

Alternative 1 would retain the existing historical building at 130 Hubbard Street, which is eligible for listing in the City's Historic Building Survey. This alternative would require a redesign to construct the Project around the building. This alternative would result in the loss of an estimated 12 units (four units per floor) of Building C, and a potentially minor relocation of the remaining portion of Building C to address setback requirements. Because Building C does not include any subterranean uses (e.g., a garage), excavation and foundation construction activities would be relatively minor and would not adversely impact the existing eligible historic building at 130 Hubbard Street.

Impacts

Under this alternative, the identified significant unavoidable impact CUL-1 related to historical resources would be eliminated. The identified significant impacts CUL-4 (tribal cultural resources) and HAZ-2/4 (release of hazardous materials) would remain unchanged. No new significant impacts would occur under this alternative. Other identified less-than-significant impacts would be remain the same as the Project or slightly reduced in magnitude due to a slight reduction in housing units.

Cultural Resources - Historical Resources

The purpose of Alternative 1 is to consider a revised development plan that would lessen the significant impacts of the Project on the existing historical resource. Alternative 1 would retain the existing eligible historical building. While the height and scale of the adjacent Building C would be greater (three stories), the historic integrity of the historic building at 130 Hubbard Street would not be substantially impacted as it would not create a significant change in the overall visual character of the property. As a result, the Project would be in compliance with the Secretary of Interior's Standards for Rehabilitation and would still be eligible for inclusion in the City of Santa Cruz Historic Building Survey under Criteria SC-4, 5, and 6 as a good example of the National Folk style, characteristic of the middle-to-late 19th Century. Therefore, Alternative 1 would eliminate Impact CUL-1 regarding historical resources.

Cultural Resources - Tribal Cultural Resources

Except for the retained historical building, the Project site would be redeveloped, and Impact CUL-4 would continue to be a potentially significant impact, although slightly reduced with retention of one existing building. Mitigation requested by the Amah Mutsun Tribal Band and the Amah Mutsun Land Trust in the form of tribal monitoring and cultural sensitivity training during construction would still be required under Alternative 1.

Hazards and Hazardous Materials

Except for the retained historical building, the Project site would be redeveloped, and Impact HAZ 2/4 would continue to be a potentially significant due to presence of known hazardous materials on the Project site. Mitigation measures MM HAZ-1-1 Soil and Groundwater Management Plan and MM HAZ-1-2 Pre-demolition Survey of Lead-Based Paints and Asbestos would still be required to reduce impacts to a less-than-significant level.

Other Impacts

All other less-than-significant impacts identified in this EIR would remain unchanged, although impacts related to air emissions, greenhouse gas (GHG) emissions and solid waste generation would be slightly reduced due to a slightly reduced construction area and slightly fewer units with retention of one existing building, as would public service and utility demands.

Ability to Meet Project Objectives

Under this alternative, there would be no change to the Project site layout, except that the building footprint and number of residential units associated with Building C would be reduced by 12, resulting in a total of 377 units. This alternative would meet all Project objectives, except it would not meet objectives 2 and 3 regarding supporting goals of the Housing Element and contributing to the City's housing needs as well as the proposed Project.

Alternative 2: Relocation of Historical Resource

Project Description

Alternative 2 involves the relocation of the eligible historic building at 130 Hubbard Street to a new site. Under this alternative, there would be no change to the Project uses and site layout. Relocation of the existing historical resource was recommended after consideration of onsite preservation (Archaeological Resource Management 2019). This alternative would involve vertical shoring and bracing of the structures and delivery to a new as yet to be determined site. New foundations and potentially floor slabs would be built at the new site, and all salvaged elements would be reassembled, to the extent practical. The building would be reconstructed as close to its original form as possible, while upgrading the building to meet current building codes.

The first consideration of relocation is the potential for finding an appropriate new location where the eligible historic building can still convey its significance. The second consideration is the physical feasibility of moving the eligible historic building. To find a new location entails identifying a suitable parcel of land in Santa Cruz that is available for development and purchase by the applicant. The new location would need to be similar to the existing historic setting. There are no known vacant properties that are not part of a planned future development. Other properties in the vicinity of the Project site are currently developed and/or could be redeveloped, and there are no known sites in the immediate area that could accommodate relocation of a historical structure.

Assuming a site could be identified for relocation and to ensure that the eligible historical building is not destroyed or damaged during the relocation, a treatment plan for the move would need to be prepared, as well as, plans to rehabilitate the building once it is relocated. Furthermore, establishing an appropriate use of the building, along with agreement on continued responsibility for maintenance would be necessary.

Impacts

Under this alternative, the identified significant unavoidable impact CUL-1 related to historical resources would be substantially lessened and potentially reduced to a less-than-significant impact if the relocated structure could comply with the Secretary of Interior Standards for Reconstruction, and if not, the impact would not be reduced to a less-than-significant level. The identified significant impacts CUL-4 (tribal cultural resources) and HAZ-2/4 (release of hazardous materials) would remain unchanged and still require mitigation. No new significant impacts would occur under this alternative. Other identified less-than-significant impacts would be remain the same as the Project.

Cultural Resources - Historical Resources

Alternative 2 would lessen the significant impact of the proposed Project on an existing historical resource. Due to the deconstruction and reconstruction, the Secretary of the Interior's Standards for Rehabilitation may apply. CEQA Guidelines section 15126.4(b)(1) indicates that where rehabilitation, restoration, preservation, conservation of reconstruction of a historical resource is conducted in a manner consistent with the Secretary of Interior Standards, a project's impact would be considered less than significant.

While this option is theoretically possible, a structural engineer would need to be retained to determine the engineering and financial feasibility of relocation. This would include land acquisition, disassembly, moving, and re-assembly; and bringing the structure to current building standards.

Provided that Alternative 2 could comply with the Secretary of Interior Standards for Reconstruction, it would likely result in a less-than-significant impact with mitigation. If Alternative 2 is not able to meet the Standards for Reconstruction, it would result in a significant impact to a historical resource because it would materially impair those physical characteristics of the historical resource that convey their historical significance, and that justify their eligibility for inclusion in the City's Historic Building Survey.

Cultural Resources - Tribal Cultural Resources

The Project site would be redeveloped under this alternative, and Impact CUL-4 would continue to be a potentially significant impact as with the Project. Mitigation requested by the Amah Mutsun Tribal Band and the Amah Mutsun Land Trust in the form of tribal monitoring and cultural sensitivity training during construction would still be required under Alternative 2.

Hazards and Hazardous Materials

The Project site would be redeveloped under this alternative, and Impact CUL-4 would continue to be a potentially significant impact as with the Project. Due to presence of known hazardous materials on the Project site, mitigation measures MM HAZ-1-1 Soil and Groundwater Management Plan and MM HAZ-1-2 Pre-demolition Survey of Lead-Based Paints and Asbestos would still be required to reduce impacts to a less-than-significant level.

Other Impacts

All other less-than-significant impacts identified in this EIR would remain unchanged.

Ability to Meet Project Objectives

Under this alternative, there would be no change to the proposed Project uses and site layout. This alternative would meet all Project objectives.

Alternative 3: Reduced Project Size

Project Description

Alternative 3 would reduce the number of residential units based on the "Base Project" as evaluated by the Project Applicant (High Street Residential, 2023). The Base Project includes:

- 273 total units with an average of 791 square feet per unit
- 268 residential parking spaces representing a 0.98 per unit parking ratio
- 9,570 square feet of commercial space
- 33 commercial parking spaces

Under this alternative, there would be 116 less residential units than under the proposed Project and no change in the commercial space. This reduction in units could occur by constructing Building A as a four-story building (as compared to five-stories for the Project) and reducing the number of units on the remaining floors of Building A (net change less 93 units), as well as the number of units in Buildings B (seven less units) and C (16 less units). Because the building footprints would generally the same as the Project (as shown in the Base Project plans, dated November 29, 2023), the existing eligible historical building at 130 Hubbard would be demolished.

Impacts

Under this alternative, the identified significant unavoidable impact CUL-1 related to historical resources would remain unchanged. The identified significant CUL-4 (tribal cultural resources) and HAZ-2/4 (release of hazardous materials) would remain unchanged. No new significant impacts would occur under this alternative. Other identified less-than-significant impacts would be reduced in magnitude due to a slight reduction in housing units or remain the same as the Project.

Cultural Resources - Historical Resources

Because the building footprints of the Base Project would be essentially the same at the Project, construction of Building C would require the demolition of the existing eligible historical building at 130 Hubbard Street and impacts would remain significant and unavoidable.

Cultural Resources - Tribal Cultural Resources

The Project site would be redeveloped under this alternative, and Impact CUL-4 would continue to be a potentially significant impact as with the Project. Mitigation requested by the Amah Mutsun Tribal Band and the Amah Mutsun Land Trust in the form of tribal monitoring and cultural sensitivity training during construction would still be required under Alternative 3.

Hazards and Hazardous Materials

The Project site would be redeveloped under this alternative, and Impact CUL-4 would continue to be a potentially significant impact as with the Project. Due to presence of known hazardous materials on the Project site, mitigation measures MM HAZ-1-1 Soil and Groundwater Management Plan and MM HAZ-1-2 Pre-demolition Survey of Lead-Based Paints and Asbestos would still be required to reduce impacts to a less-than-significant level.

Other Impacts

Due to the reduction in the number of units, operational impacts associated with air quality, energy, greenhouse gas emissions would be reduced due to less vehicle emissions and reduced operational energy requirements. However, these impacts would remain less-than-significant. Similarly, impacts associated with public services (fire or police protection facilities, schools, or parks) and utilities and service systems (water supply and solid waste) would be reduced due to less demand for facilities and services. However, these impacts would remain less-than-significant. Land use and planning impacts would remain unchanged.

Ability to Meet Project Objectives

Under this alternative, there would be no substantial change to the Project site layout. This alternative would meet all Project objectives but would not fully meet objectives 2 and 3 regarding supporting goals of the Housing Element and contributing to the City's housing needs due to a reduction of housing units.

14.4 Environmentally Superior Alternative

According to CEQA Guidelines section 15126.6(e), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Furthermore, Sections 21002 and 21081 of CEQA require lead agencies to adopt feasible mitigation measures or feasible alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. Where the environmentally superior alternative also is the no project alternative, CEQA Guidelines in

Section 15126(d)(4) requires the EIR to identify an environmentally superior alternative from among the other alternatives.

Table 14-1: Comparison of Significant Impacts: Project and Alternatives, presents a comparison of project impacts between the proposed Project and the alternatives. The No Project Alternative would avoid all impacts identified for the proposed Project. Of the other alternatives considered, Alternative 1 and 2 would avoid or reduce the significant unavoidable historical resource impact to less-than-significant although there is the possibility that the reconstructed and rehabilitated historical buildings under Alternative 2 may not meet the Secretary of Interior Standards for Reconstruction, and therefore, the impact may remain significant and unavoidable. Alternative 1 also would slightly reduce potential impacts to tribal cultural resources with preservation of the existing historical resource. None of the alternatives would lessen or avoid hazardous materials impacts related to contaminated soils, but this impact can be mitigated to a less-than-significant level.

Of the alternatives considered, Alternative 1 would best achieve the Project objectives, while also reducing the severity of identified significant impacts and therefore, is considered the environmentally superior alternative of the alternatives reviewed. While Alternative 2 would also lessen the severity of the historical resource impact, it may be potentially infeasible due to lack of identified sites to relocate the eligible historical structure at 130 Hubbard Street, and therefore, the impact would remain significant and unavoidable.

Table 14-1: Comparison of Significant Impacts: Project and Alternatives

Impact	Project	No Project	Alternative 1: Preservation of Historical Resource	Alternative 2: Relocation of Historical Resource	Alternative 3: Reduced Project Size
AIR-2: Criteria Pollutant Emissions.	LTS	NI	LTS⇩	LTS	LTS ⇩
AIR -3: Exposure of Sensitive Receptors	LTS	NI	LTS	LTS	LTS
CUL-1: Historical Resources	SU	NI	NI	SU	LTSM/SU
CUL-4: Tribal Cultural Resources	LTSM	NI	LTSM⇩	LTSM	LTSM
ENE-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources	LTS	NI	LTS⇩	LTS	LTS ⇩
ENE-2: Conflict with an Applicable Renewable Energy or Energy Efficiency Plan	NI	NI	NI	NI	NI
GHG-1: Greenhouse Gas Emissions	LTS	NI	LTS⇩	LTS	LTS ⇩
GHG-2: Conflict with an Applicable GHG Reduction Plan	LTS	NI	LTS	LTS	LTS
HAZ-2/4: Release of Hazardous Materials	LTSM	NI	LTSM	LTSM	LTSM
LAND-2: Conflicts with Policies and Regulations	LTS	NI	LTS	LTS	LTS
PUB-1: Fire and Police Protection or Parks	LTS	NI	LTS⇩	LTS	LTS ⇩
PUB-2: Parks and Recreation	LTS	NI	LTS⇩	LTS	LTS ⇩
UTL-2: Water Supply	LTS	NI	LTS⇩	LTS	LTS ⇩
UTL-4/5: Solid Waste Generation	LTS	NI	LTS⇩	LTS	LTS ⇩

NI = No Impact
LTS = Less than Significant
LTSM = Less than Significant with Identified Mitigation Measures
SI = Significant Impact
SU = Significant and Unavoidable Impact with Identified Mitigation Measures
⇧ = Impact of Greater Severity than Under the Project
⇩ = Impact with Lesser Severity than Under the Project

14.5 References

Archaeological Resource Management. 2019. Historic Property Evaluation for Property at 130 Hubbard Street in the City of Santa Cruz, dated November 4, 2019.

High Street Residential. 2023. 908 Ocean Street – Amended Density Bonus Report (4th Submittal), dated December 6, 2023.

National Park Service. 1997. The Secretary of the Interiors Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings. Available here: https://www.nps.gov/subjects/taxincentives/secretarys-standards-rehabilitation.htm

15 References and List of EIR Preparers

15.1 Agencies and Persons Contacted

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